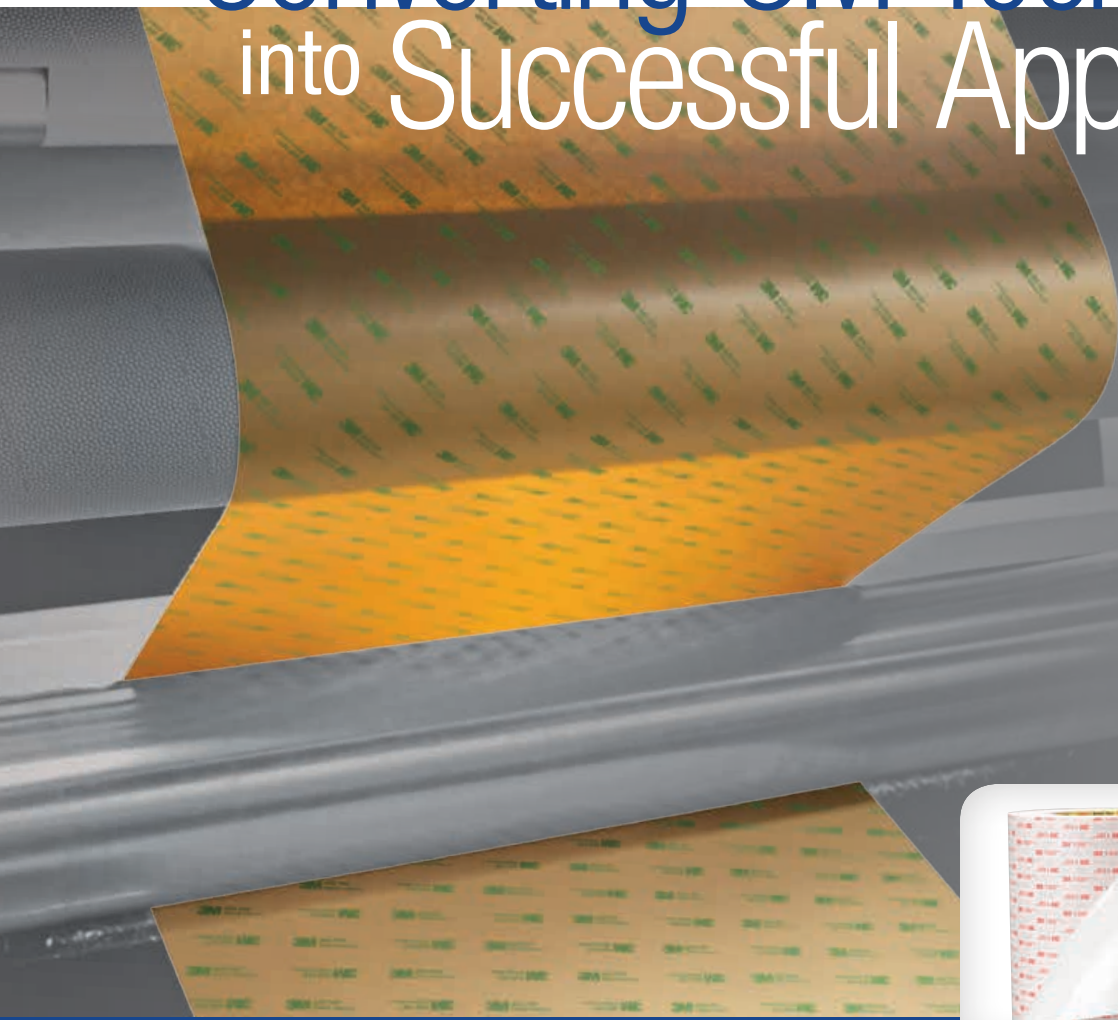


# Converting 3M Technology into Successful Applications



## Selection Guide

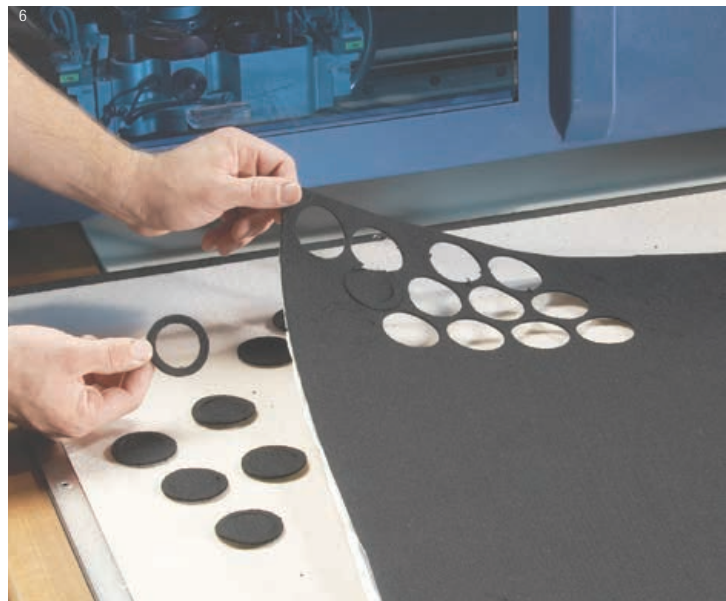


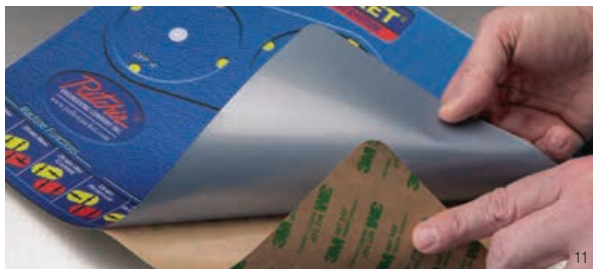
# More Than 50 Years of Experience

in Developing Innovative Pressure Sensitive Adhesives,  
Labeling Materials and Specialty Products

3M has helped countless customers around the globe increase their production efficiency and improve product performance, appearance and identification.

If you're in the converting industry, look to 3M Converter Markets as your trusted source for a versatile, comprehensive line of practical products and solutions — from tapes, labeling materials and graphic solutions to release liners and films, reclosable fasteners, flexographic mounting systems and more.





# Custom Program

## Rapid | Responsive | Reliable

### 3M™ Custom Adhesive Transfer and Double-Coated Tapes

In today's fast-paced converting marketplace, you've got to react quickly and effectively to keep pace with your customer's changing needs and special requirements.

Through our Custom Program, 3M can help you rapidly respond with reliable custom solutions for jobs ranging from gasketing and durable graphic attachment to laminating in high temperature electronics applications.

You can more readily meet your customer specifications and expectations with custom combinations of 3M components you know and trust. And 3M adhesives, liners, and carriers are stocked in depth and backed with the experience to get what you need right and fast. How fast?

- Pricing and feasibility in 1 day
- Customized sample rolls up to 10" wide shipped within 7 days\*
- Order shipped in 21 days

Minimum orders start at only 1.5 million square inches or five master rolls by 180 yards.

If you don't see what you want, just consult with your 3M representative and the technical team will start on the right solution right away.

\*14 days for wider rolls



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# Fundamentals of Adhesion

Selecting the proper adhesives for a nameplate, label or membrane switch application requires consideration of environmental, surface, appearance and other performance requirements. Our purpose here is to cover some of the principles of adhesion.

Surface contact is fundamental to adhesive performance. To maximize adhesive contact on a surface:

- It must be dry and free of contaminants.
- Firm pressure must be applied to increase the flow and contact of the adhesive with the substrate.
- Time and temperature will increase the surface contact and adhesion values.
- Oil contaminated materials may be addressed with the 3M™ Adhesive 300LSE or 350 families.

Adhesion is the molecular force of attraction between unlike materials. The strength of attraction is determined by the surface energy of the material. The higher the surface energy, the greater the molecular attraction. The lower the surface energy, the weaker the attractive forces.

Greater molecular attraction results in increased contact between an adhesive and substrate. In other words, for a high surface energy material, the adhesive can flow (or “wet-out”) to assure a stronger bond.

Consider an automobile that has not been waxed for a long time. When water contacts the surface, it spreads in large puddles. The unwaxed car surface exhibits high surface energy — the molecular attraction allows the water to flow.

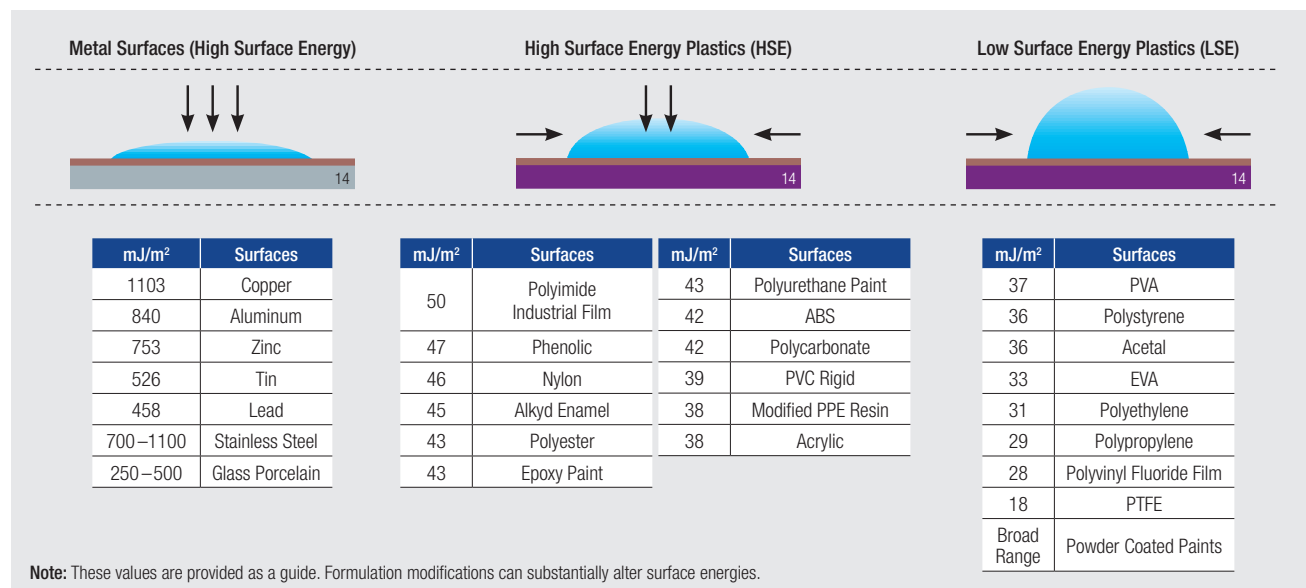
In comparison, water beads up into small spheres on a freshly waxed car. It is an example of low surface energy — the liquid (or adhesive) does not flow out.

Surface energy is measured by dynes per centimeter. The dyne level is the actual reading of the critical surface tension.

Modified acrylic and synthetic adhesives with better flow (or “wet-out”) characteristics have been developed to adhere to low surface energy substrates. The Surface Energy Chart below compares the relative surface energy of commonly used substrates.

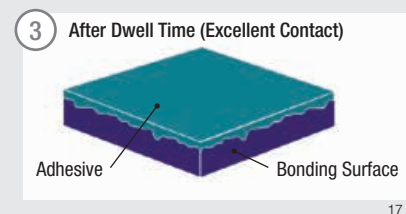
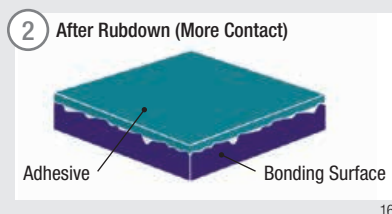
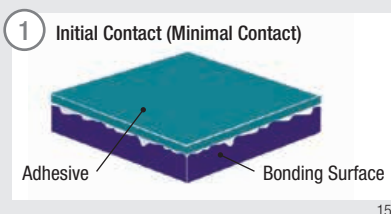
3M™ High Performance Acrylic Adhesive 200MP will not readily adhere to substrates categorized as having “low surface energy.” However, 3M acrylic adhesives have been designed to adhere to low surface energy plastics, and should be considered for those applications.

## Surface Energy Chart



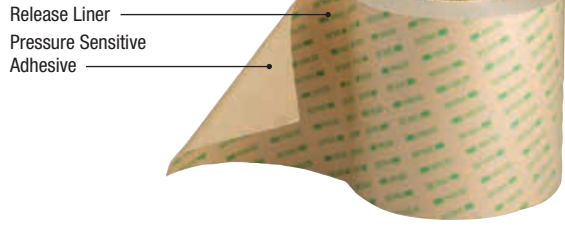
## Adhesive Surface Contact

Applying firm pressure to the bond increases adhesive flow and contact for more secure bonding. Time and temperature will typically further increase contact and adhesion values.



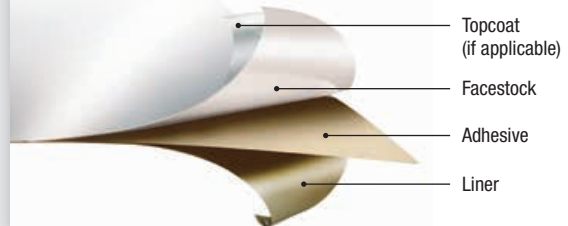
# Product Constructions

## 3M™ Adhesive Transfer Tapes



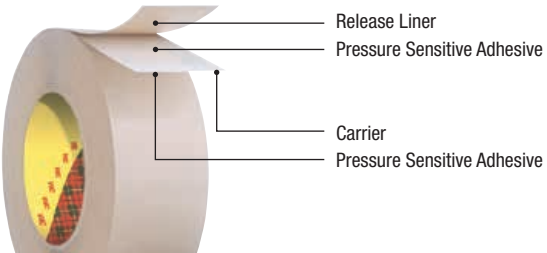
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## 3M™ Performance Label Materials



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## 3M™ Double Coated Tapes



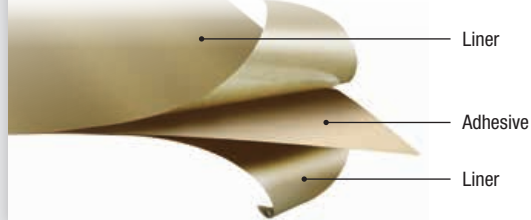
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## 3M™ Single Coated Tapes



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## 3M™ Double-lined Adhesive Transfer Tapes — Sheets



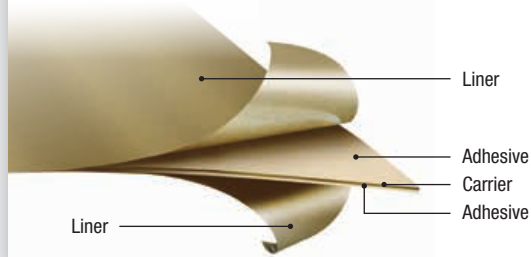
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## 3M™ Reclosable Fasteners — Hook and Loop



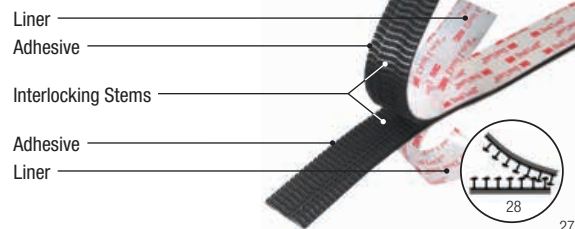
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## 3M™ Double Coated Spacers — Sheets



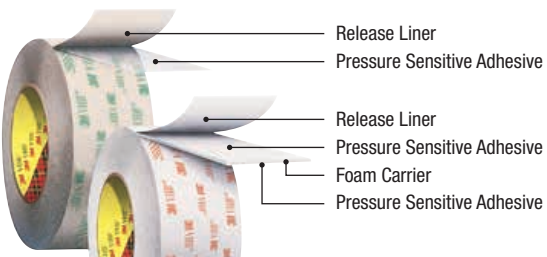
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## 3M™ Dual Lock™ Reclosable Fasteners



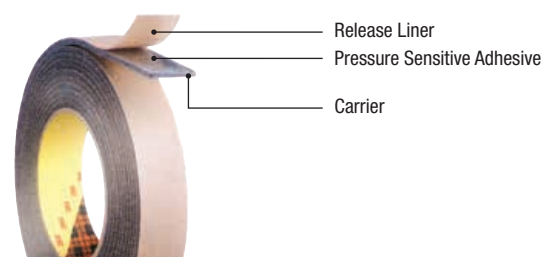
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## 3M™ VHB™ and Double Coated Foam Tapes



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## 3M™ Single Coated Foam Tapes



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## Bonding Tapes

# Improve Your Products' Appearance, Performance and Process

When it comes to bonding tapes, you need comprehensive and versatile solutions that are convenient and easy to use. 3M offers a full line of innovative tapes with pressure-sensitive adhesive on two sides for attaching various substrates with a variety of strengths — from permanent to repositionable.

Choose from thousands of material combinations to improve your products' appearance, performance and process.



# Considerations When Selecting the Right 3M™ Bonding Tapes for Your Product and Process

## What materials are you bonding? How will the assembly be used?

- Type of substrate or hard-to-bond materials
- Bonding dissimilar materials
- Configuration of your part (design/shape)
- Appearance and aesthetic considerations
- Need for disassembly for maintenance or service

## How the product will be processed?

- Need high-speed bonding
- Need to be able to reposition
- Will be subjected to vibration
- Requires heat and/or pressure for bonding
- Desire to cut costs/increase production/simplify operation

## How do you need the adhesive to perform?

- Match strength to stresses/combination of stresses: Tensile, Shear, Cleavage and Peel
- Flexibility
- Maintain surface integrity
- Permanent bond
- Resist heat and/or moisture
- Bond and seal
- Reduce risk of bimetallic corrosion and/or rust

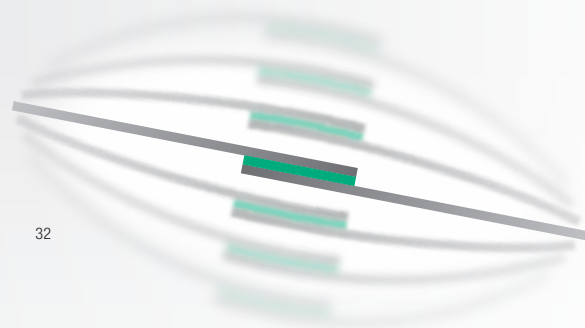
## Will the assembly be exposed to harsh environmental conditions?

- Very low or very high temperatures
- High humidity
- Chemicals
- Water
- Dirt/dust



### Aesthetics and Surface Integrity

With uniform stress distribution of adhesives and tapes, lighter, thinner materials can be used without concerns about distortion, splitting, or crazing at the mechanically fastened site. Elimination of holes in metal also reduces the chances for rust and corrosion.

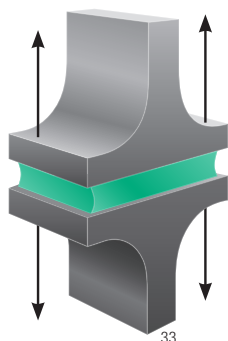


### Bonds Subjected to Vibration

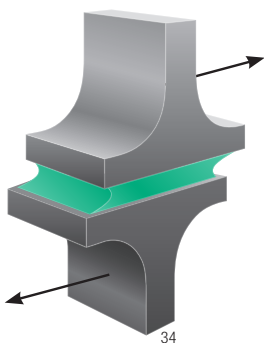
The viscoelasticity of many 3M adhesives and tapes improves resistance to vibration fatigue by imparting flexibility to a joint or bonded area.



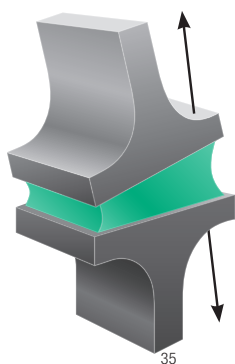
## Different design challenges require different solutions. Illustration of potential stress on bonded joints.



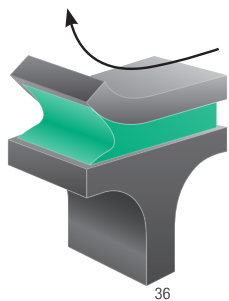
**Tensile** is pull exerted equally over the entire joint. Pull direction is straight and away from the adhesive bond.



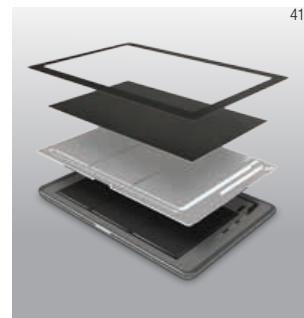
**Shear** is pull directed across the adhesive, forcing the substrates to slide over each other.



**Cleavage** is pull concentrated at one edge of the joint, exerting a prying force on the bond. The other edge of the joint is theoretically under zero stress.



**Peel** is concentrated along a thin line at the edge of the bond where one substrate is flexible. The line is the exact point where an adhesive would separate if the flexible surface were peeled away from its mating surface. Once peeling has begun, the stress line stays out in front of the advancing bond separation.



## Adhesive Families Adhesive families have been color coded to make cross referencing between charts easier.

100

### 100 High Temperature Acrylic

- Up to 450°F short-term heat resistance and excellent solvent resistance.
- High peel strength compared to other acrylic formulations.
- Exceptional shear strength even at elevated temperatures.
- Exhibits low outgassing characteristics.

▶ 100MP

### ▶ 100MP High Performance Acrylic

- Up to 500°F short-term heat resistance and outstanding solvent resistance.
- Higher peel strength than most other acrylic formulations.
- Exceptional shear strength even at elevated temperatures.

▶ 100HT

### ▶ 100HT Ultra High Temperature Acrylic

- Up to 550°F short-term heat resistance and outstanding solvent resistance.
- Higher peel strength than most other acrylic formulations.
- Exceptional shear strength even at elevated temperatures.

▶ 200MP

### ▶ 200MP High Performance Acrylic

- Up to 400°F short-term heat resistance and excellent solvent resistance.
- Outstanding adhesion to metal and high surface energy plastics.
- Excellent shear strength to resist slippage and edge lifting.
- Short term repositionability for placement accuracy.

220

### 220 Industrial Acrylic

- Up to 350°F short-term heat resistance and good chemical resistance.
- Good shear strength and chemical resistance for general purpose industrial applications.
- Good adhesion to most metal and high surface energy plastics.

290

### 290 Low Outgassing Acrylic

- Up to 450°F short-term heat resistance.
- Exceeds most OEM specifications for outgassing and long-term performance.
- High peel strength compared to other acrylic formulations.
- Exceptional shear strength even at elevated temperatures.

300

### 300 High Strength Acrylic

- Up to 250°F short-term heat resistance.
- High initial adhesion especially to low surface energy plastics.
- Quick flowing to speed lamination of textured plastics, foams, fabrics and coated papers.

▶ 300FR

### ▶ 300FR Flame Retardant

- Meets various flame retardancy standards such as UL94 V-O/2, F.A.R. 25.853, and FMVSS 302.
- Similar adhesive properties to adhesive 300 family.
- Good adhesion to a wide variety of surfaces including LSE plastics, foams and fabrics.

▶ 300LSE

### ▶ 300LSE Low Surface Energy Acrylic

- Up to 300°F short-term heat resistance.
- Outstanding adhesion to low surface energy plastics, powder coated paints and lightly oiled metals.
- Good chemical and humidity resistance.

▶ 300MP

### ▶ 300MP High Tack Acrylic

- Up to 250°F short-term heat resistance for automotive interior applications.
- Designed especially to bond most plastics and foams.
- Economical attachment of graphics.

▶ 300SF

### ▶ 300SF Solventless

- Excellent initial adhesion.
- Ideal for use on coated papers and other smooth surface materials.
- Manufactured using a solventless adhesive coating process.

320

### 320 High Tenacity Acrylic

- Designed for use with 3M™ Label Component Systems for protected graphics printing of polyester films.
- Can also be used in constructing custom tamper-indicating labels.
- Offers excellent flagging resistance and adhesion to a variety of substrates.

340

### 340 High Tack Acrylic

- Up to 180°F short-term heat resistance.
- Excellent bonding to foam and other substrates.
- High tack adhesive.
- Medium shear strength.

350

### 350 High Performance Acrylic

- Up to 450°F short-term heat resistance.
- Excellent solvent resistance and adhesion to LSE materials.

**Note:** This technical information and data should be considered representative or typical only and should not be used for specification purposes.

375

**375 High Performance Double Coated**

- Up to 450°F short-term heat resistance.
- Good adhesion to both high and low surface energy substrates.
- Excellent initial tack.

400

**400 Acrylic Adhesive**

- Up to 250°F short-term heat resistance.
- Good low temperature performance and peel strength on many surfaces.
- Excellent adhesion to uncoated papers.
- Clarity and UV resistance for window label applications.

420

**420 Acrylic Adhesive**

- Up to 300°F short-term heat resistance.
- High tack adhesive.

430

**430 Acrylic Adhesive**

- Up to 350°F short-term heat resistance.
- Lead for high temperature splicing.

563

**563 Low Outgassing Permanent Bond Acrylic (High Shear)**

- Provides permanent bond strength to a wide variety of surfaces.
- Because the adhesive level neither builds nor degrades over time, it will remove cleanly from most HSE materials.

573

**573 Permanent Low Outgassing Acrylic**

- High shear strength even at 350°F temperature.
- High peel strength.
- Low outgassing, exceeds most OEM specifications for outgassing performance.

700 Series

**700 Series Synthetic Rubber**

- Up to 200°F short-term heat resistance.
- Good adhesion to low surface energy substrates.
- For indoor and room temperature applications.

800 Series

**800 Series Natural Rubber**

- Up to 200°F short-term heat resistance.
- Offers good adhesion to a variety of surfaces.
- For indoor and room temperature applications.

900/900R

**900/900R Miscellaneous Rubber Adhesive Group**

- Excellent initial adhesion and high bond to a variety of foams.
- Utility rubber-based adhesive ideal for the foam fabricating industry.

1000 Series

**1000 Series Repositionable Acrylic**

- Good holding to many surfaces.
- Clean removal.

2000MP

**2000MP Optically Clear Acrylic**

- Visual accuracy — light transmission > 99%, free of birefringence, refractive index of 1.47.
- High cohesive and peel strengths.
- High temperature, humidity and UV light resistance.
- Long-term durability without yellowing, delaminating or degrading.

Electric

**Electronically Conductive**

- Good initial tack.
- Non-corrosive adhesive.
- Built-in conductive fibers.
- Helps reinforce tape.
- Low electrical resistance with good conductivity.

Thermal

**Thermally Conductive**

- High performance acrylic adhesive with highly conductive ceramic particles.
- For an extremely reliable thermal interface.
- Highly conformable.

Screen Print

**Screen Printable Adhesive**

- For selective placement of pressure sensitive adhesive using screen print technology.
- Either UV curable or water-based are available.

Silicone

**Silicone Adhesive**

- High temperature resistance up to 500°F
- Reliable solvent resistance
- Good damping performance
- Good adhesion to silicone rubbers and silicone foams

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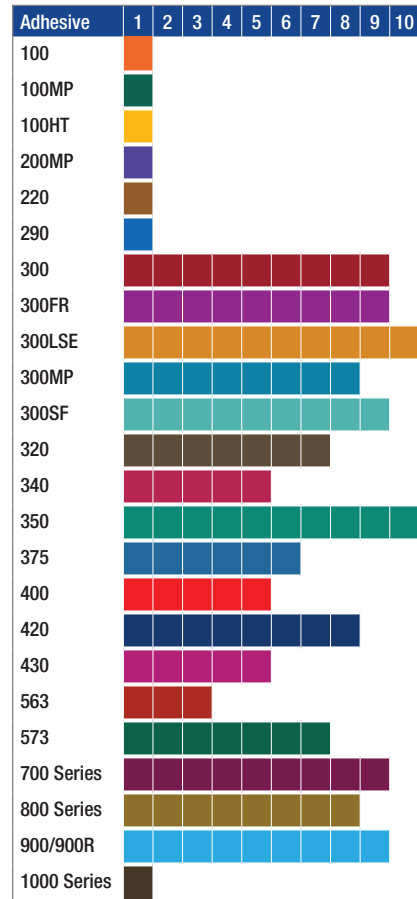
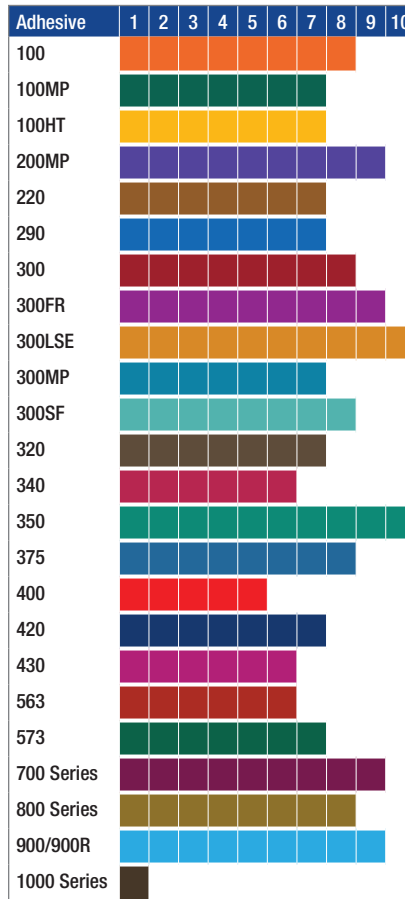
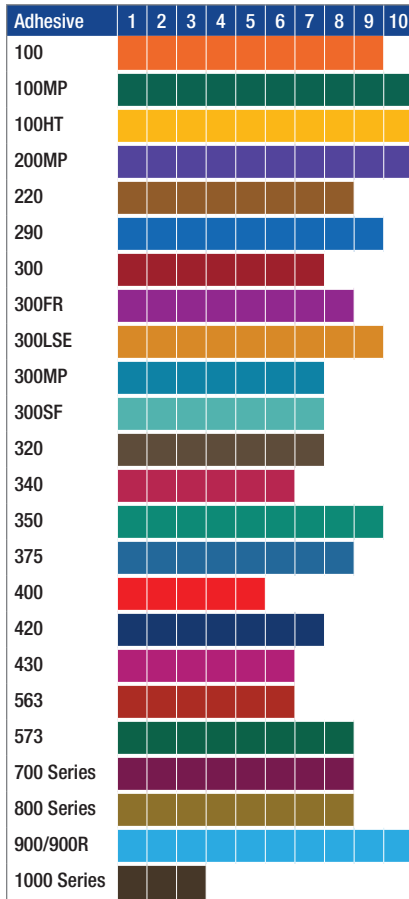
## 3M™ Bonding Tapes Selection Guide Based on Surface Energy

These charts are based on relative adhesion within each given surface energy category.

Metals	Surface Energy (Dynes/cm)
Copper	1103
Aluminum	840
Zinc	753
Tin	526
Lead	543

High Surface Energy (HSE) Plastics	Surface Energy (Dynes/cm)
Polyimide	50
Phenolic	47
Nylon®	46
Alkyd Enamel	45
Polyester	43
Epoxy Paint	43
Polyurethane	43
ABS	42
Polycarbonate	42
PVC	39
Modified PPE Resin	38
Acrylic	38

Low Surface Energy (LSE) Plastics	Surface Energy (Dynes/cm)
PVA	37
Polystyrene	36
Acetal	36
EVA	33
Polyethylene	31
Polypropylene	29
PVF	28
PTFE	18
Powder Coatings	Broad Range



Values: 1 – Lowest Performance; 10 – Highest Performance

Note: This technical information and data should be considered representative or typical only and should not be used for specification purposes.

# 3M™ Bonding Tapes Selection Guide Based on Surface Combinations

This matrix gives you a few of our most commonly used tapes for various surface combinations. Products shown represent only a small part of the total line.

+	Steel Aluminum Glass* Ceramics*			ABS*, Acrylic*, Enamel* and Epoxy Paints*; Polyimide*, Modified PPE*, Nylon**, Polycarbonate*, Polyester*, Rigid Vinyl*			Polystyrene* Polypropylene* Polyethylene* Powder Paints*			Plasticized Vinyl			Paper and Paperboard			Foam, Textiles			Rubber* (primer is required for long term durability)			
	Thin	Thick	Foam	Thin	Thick	Foam	Thin	Thick	Foam	Thin	Thick	Foam	Thin	Thick	Foam	Thin	Thick	Foam	Thin	Thick	Foam	
Rubber* (primer is required for long term durability)	Transfer	467MP 9471LE	468MP 9472LE	3M™ VHB™ Tape 4941, 5952, RP45	467MP 9471LE	468MP 9472LE	3M™ VHB™ Tape 4941, 5952, RP45	467MP 9471LE	468MP 9472LE	3M™ VHB™ Tape 4941, 5952, RP45	F9467U	F9465PC	3M™ VHB™ Tape 4941	467MP 9471LE	468MP 9472LE	—	467MP 9471LE	468MP 9472LE	—	467MP 9471LE	468MP 9472LE	3M™ VHB™ Tape 4941, 5952, RP45
	Double Coated	92015 9832 93010LE	93015LE 93020LE 99786	—	92015 9832 93010LE	93015LE 93020LE	—	92015 9832 93010LE	99786 93015LE 93020LE	—	—	—	—	92015 9832 93010LE	99786 93015LE 93020LE	—	92015 9832	99786	—	92015 9832 93010LE	99786 93015LE 93020LE	—
Foam, Textiles	Transfer	9772WL 9471LE	9775WL 9472LE	—	9772WL 9471LE	9775WL 9472LE 99786	—	9772WL 9471LE	9775WL 9472LE	—	F9467U	F9465PC	—	9772WL 9471LE	9775WL 9472LE	—	9772WL 9471LE	9775WL 9472LE	—	9772WL 9471LE	9775WL 9472LE	—
	Double Coated	9832 93010LE	93015LE 93020LE 99786	—	9832 93010LE	93015LE 93020LE 99786	—	9832 93010LE	93015LE 93020LE 99786	—	—	—	—	9832 93010LE	93015LE 93020LE 99786	—	9832 93010LE	93015LE 93020LE 99786	—	9832 93010LE	93015LE 93020LE 99786	—
Paper and Paperboard	Transfer	467MP 9772WL 9471LE	468MP 9775WL 9472LE	—	467MP 9772WL 9471LE	468MP 9775WL 9472LE	—	9772WL 9471LE	9775WL 9472LE	—	F9467U	F9465PC	—	XT2105 950 465	XT2112 950	—	—	—	—	—	—	—
	Double Coated	9832 92015 93010LE	93015LE 93020LE 99786	—	9832 92015 93010LE	93015LE 93020LE 99786	—	9832 93010LE	93015LE 93020LE 99786	—	☎	☎	—	XG6110 XG6110 415	XT6110 444	—	—	—	—	—	—	—
Plasticized Vinyl	Transfer	F9467U	F9465PC	3M™ VHB™ Tape 4941	F9467U	F9465PC	3M™ VHB™ Tape 4941	F9467U	F9465PC	3M™ VHB™ Tape 4941	F9467U	F9465PC	3M™ VHB™ Tape 4941	—	—	—	—	—	—	—	—	
	Double Coated	☎	☎	—	☎	☎	—	☎	☎	—	☎	☎	—	—	—	—	—	—	—	—	—	
Polystyrene*, Polypropylene*, Polyethylene*, Powder Paints*	Transfer	9772WL 9471LE	9775WL 9472LE	3M™ VHB™ Tape 4941, 5952, RP45	9772WL 9471LE	9775WL 9472LE	3M™ VHB™ Tape 4941, 5952, RP45	9772WL 9471LE	9775WL 9472LE	3M™ VHB™ Tape 4941, 5952, RP45	—	—	—	—	—	—	—	—	—	—	—	
	Double Coated	9832 93010LE	93015LE 93020LE 99786	—	9832 93010LE	93015LE 93020LE 99786	—	9832 93010LE	93015LE 93020LE 99786	—	—	—	—	—	—	—	—	—	—	—	—	—
ABS*, Acrylic*, Enamel*, and Epoxy Paints*, Polyimide*, Polycarbonate*, Polyester*, Rigid Vinyl*	Transfer	467MP 9471LE	468MP 9472LE	—	467MP 9471LE	468MP 9472LE	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
	Double Coated	92015 9832 93010LE	93015LE 93020LE 99786	3M™ VHB™ Tape 4941, 5952, RP45	92015 9832 93010LE	93015LE 93020LE 99786	3M™ VHB™ Tape 4941, 5952, RP45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Steel, Aluminum, Glass*, Ceramics*	Transfer	467MP 9471LE F9460PC	468MP 9472LE F9473PC	3M™ VHB™ Tape 4941, 5952, RP45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
	Double Coated	92015 9832 93010LE	93015LE 93020LE 99786	—	92015 9832 93010LE	93015LE 93020LE 99786	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

**Note:** The technical information and data provided here should be considered representative or typical only and should not be used for specification purposes. User should evaluate the 3M product to determine whether it is fit for a particular purpose and suitable for user's method of application.

\*Primer may be required for long term durability or highest strength, especially with applications using 3M™ VHB™ Tape that often have high strength requirements. Refer to 3M™ Primers Selection Guide on page 12.

## 3M™ Primers Selection Guide

For some applications, it is important to use a primer to provide the highest level of performance possible — or in the case of difficult substrates like EPDM. Examples include: using 3M™ VHB™ Tape for glazing in exterior façade, assembling metal cargo vans with 3M™ VHB™ Tape, and bonding durably to EPDM. The information below is a general guideline on primers by substrate. Evaluation of these primers should be completed on the exact substrate being used in the application to ensure that the final bond meets all of the requirements of the application.

+	Plastics: LSE (Polyethylene)	Plastics: HSE, MSE, LSE (ABS, Acrylic, Polycarbonate, Nylon, TPO, Polypropylene)	Rubber (EPDM, Santoprene®)	Glass	Paints (Powder Coat, Painted Metal, Composite Panel)	Metals (Aluminum, Steel, Stainless, Galvanized)
Metals	<b>Primer Options:</b> AP-111 or P94 metal side; Flame treat then P94 polyethylene side	<b>Primer Options:</b> AP-111 or P94 metal side; P94 plastic side	<b>Primer Options:</b> AP-111, P94 metal side; P94 rubber side	<b>Primer Options:</b> AP-111 or P94 metal side; AP-115 glass side	<b>Primer Options:</b> AP-111 or P94 metal side; AP-111 or P94 paint side	<b>Primer Options:</b> AP-111 or P94
Paints	<b>Primer Options:</b> AP-111 or P94 paint side; Flame treat then P94 polyethylene side	<b>Primer Options:</b> AP-111 or P94 paint side; P94 plastic side	<b>Primer Options:</b> AP-111 or P94 paint side; P94 rubber side	<b>Primer Options:</b> AP-111 or P94 paint side; AP-115 glass side	<b>Primer Options:</b> AP-111 or P94	
Glass	<b>Primer Options:</b> AP-115 glass side; Flame treat then P94 polyethylene side	<b>Primer Options:</b> AP-115 glass side; P94 plastic side	<b>Primer Options:</b> AP-115 glass side; P94 rubber side	<b>Primer Options:</b> AP-115		
Rubber	<b>Primer Options:</b> P94 rubber side; Flame treat then P94 polyethylene side	<b>Primer Options:</b> P94 rubber side; P94 plastic side	<b>Primer Options:</b> P94			
Plastics: HSE, MSE, LSE	<b>Primer Options:</b> P94 plastic side; Flame treat then P94 polyethylene side	<b>Primer Options:</b> P94				
Plastics: LSE	<b>Primer Options:</b> Flame treat then P94 polyethylene					



# Adhesive Properties

Adhesive Family	Adhesive Properties				Adhesion to			Environmental Performance Resistance to:				Temperature (°F)			Products
	Peel		Shear		Metal	HSE Plastic	LSE Plastic	Chemical	Ultra Violet	Plasti-cizers	Humidity	Minimum Application	Service Low <sup>†</sup>	Service High <sup>†</sup>	
	Initial	Ultimate	Room Temp.	150°F											
<b>Acrylic Adhesives</b>															
100	3	9	10	10	9	8	1	9	10	5	10	50	-40	450	941, 965, 966, 4004, 4008, 4026, 4032, 4052, 4056, 4658F, 4921, 9379, 9380, 9462FT, 9461P, 9462P
▶ 100MP	4	10	10	10	10	7	1	10	10	5	10	50	-40	500	F9460PC, F9473PC, F9469PC, 9437
▶ 100HT	4	10	10	10	10	7	1	10	10	5	10	50	-40	550	9082, 9085, 9085UV
▶ 200MP	4	10	10	10	10	9	1	9	10	5	10	50	-40	400	467MC, 467MCF, 467MP, 467MPF, 468MC, 468MCF, 468MP, 468MPF, 7945MP, 7952MP, 7953MP, 7953SL, 7955MP, 7956MP, 7956MWS, 7956WDL, 7957MP, 7959MP, 7961MP, 7962MP, 7965MP, 7966MWS, 7966WDL, 7992MP, 7992MPW, 7993MP, 7995MP, 7997MP, 9045MP, 9056MP, 9059MP, 9061MP, 9172MP, 9185MP, 9667MP, 9668MP, 9668MPL, 92015
▶ 220	4	8	10	9	8	7	1	8	10	4	8	50	-40	350	9502, 9505, 9552, 9555
▶ 300	6	7	4	1	7	9	9	6	7	3	8	50	-40	250	444, 444PC, 927, 950, 950EK, 992U, 9009, 9019, 9039, 9458, 9459W, 9466B, 9471, 9471PC, 9472, 9653, 9671, 9672, 9673
▶ 300FR	6	7	4	1	8	9	9	6	7	3	8	50	-40	250	9372W, 9372DKW, 9375W
▶ 300LSE	7	9	8	8	9	9	10	8	7	4	9	50	-40	300	8132LE, 8153LE, 9453FL, 9453LE, 9471FL, 9471LE, 9472LE, 9472FL, 9653LE, 9671LE, 9672LE, 93005LE, 93010LE, 93015LE, 93020LE
▶ 300MP	6	7	8	8	7	7	8	7	7	3	9	50	-40	250	6035PC, 6035PL, 6038PC, 6038PL, 7951, 9772WL, 9773WL, 9774WL, 9775WL, 9784, 9687C, 9832, 9832HL, 99687, 99786, 99786NP
▶ 300SF	5	7	3	1	6	9	9	5	6	3	8	50	-40	200	XT2105, XT2112, XT2105 ATG, XT2112 ATG
▶ 320	7	7	4	1	7	7	7	6	6	3	8	50	-40	250	9447
▶ 340	6	7	6	5	6	6	5	8	7	4	9	50	-40	180	9456, 9824, 9828, 9828PC
▶ 350	7	9	8	8	9	10	10	8	7	4	9	50	-40	450	3028EK, 9442, 9445, 9482PC, 9485EK, 9485PC, 9500B, 9500PC, 9675, 9731
▶ 360	10	10	8	6	10	10	10	8	7	4	8	50	-40	300	9626, 9627, 9629PC, 9628FL, 9628B, 9629B, 9629FL
▶ 375	6	8	8	8	8	8	6	7	7	5	8	50	-10	300 <sup>**</sup>	9086, 9087, 9088, 9088FL
▶ 400	4	5	5	4	5	5	5	5	10	4	8	50	-60	250	415, 463, 465, 465XL, 665, 666, 920XL, 9420, 9457, 9464, 9665
▶ 420	5	6	10	10	7	7	8	6	10	2	9	32	-40	300	94210, 94215, 94220, F9752PC, F9755PC
▶ 430	3	4	10	10	6	6	5	5	10	4	10	50	-40	350	4492, 4496, 9497, 9499

<sup>†</sup>Reflects lowest service temperature that bond holds and highest temperature for short periods (minutes, hours).

<sup>\*\*</sup>Service temperature dependent on carrier. See technical data page for further information.

**Values: 1 = Lowest Performance; 10 = Highest Performance**

Rankings are a general guide. Adhesives should be tested with actual components to ensure acceptable performance.

**Note:** This technical information and data should be considered representative or typical only and should not be used for specification purposes.

## Adhesive Properties (cont.)

Adhesive Family	Adhesive Properties				Adhesion to			Environmental Performance Resistance to:				Temperature (°F)			Products
	Peel		Shear		Metal	HSE Plastic	LSE Plastic	Chemical	Ultra Violet	Plasti-cizers	Humidity	Minimum Application	Service Low <sup>†</sup>	Service High <sup>†</sup>	
	Initial	Ultimate	Room Temp.	150°F											
<b>Rubber Adhesives</b>															
<b>700 Series</b>	7	9	10	2	8	9	9	2	4	1	9	50	-40	200	4085, 4462, 4466, 4492, 4496, 9443NP, 9579, 9589
<b>800 Series</b>	9	10	6	2	8	8	8	1	1	1	1	50	-40	180	401M, 410M
<b>900</b>	Individual product performance differs — see page 19 (91022) and page 25 (900 Series, 9731, 96042).														9737, 9737R, 9738, 9738R, 9740, 9741, 9816L, 9816M, 9816H, 9817L, 9817M, 9817H
<b>900R</b>	10	10	5	4	10	9	9	4	4	3	1	50	-40	200	9851
<b>Other Adhesives</b>															
<b>1000 Series</b>	2	3	3	3	3	1	1	2	7	3	4	50	-20	250	665, 666, 9425, 9449S

<sup>†</sup>Reflects lowest service temperature that bond holds and highest temperature for short periods (minutes, hours).

**Values: 1 = Lowest Performance; 10 = Highest Performance**

Rankings are a general guide. Adhesives should be tested with actual components to ensure acceptable performance.

# Liner Reference Chart

3M offers paper and film release liners in a number of different constructions and weights to meet various process requirements.

- Paper** liners include **polycoated kraft (PCK)** for moisture stability to resist wrinkling and curling; and **densified kraft (DK)** to reduce the edge burr on metal plates and for rotary processing. **Extended DK liners (XL)** are also available on selected tapes. With the liner wider than the adhesive, you can more easily grip the liner edge for removal.
- Film** liners add strength in high speed processing and dispensing, and are available for clean room processing. They also offer high clarity for graphic inspection.

Basis Weight	Caliper Mils	Liner Type	Description	High Tensile Strength	Humidity Resistance	Rotary Processing	Kiss Cutting	Steel Rule
<b>Paper Liners</b>								
43#	2.5	Densified Kraft (DK)	Silicone treated on one side for use as a second liner to protect adhesive during selective die-cutting. Printable.			■		
55#	3.2	Densified Kraft (DK)	Caliper-controlled hard liner for consistent base in rotary printing and die-cutting of labels.			■	■	■
60#	3.5	Densified Kraft (DK)	Hard dense liner reduces edge burr in hand tool processing of metal plates.			■	■	■
62#	3.7	Densified Kraft (DK)	Heavier version of 60#.			■	■	■
78#	6.0	Extensible Polycoated Kraft (EK)	Extra tough liner for tear resistance. Conformable for EMI/RFI shielding applications.	■	■		■	■
58#	4.2	Polycoated Kraft (PCK)	Moisture stable. Flat-bed die-cutting.		■			■
83#	6.2	Polycoated Kraft (PCK)	Excellent moisture stability for lay-flat processing. Thicker caliper for kiss-cutting and steel rule die-cutting.		■		■	■
94#	7.0	Polycoated Kraft (PCK)	Excellent liner for lay-flat processing.		■		■	■
<b>Film Liners</b>								
—	2.0	Clear Polyester (PET)	High strength reduces breakage during die-cutting and dispensing.	■	■	■	■	■
—	3.0							
—	4.0							
—	3.0	Clear High Density Polyethylene (HDPE)	Silicone treated for easy release. Clarity for see-through applications.	■	■	■		■

**Note:** This technical information and data should be considered representative or typical only and should not be used for specification purposes.



# 3M™ Adhesive Transfer Tapes

Adhesive Family <sup>1</sup>	Product	Description/Application Ideas	Adhesive Caliper (mils)	Liner <sup>2</sup>		Master Size	Specs	Adhesion				Chem. Resist.	Temp. Range	
				Type	Caliper (mils)			Metal	HSE Plastic	LSE Plastic	Foam		Low (°F)	High (°F)
<b>100</b> High Temperature Acrylic	941	Graphic attachment for low odor appliance applications.	2	58# PCK	4.2	48" x 180 yd	UL	9	8	1	2	9	-40	450
	965	Fuel line labels. Excellent chemical resistance. Aerospace.	2	55# DK	3.2	48" x 180 yd	—							
	966	Meets NASA low volatility specs. Flex circuit attachment. High temp.	2	62# DK	3.5	48" x 180 yd	UL M <sup>H</sup>							
	9461P	Thinner version of laminating adhesive 9462P.	1	55# DK	3.2	48" x 360 yd	—							
	9462P	Laminating adhesive 966 on a caliper-controlled liner for rotary die-cutting.	2	55# DK	3.2	48" x 360 yd	UL							
<b>100MP*</b> High Performance Acrylic	F9460PC	High performance industrial joining and metal fabrication.	2	58# PCK	4.2	60" x 180 yd	M <sup>H</sup>	10	7	1	2	10	-40	500
	F9469PC	High performance industrial joining and metal fabrication.	5	58# PCK	4.2	60" x 180 yd	M <sup>H</sup>							
	F9473PC	High performance industrial joining and metal fabrication.	10	58# PCK	4.2	60" x 180 yd	M <sup>H</sup>							
<b>100HT</b> Ultra High Temperature Acrylic	9082	Excellent heat resistance in high temp environments. For applications that require both higher processing and operating temperatures.	2	White DK Liner	3.2	48" x 180 yd	—	10	7	1	2	10	-40	550
	9085	Thicker version of 9082.	5	White DK Liner	3.2	48" x 180 yd	—							
	9085UV	Same as 9085 but with UV light detectable adhesive.	5	58# PCK	4.2	48" x 360 yd	—							
<b>200MP</b> High Performance Acrylic	467MC	Same as 467MP with a paper MicroChannel liner to aid in bubble- and wrinkle-free graphic attachment.	2	58# PCK	4.2	54" x 180 yd	—	10	9	1	3	9	-40	400
	467MCF	Same as 467MP with a polyester MicroChannel liner to aid in bubble- and wrinkle-free graphic attachment.	2	PET	4.2	54" x 180 yd	—							
	467MP	Graphic attachment and general industrial joining. Industry standard. 60 in. width master also available.	2	58# PCK	4.2	48" x 180 yd	UL M <sup>H</sup>							
	467MPF	Polyester liner for rotary processing of graphic and die cut parts.	2	PET	2.0	54" x 180 yd	UL							
	468MC	Same as 468MP with a paper MicroChannel liner to aid in bubble- and wrinkle-free graphic attachment.	5	58# PCK	4.0	54" x 180 yd	—							
	468MCF	Same as 468MP with a polyester MicroChannel liner to aid in bubble- and wrinkle-free graphic attachment.	5	PET	4.0	54" x 180 yd	—							
	468MP	Industry standard for graphic attachment and die cut parts. 60 in. width master also available.	5	58# PCK	4.2	48" x 180 yd	UL M <sup>H</sup>							
	468MPF	Thicker version of 467MPF.	5	PET	2.0	54" x 180 yd	UL							
	9667MP	Same as 467MP on heavy, lay-flat liner for kiss-cutting. 48 in. width master also available.	2	83# PCK	6.2	54" x 180 yd	UL							
	9668MP	Same as 468MP on heavy, lay-flat liner. 48 in. width master also available.	5	83# PCK	6.2	54" x 180 yd	UL M <sup>H</sup>							
	9668MPL	Better lay-flat properties.	5	94# PCK	7.0	60" x 180 yd	—							

1 – More information on pages 8–9. 2 – More information on page 15. \*Products in this platform are 3M™ VHB™ Tapes offering our highest strength. M<sup>H</sup> meets Mil-P-19834B Type I.

**Values: 1 = Lowest Performance; 10 = Highest Performance**

Rankings are a general guide. Adhesives should be tested with actual components to ensure acceptable performance.

**Note:** This technical information and data should be considered representative or typical only and should not be used for specification purposes.

# 3M™ Adhesive Transfer Tapes (cont.)

Adhesive Family <sup>1</sup>	Product	Description/Application Ideas	Adhesive Caliper (mils)	Liner <sup>2</sup>		Master Size	Specs	Adhesion				Chem. Resist.	Temp. Range	
				Type	Caliper (mils)			Metal	HSE Plastic	LSE Plastic	Foam		Low (°F)	High (°F)
<b>220</b> Industrial Acrylic	9502	Economical attachment of graphics and industrial joining. 60 in. width master also available.	2	58# PCK	4.2	48" x 180 yd	UL	8	7	1	2	8	-40	350
	9505	Thicker version of 9502 for textured surfaces. 60 in. width master also available.	5	58# PCK	4.2	48" x 180 yd	UL							
<b>290</b> Low Outgassing Acrylic	501FL	Ultra-clean adhesive for low outgassing applications.	1	PET	2.0	54" x 180 yd	—	9	7	1	2	9	-40	450
	502FL	Ultra-clean adhesive for low outgassing applications.	2	PET	2.0	54" x 180 yd	—							
<b>300</b> High Strength Acrylic	927	Attach gaskets and a variety of industrial foam materials.	2	60# DK	3.5	48" x 180 yd	—	7	9	9	9	6	-40	250
	950	Thicker version of 927.	5	60# DK	3.5	48" x 180 yd	UL							
	950EK	Thicker version of 927 with extensible Kraft liner.	5	78# EK	6.0	48" x 180 yd	—							
	992U	For performance-engineered labels. UV indicator in adhesive.	2	55# DK	3.2	48" x 180 yd	UL							
	9458	Thin, high tack adhesive for rotary processing HSE and LSE parts.	1	55# DK	3.2	54" x 360 yd	UL							
	9459W	White version of laminating adhesive.	1.5	55# DK	3.2	48" x 360 yd	UL							
	9471	For smooth LSE plastics.	2	60# DK	3.5	48" x 180 yd	UL M <sup>H</sup>							
	9471PC	Same as 9471 on moisture-stable liner.	2	61# DK	4.2	48" x 180 yd	—							
	9472	5.0 mil version of 9471; for textured surfaces.	5	60# DK	3.5	48" x 180 yd	UL M <sup>H</sup>							
	9653	A 3.5 mil version of 9471 on a heavy, lay-flat liner for kiss-cutting.	3.5	83# PCK	6.2	48" x 180 yd	UL							
	9671	Heavier lined version of 9471 for easy handling, lay-flat properties.	2	83# PCK	6.2	48" x 180 yd	UL M <sup>H</sup>							
	9672	Heavier lined version of 9472 for easy handling, lay-flat properties.	5	83# PCK	6.2	48" x 180 yd	UL							
9673	Same as 9671 with unprinted liner.	2	83# PCK	6.2	48" x 180 yd	UL M <sup>H</sup>								
<b>300FR</b> Flame Retardant	9372W	Flame retardant transfer tape with moisture stable liner.	2	83# PCK	6.2	60" x 180 yd	UL	8	9	9	9	6	-40	250
	9372DKW	Flame retardant transfer tape with rotary die-cuttable liner.	2	55# DK	3.2	60" x 180 yd	UL							
	9375W	Flame retardant transfer tape with moisture stable liner.	5	83# PCK	6.2	60" x 180 yd	UL							

1 – More information on pages 8–9.

2 – More information on page 15.

M<sup>H</sup> meets Mil-P-19834B Type I.

### Values: 1 = Lowest Performance; 10 = Highest Performance

Rankings are a general guide. Adhesives should be tested with actual components to ensure acceptable performance.

**Note:** This technical information and data should be considered representative or typical only and should not be used for specification purposes.

# 3M™ Adhesive Transfer Tapes (cont.)

Adhesive Family <sup>1</sup>	Product	Description/Application Ideas	Adhesive Caliper (mils)	Liner <sup>2</sup>		Master Size	Specs	Adhesion				Chem. Resist.	Temp. Range	
				Type	Caliper (mils)			Metal	HSE Plastic	LSE Plastic	Foam		Low (°F)	High (°F)
<b>300LSE</b> Low Surface Energy Acrylic	9453FL	Film lined version of 9453LE for rotary processing.	3.5	PET	2.0	54" x 180 yd	UL							
	9453LE	A 3.5 mil version of 9471LE for application to rough surfaces. 48 in. master width available.	3.5	58# PCK	4.2	54" x 180 yd	UL							
	9471FL	Film lined version of 9471LE for rotary processing.	2	PET	2.0	54" x 180 yd	UL							
	9471LE	Bonds graphics to powder coatings, LSE plastics and oily materials.	2	58# PCK	4.2	54" x 180 yd	UL							
	9472FL	A 5 mil version of 9471LE with film liner for textured surfaces.	5	PET	2.0	54" x 180 yd	UL	9	9	10	1	8	-40	300
	9472LE	Thicker adhesive for textured LSE plastics and powder coatings.	5	58# PCK	4.2	54" x 180 yd	UL							
	9653LE	Heavy lined 9453LE for easy handling and lay-flat properties.	3.5	83# PCK	6.2	54" x 180 yd	UL							
	9671LE	Heavy lined 9471LE for easy handling and lay-flat properties.	2	83# PCK	6.2	54" x 180 yd	UL							
	9672LE	Heavy lined 9472LE for easy handling and lay-flat properties.	5	83# PCK	6.2	54" x 180 yd	UL							
<b>300MP</b> High Tack Acrylic	6035PC	Resists fogging for automotive interior fabric joining applications.	5	58# PCK	4.2	60" x 180 yd	—							
	6035PL	Heavy lined version of 6035PC for easy handling, lay-flat properties.	5	83# PCK	6.2	60" x 180 yd	—							
	6038PC	Low fogging. Automotive fabric and carpet attachment.	8	58# PCK	4.2	60" x 180 yd	—							
	6038PL	Low fogging. For rough embossed surfaces with heavy liner for steel rule die-cutting.	8	83# PCK	6.2	60" x 180 yd	—	7	7	8	8	7	-40	250
	9772WL	Provides excellent bond to various fabricated foams, fabrics and substrates.	2	96# PCK	7.0	60" x 180 yd	—							
	9773WL		3											
	9774WL		4											
9775WL	5													
<b>320</b> High Tenacity Acrylic	9447	Designed for use with 3M™ Label Component Systems.	1	55# DK	3.2	54" x 360 yd	—	5	5	1	1	5	-60	250
<b>350</b> High Performance Acrylic	9442	Excellent temperature and solvent resistance. High bond to low surface energy substrates.	2	55# DK	3.2	48" x 180 yd	UL							
	9445	Thicker version of 9442.	5	55# DK	3.2	48" x 180 yd	UL							
	9482PC	High tack and shear strength. Excellent adhesion to plastics and foams.	2	58# PCK	4.2	48" x 180 yd	UL	9	10	10	9	8	-40	450
	9485EK	Thicker version of 9482PC with an extensible Kraft liner.	5	78# EK	6.0	48" x 180 yd	—							
	9485PC	A 5 mil version of 9482PC.	5	58# PCK	4.2	48" x 180 yd	UL							
	9675	Heavy lined version of 9485PC for easy handling, lay-flat properties.	5	83# PCK	6.2	48" x 180 yd	—							

1 – More information on pages 8–9.  
2 – More information on page 15.

**Values: 1 = Lowest Performance; 10 = Highest Performance**

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# 3M™ Adhesive Transfer Tapes (cont.)

Adhesive Family <sup>1</sup>	Product	Description/Application Ideas	Adhesive Caliper (mils)	Liner <sup>2</sup>		Master Size	Specs	Adhesion				Chem. Resist.	Temp. Range	
				Type	Caliper (mils)			Metal	HSE Plastic	LSE Plastic	Foam		Low (°F)	High (°F)
400 Acrylic Adhesive	463	High tack and excellent adhesion to most paper stocks. For automatic dispensing.	2	60# DK	3.5	48" x 180 yd	—	5	5	5	4	5	-60	250
	465	Same as 463, but with easy liner release for manual or hand application.	2	60# DK	3.5	48" x 180 yd	—							
	465XL	Extended liner for easy removal and dispensing.	2	60# DK	3.5	1" x 600 yd	—							
	9457	Adhesive with long term stability, excellent outdoor performance and UV resistance. Adhesive 400 is best if necessary to apply at cooler temperatures.	1	55# DK	3.2	54" x 360 yd	UL							
	9665	Thicker version of 9457.	2	58# PCK	4.2	48" x 180 yd	—							
420 Acrylic Adhesive	F9752PC	High tack. Can be applied in temperatures as low as 32°F.	2	58# PCK	4.2	54" x 360 yd	—	7	7	8	4	6	-60	300
	F9755PC	Thicker version of F9752PC for textured surfaces.	5	58# PCK	4.2	54" x 360 yd	—							
430 Acrylic Adhesive	9497	Pink tinted high temperature splicing tape.	2	60# DK	3.5	48" x 360 yd	—	6	6	5	4	5	-40	350
	9499	Transparent version of 9497.	2	60# DK	3.5	48" x 360 yd	—							
Specialty Acrylic	9379	Jet fuel and hydraulic fluid resistant adhesive transfer tape.	2	PET	2	48" x 200 yd	M <sup>h</sup>	9	8	1	2	9	-40	350
	9380	Thicker version on 9379.	5	PET	2	48" x 200 yd	M <sup>h</sup>							
	F9465PC	Vinyl plasticizer resistant adhesive.	5	58# PCK	4.2	54" x 360 yd	—	10	10	7	5	5	-40	200
	F9467U	Vinyl plasticizer resistant adhesive.	3.5	58# PCK	4.2	54" x 180 yd	—							
Misc.	97053	Micro scrim reinforced adhesive transfer tape has excellent quick stick for permanent bond applications on plastics, metals, non-wovens, felts and foams. 60" wide master also available.	2.5	50# DK	3.0	54" x 250 yd	—	6	6	5	5	5	-40	175
Silicone	91022	Silicone attachment. Single lingers for easier processing.	2	White PET	2	48" x 180 yd	—	9	8	7	6	10	-60	500

1 – More information on pages 8–9.

2 – More information on page 15.

M<sup>h</sup> meets Mil-P-19834B Type I.

### Values: 1 = Lowest Performance; 10 = Highest Performance

Rankings are a general guide. Adhesives should be tested with actual components to ensure acceptable performance.

Note: This technical information and data should be considered representative or typical only and should not be used for specification purposes.

# 3M™ Double Lined Adhesive Transfer Tapes

Adhesive Family <sup>1</sup>	Product	Description/Application Ideas	Adhesive Caliper (mils)	Liner <sup>2</sup>		Master Size	Specs	Adhesion				Chem. Resist.	Temp. Range	
				Type	Caliper (mils)			Metal	HSE Plastic	LSE Plastic	Foam		Low (°F)	High (°F)
▶ <b>100MP*</b> High Performance Acrylic	9437	Excellent rotary die-cutting.	2	58# PCK	4.2	48" x 180 yd	—	10	7	1	2	10	-40	500
				58# PET	1.4									
<b>200MP</b> High Performance Acrylic	7952MP	Double lined laminating adhesive 467MP.	2	58# PCK	4.2	48" x 360 yd	UL	10	9	1	3	9	-40	400
				58# PCK	4.2	24" x 36"								
	7955MP	Double lined laminating adhesive 468MP. For selective die-cutting.	5	58# PCK	4.2	48" x 360 yd	UL							
				58# PCK	4.2	24" x 36"								
	7962MP	Laminating adhesive 7952MP on a lay-flat liner for kiss-cutting and and selective die-cutting.	2	83# PCK	6.2	48" x 360 yd	UL							
				58# PCK	4.2	24" x 36"								
	7965MP	Laminating adhesive 7955MP on a lay-flat liner for kiss-cutting and selective die-cutting.	5	83# PCK	6.2	48" x 360 yd	UL							
58# PCK				4.2	24" x 36"									
9172MP	Laminating adhesive 467MP with transparent liner for graphic inspection. Strong liner for one piece removal.	2	58# PCK	4.2	48" x 180 yd	UL								
9185MP	5 mil version of laminating adhesive 9172MP.	5	58# PCK	4.2	48" x 180 yd	UL								
			58# HDPE	3.0										
<b>220</b> Industrial Acrylic	9552	Economical attachment of graphics and industrial joining. Double lined version of 9502.	2.3	58# PCK	4.2	48" x 360 yd	UL	8	7	1	2	8	-40	350
	9555	Thicker version of 9552 for textured surfaces. Double lined version of 9505.	4.9	58# PCK	4.2	48" x 360 yd	UL							
<b>300</b> High Strength Acrylic	9428	Double lined version laminating adhesive 9458. Printable liner for application instructions.	1	55# DK	3.2	54" x 360 yd	—	7	9	9	9	6	-40	250
				43# DK	2.5									
<b>300/400</b> Acrylic	9466B	Piggy-back adhesive for producing label sets. For photographic bar-code labels.	2	White PP	3.5	48" x 180 yd	—	7	9	9	9	6	-40	250
				1	60# DK									
▶ <b>300LSE</b> Low Surface Energy Acrylic	8132LE	Double lined laminating adhesive 9471LE. For selective die-cutting. Application to smooth surfaces.	2	58# PCK	4.2	48" x 360 yd	UL	9	10	10	1	7	-40	300
				83# PCK	6.2	24" x 36"								
	8153LE	Double lined laminating adhesive 9453LE. For selective die-cutting. Application to rough surfaces.	3.5	58# PCK	4.2	48" x 360 yd	UL							
				83# PCK	6.2	24" x 36"								

1 – More information on pages 8–9.

2 – More information on page 15.

\*Products in this platform are 3M™ VHB™ Tapes offering our highest strength.

**Values: 1 = Lowest Performance; 10 = Highest Performance**

Rankings are a general guide. Adhesives should be tested with actual components to ensure acceptable performance.

**Note:** This technical information and data should be considered representative or typical only and should not be used for specification purposes.

# 3M™ Double Lined Adhesive Transfer Tapes (cont.)

Adhesive Family <sup>1</sup>	Product	Description/ Application Ideas	Adhesive Caliper (mils)	Liner <sup>2</sup>		Master Size	Specs	Adhesion				Chem. Resist.	Temp. Range	
				Type	Caliper (mils)			Metal	HSE Plastic	LSE Plastic	Foam		Low (°F)	High (°F)
▶ <b>300MP</b> High Tack Acrylic	7951	Double lined laminating adhesive 9770. For selective die-cutting. Excellent adhesion to LSE plastics.	2	58# PCK	4.2	48" x 360 yd	UL	7	7	8	8	7	-40	250
				58# PCK	4.2	24" x 36" sheets								
	9784	For see-through graphic inspection. A film lined version of laminating adhesive 9774.	4	58# PCK	4.2	48" x 180 yd	—							
				58# HDPE	3.0									
<b>2000MP</b> Optically Clear Acrylic	8211	General purpose, high adhesion optically clear adhesive.	1	PET/PET	2.0/2.0	60" x 180 yd	—	9	9	—	—	9	-40	350
	8212			PET/PET	2.0/2.0	60" x 180 yd								
	8213*			PET/PET	2.0/2.0	60" x 180 yd								
	8214*			PET/PET	2.0/2.0	60" x 180 yd								
	8215*			PET/PET	2.0/2.0	60" x 180 yd								
	8141KCL*	Very soft, optically clear adhesive.	1	PET/PET	3.0/3.0	60" x 180 yd	—	—	4	—	—	6	-40	185
	8142KCL*	Very soft, optically clear adhesive.	2	PET/PET	3.0/3.0	60" x 180 yd								
	8171PCL*	UV blocking, optically clear adhesive.	1	PET/PET	2.0/2.0	60" x 180 yd								
	8172PCL*	UV blocking, optically clear adhesive.	2	PET/PET	2.0/2.0	60" x 180 yd								
	8173KCL*	Double sided, optically clear adhesive.	3	PET/PET	2.0/2.0	60" x 180 yd								
9483	Optically clear adhesive.	5	PET/PP	3.0/3.0	48" x 180 yd	—								

1 – More information on pages 8–9.

2 – More information on page 15.

\*Made to order. Longer lead time required.

Note: All optically clear adhesives can be manufactured in a single coated or double coated tape format upon special request.

**Values: 1 = Lowest Performance; 10 = Highest Performance**

Rankings are a general guide. Adhesives should be tested with actual components to ensure acceptable performance.

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**Disclaimer:** Adhesives should be tested with actual components to ensure acceptable performance.

# 3M™ Double Coated Tapes

Adhesive Family <sup>1</sup>	Product	Description/ Application Ideas	Tape Cal. (mils)	Carrier Type	Liner <sup>2</sup>		Master Size	Specs	Adhesion				Chem. Resist.	Temp. Range	
					Type	Caliper (mils)			Metal	HSE Plastic	LSE Plastic	Foam		Low (°F)	High (°F)
▶ <b>200MP</b> High Performance Acrylic	92015	Double coat with thin polyester film carrier for dimensional stability and improved handling.	5.9	PET	58#	4.2	54" x 180 yd	—	10	9	1	2	9	-40	400
	▶ <b>200MP/300LSE</b> Differential Adhesive	9496LE	Differential double coated tape featuring High Performance Acrylic Adhesive 200MP and Low Surface Energy Acrylic Adhesive 300LSE.	6.7	PET	58# PCK	4.2	24" x 36" sheets	—	10	9	1	2	9	-40
9										9	10	1	8	-40	300
▶ <b>300LSE</b> Low Surface Energy Acrylic	93005LE	Very thin double coated polyester tape with good anti-lifting properties.	2.0	PET	58# PCK/ 83# PCK	4.2/ 6.2	48" X 60 yd	—	9	9	10	1	8	-40	300
	93010LE	Extremely smooth adhesive for excellent graphic appearances. Good chemical and humidity resistance.	3.9	PET	58# PCK	4.2	54" X 180 yd	—							
	93015LE	Extremely smooth adhesive for excellent graphic appearances. Good chemical and humidity resistance.	5.9	PET	58# PCK	4.2	54" X 180 yd	—							
	93020LE	Extremely smooth adhesive for excellent graphic appearances. Good chemical and humidity resistance.	7.9	PET	58# PCK	4.2	54" X 180 yd	—							
<b>300</b> High Strength Acrylic	444	Foam lamination. Gasket attachment.	3.9	PET	55# DK	3.2	48" x 108 yd	—	7	9	9	9	6	-40	250
	444PC	Foam lamination. Gasket attachment.	3.9	PET	58# PCK	4.2	48" x 108 yd	—							
	XT6110	Attaching porous fabrics, flock, foams and heavy cardstocks.	3.9	PET	55# DK	3.2	48" x 36 yd	—							
	9009	Thin double coat for applications where thickness is critical.	2.1	PET	55# DK	3.2	54" x 180 yd	—							
	9019	Ultra-thin double coat for applications where thickness is critical.	1.1	PET	55# DK	3.2	54" x 180 yd	—							
	9039	Thin double coat where application thickness is critical.	3.5	PET	55# DK	3.2	54" x 180 yd	—							
▶ <b>300MP</b> High Tack Acrylic	9687C	Thick double coat for bonding to foam. Provided on 6 in. core only.	12.0	Clear PET	Clear PET	2.0	54" x 180 yd	—	7	7	8	9	7	-40	250
	99786	Thin non-woven carrier for dimensional stability and improved handling. Temperature resistance up to 300°F.	5.5	Non-Woven	58# PCK Printed	4.2	48" x 180 yd	—							
	99786NP	Same as 9786 except an unprinted liner.	5.5	Non-Woven	58# PCK Unprinted	4.2	54" x 180 yd	—							
	9832	General purpose tape with improved temperature resistance.	4.8	PET	58# PCK	4.2	54" x 250 yd	—							
	9832HL	Same as 9832 except with a heavier liner.	4.8	PET	58# PCK	6.2	54" x 250 yd	—							

1 – More information on pages 8–9.  
2 – More information on page 15.

**Values: 1 = Lowest Performance; 10 = Highest Performance**

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# 3M™ Double Coated Tapes (cont.)

Adhesive Family <sup>1</sup>	Product	Description/ Application Ideas	Tape Cal. (mils)	Carrier Type	Liner <sup>2</sup>		Master Size	Specs	Adhesion				Chem. Resist.	Temp. Range	
					Type	Caliper (mils)			Metal	HSE Plastic	LSE Plastic	Foam		Low (°F)	High (°F)
<b>340</b> High Tack Acrylic	9456	High tack acrylic adhesive with good adhesion to many plastics.	5.0	Tissue	55# DK	3.2	54" x 180 yd	—	6	6	5	4	8	-40	180
	9824	Foam lamination. Gasket attachment.	3.1	PET	55# DK	3.2	54" x 250 yd	—							
	9828		4.0	PET	55# DK	3.2	54" x 250 yd	—							
	9828PC	High tack acrylic adhesive with good adhesion to many foams.	4.0	PET	74# PCK	5.6	54" x 250 yd	—							
<b>350</b> High Performance Acrylic	9500PC	High performance with good chemical resistance.	5.6	PET	61.5 PCK	4.5	48" x 108 yd	—	9	10	10	9	8	-40	450
	3028EK	Same as 9500PC with an extensible kraft liner which facilitates narrow slitting.	5.6	PET	Extensible Kraft	5.5	48" x 108 yd	—							
<b>375</b> High Performance Double Coated	9086	Easy tearing, easy handling.	7.5	Tissue	Glassine Black Logo	3.0	54" x 750 yd	—	High	High	Med	Low	Good	-10	250
	9087	Thick adhesive to bond rough surfaces.	10.2	PVC	Glassine Green Logo	3.0	54" x 750 yd	—							185
	9088	High temperature resistance with paper liner.	8.3	PET	Glassine Red Logo	3.0	54" x 750 yd	—							300
	9088FL	High temperature resistance with film liner.	8.3	PET	Red PP, No Print	3.1	54" x 750 yd	—							300
<b>400</b> Acrylic Adhesive	415	Splice papers, films and foils.	4.0	PET	60# DK	4.0	48" x 108 yd	—	5	5	5	5	5	-60	250
	9420		4.0	Red PET	60# DK	4.0	48" x 108 yd	—							
	9576		4.0	Clear PP	60# DK	4.0	27" x 360 yd	—							
	9576Y	Splice papers, films and foils.	4.0	Yellow PP	60# DK	4.0	27" x 360 yd	—							
	9578	For core starting, miscellaneous joining and bonding. Hand tearable for easy use.	4.0	Transluc. PP	60# DK	4.0	27" x 360 yd	—							
<b>420</b> Acrylic Adhesive	94210	High tack adhesive offering good shock resistance.	3.9	PET	58# PCK	4.2	54" x 180 yd	—	7	7	8	4	6	-60	300
	94215	Thicker version of 94210.	5.9	PET	58# PCK	4.2	54" x 180 yd	—							
	94220	Thicker version of 94215.	7.9	PET	58# PCK	4.2	54" x 180 yd	—							

1 – More information on pages 8–9.

2 – More information on page 15.

**Values: 1 = Lowest Performance; 10 = Highest Performance**

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3M™ Double Coated Tapes (cont.)

Adhesive Family <sup>1</sup>	Product	Description/ Application Ideas	Tape Cal. (mils)	Carrier Type	Liner <sup>2</sup>		Master Size	Specs	Adhesion				Chem. Resist.	Temp. Range	
					Type	Caliper (mils)			Metal	HSE Plastic	LSE Plastic	Foam		Low (°F)	High (°F)
Silicone/ Acrylic Differential	9731	Differential adhesive. Ideal for attaching silicone materials to HSE or LSE materials.	5.5	PET	Clear PET/54# Tan PCK	3.0/5.4	48" x 180 yd	—	10	10	9	8	8	-40	300
Silicone	96042	Silicone attachment. Single lined for easier processing.	5	PET	White PET	2	48" x 180 yd	—	9	8	7	6	10	-40	350
700/745/ 760 Synthetic Rubber	9443NP	High tack rubber adhesive with good adhesion to most plastics.	6.0	HDPE	60# DK	3.7	27" x 120 yd	—							
	9579	Core starting on metal cores.	9.0	HDPE	62# DK	3.7	27" x 144 yd	—	8	9	9	2	2	-40	200
	9589	Carpet attachment.	9.0	HDPE	60# DK	3.7	26" x 144 yd	—							
830/850/ 860 Natural Rubber	401M	Used for mounting rubber or photopolymer printing plates.	9.0	Paper	54# DK	3.0	22" x 108 yd	—	8	8	8	5	1	-40	180
	410M	Core starting/end tabbing of papers, films and foils.	6.0	Paper	54# DK	3.0	23.5" x 108 yd	—	8	8	8	5	1	-40	200
900 Miscellaneous	9737	Clear, thin PET carrier. Aggressive and versatile splicing tape.	3.5	PET	55# DK White	3.5	54" x 180 yd	—							
	9737R	Red, thin PET carrier. Aggressive and versatile splicing tape.	3.5	PET	55# DK White	3.5	54" x 180 yd	—							
	9738	Clear, non-woven tissue carrier. Aggressive and versatile splicing tape.	4.3	Non-Woven Tissue	55# DK White	4.3	54" x 180 yd	—	5	5	2	5	7	-10	300
	9738R	Red, non-woven tissue carrier. Aggressive and versatile splicing tape.	4.3	Non-Woven Tissue	55# DK White	4.3	54" x 180 yd	—							
	9740	Clear, high peel, tack and shear strength. Performance grade splicing tape for corrugators.	3.5	PET	55# DK	3.5	54" x 180 yd	—	6	6	2	3	6	10	425
	9741	Clear, thick, super aggressive tape. Adheres to a wide variety of substrates for splicing applications.	6.5	PET	55# Glassine	6.5	54" x 180 yd	—	7	7	3	7	5	-40	200
	9816L	General purpose, high tack, rubber-based adhesive.	3.5	PET	60# Kraft	3.5	54" x 200 yd	—							
	9816M				74# Kraft	3.5	54" x 200 yd	—	8	8	7	7	3	-40	150
	9816H				14 pt. board	3.5	54" x 200 yd	—							
	9817L	Exposed side is acrylic, liner side is rubber-based. Excellent quick stick and adhesion to high and low energy surfaces.	3.3	PET	60# Kraft	3.5	54" x 200 yd	—	8	7	6	7	3		
9817M	74# Kraft				3.5	54" x 200 yd	—							-40	175
9817H	14 pt. board				3.5	54" x 200 yd	—	8	8	7	6	3			
Specialty Acrylic	9599	Acrylic adhesive for high adhesion to a variety of materials including metals and HSE plastics; low-VOC properties suitable for interior automotive applications.	5.0	Non-Woven Tissue	DK White	4.5	40" x 55 yd	—	9	8	7	4	7	-40	275

1 – More information on pages 8–9.  
2 – More information on page 15.

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## 3M™ Differential Double Coated Tapes

Adhesive Family <sup>1</sup>	Product	Description/ Application Ideas	Tape Cal. (mils)	Carrier Type	Liner <sup>2</sup>		Master Size	Specs	Adhesion				Chem. Resist.	Temp. Range	
					Type	Caliper (mils)			Metal	HSE Plastic	LSE Plastic	Foam		Low (°F)	High (°F)
<b>300/400</b> Acrylic	9466B	Piggy-back adhesive laminating system designed to attach bar-code labels to blood bags and pharmaceutical containers.	2	—	White PP	3.5	48" x 180 yd	—	7	9	9	9	6	-40	250
			1	—	60# DK	3.7		—	5	5	5	5	5		
<b>350/</b> Silicone Differential Adhesive	9731	Differential adhesive-silicone adhesive on back side. Silicone keypad attachment, printer toner cartridge refurbishing.	5.5	PET	PET/PCK	2.9/ 5.0	38" x 108 yd	—	9	10	10	9	8	-40	250
<b>200MP/</b> <b>300LSE</b> Differential Adhesive	9496LE	Adhesive 200MP provides excellent bond strength to a variety of high surface energy substrates. 300LSE bonds to powder coated metals, oily metals and LSE plastic.	6.7	PET	58#/58#	4.2/ 4.2	—	—	10	9	1	3	9	-40	250
									9	10	10	1	7		
Acrylic/ Rubber Differential Adhesive	9817L	Exposed side is acrylic, liner side is rubber-based. Excellent quick stick and adhesion to high and low energy surfaces.	3.3	PET	60# Kraft	3.5	54" x 200 yd	—	8	7	6	7	3	-40	175
	9817M		4.3	PET	74# Kraft			—	8	8	7	6			
	9817H		5.3	PET	14 pt. Board			—	8	8	7	6			
	9377	Flame retardant double coated tape for carpet installation to bond carpet to interior floorboards.	11.0	PP	58# PCK	4.2	24" x 25 yd	—	4/10	—	—	—	8	40	250

## 3M™ Removable/Repositionable Tapes

Adhesive Family <sup>1</sup>	Product	Description/ Application Ideas	Tape Cal. (mils)	Carrier Type	Liner <sup>2</sup>		Master Size	Specs	Adhesion				Chem. Resist.	Temp. Range	
					Type	Caliper (mils)			Metal	HSE Plastic	LSE Plastic	Foam		Low (°F)	High (°F)
<b>400/1000*</b> Differential Adhesive	9415PC	Differential adhesive. Polyester film carrier.	2	PET	78# PCK	6.0	48" x 216 yd	—	5	5	5	4	5	-20	150
	9416	Differential adhesive. Tissue carrier.	1	Tissue	70# PCK	5.6	48" x 216 yd	—	3	1	1	—	2		
	928 ATG	Reverse wound ATG version of 9416 on 1" core. Used with ATG700 Applicator.	1	Tissue	70# PCK	5.6	Width to 3/4" Length to 36 yd	—	3	1	1	—	2		
<b>420/1050*</b> Differential Adhesive	9425	High tack/medium tack for repositionable parts.	5.5	UPVC	58# PCK	4.2	48" x 144 yd	—	8	7	1	4	2	-20	125
	9425HT	High tack/medium tack acrylic adhesive offers permanent adhesion to one substrate with removability to the other.	5	PET	58# PCK	4.2	48" x 144 yd	—	8	7	1	4	2		
<b>400/1070</b> Repositionable Acrylic	665	Differential adhesive. Linerless.	3.5	UPVC	None	—	46" x 108 yd	—	5	5	5	4	5	-60	125
	666	Differential adhesive. Lined.		UPVC	LDPE	4.0		—							
Differential Acrylic	97027	High tack/low tack acrylic adhesive with polyester carrier (formerly Venture 4447).	2.9	PET	74# PCK	3.5	54" x 250 yd	—	8	7	6	5	3	-40	250
	97042	High tack/medium tack acrylic adhesive with polyester film carrier (formerly Venture 523).	3.8		55# DK	3	54" x 250 yd	—	7	6	4	3	6		
<b>1000</b> Repositionable Acrylic	9449S	Laminates to various substrates to make them repositionable.	0.4	None	55# DK	2.5	48" x 360 yd	—	3	1	1	—	2	-20	250
<b>100</b> High Temp. Acrylic	9658F	Clear, closed foam acrylic foam tape. Initially repositionable, but will create permanent bond.	31.0	None	PET	2.0	47" x 175 yd	—	9	8	1	—	9	-40	450
<b>800</b> Natural Rubber	401M	Temporary positioning or fixturing of parts during machining operations and plate mounting.	9.0	Paper	54# DK	3	22" x 108 yd	—	8	8	8	5	1	-40	180
	410M		6.0		23.5" x 108 yd		-40							200	

1 – More information on pages 8–9.

2 – More information on page 15.

\*Second number reflects removable adhesive side.

### Values: 1 = Lowest Performance; 10 = Highest Performance

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# 3M™ Extended Liner Tapes

Adhesive Family <sup>1</sup>	Product	Tape Thickness w/o liner mils (mm)	Liner Type <sup>2</sup>	Description	Temperature Resistance °F (°C)		Solvent Resistance	Relative Adhesion		Application Ideas	
					Minutes Hours	Days Weeks		HSE	LSE		
340	466XL	2.0 (0.05)	62# DK White with Black Print	High tack; permanent	180 (82)	150 (65)	Med	High	High	Coated papers and low surface energy (LSE) plastics. Overnight envelopes. Features an end-of-roll indicator tab for automated dispensing.	
	400	465XL	2.0 (0.05)	60# DK Tan with Green Print	General purpose	250 (121)	180 (82)	Med	Med	Low	Seal flaps on overnight envelopes. Pressure sensitive edging on business forms. General commercial joining applications. For attaching materials that require more adhesive thickness. Larger outsert attachments.
		450EK	1.0 (0.025)	78# Extensible Kraft White without Print							Pharmaceutical outsert attachment. For applications requiring a more tear resistant liner.
		450XL	1.0 (0.025)	60# DK Tan with Green Print							Pharmaceutical outsert attachment. General paper attachment.
		920XL	1.0 (0.025)	40# DK White with Red Print	Seal flaps on poly-bags and envelopes. Pressure sensitive edging on business forms, literature, photos, posters and labels.						
9926XL	1.0 (0.025)	40# DK White with Red Print	General purpose	180 (82)	150 (65)	Med	Med	Low	Economical alternative for general paper-to-paper applications.		
600	9934XL	4.0 (0.10)	60# DK Tan without Print	High tack to LSE materials	150 (65)	120 (49)	Med	High	High	P.O.P. displays. Difficult splicing applications, shelf talkers, price tags, polyethylene foam bonding, indirect food-contact applications. <sup>3</sup> High tack to LSE materials.	
▶ 760	476XL	6.0 (0.16)	62# DK White with Red Print	High tack, double coated film	150 (65)	120 (49)	Med	High	High	Heavy-duty sealing. Mounting of promotional items. Core starting. Closure of overnight boxes, tubes and envelopes. Indirect food-contact applications. <sup>3</sup>	
770	9925XL <sup>4</sup>	2.5 (0.065)	43# DK White with Black Print	Tissue reinforced; High initial adhesion to a wide variety of materials	150 (65)	100 (41)	Low	Med	Med	General mounting. P.O.P. items. Attaching tags and labels. Core starting. Permanent bonding paper-to-paper, business forms, traffic tickets, novelty items and literature. Indirect food-contact applications. <sup>3</sup>	

1 – More information on pages 8–9.

2 – More information on page 15.

3 – FDA acceptable dry ingredients listed as indirect food-contact additives when used in food packing with minimal opportunity for exposure.

4 – Non-liner side is adhesive coated full width.

**Relative Adhesion:**

HSE – High Surface Energy

LSE – Low Surface Energy

# 3M™ Membrane Switch Spacers — Double Coated Spacers

Adhesive Family <sup>1</sup>	Product	Description/ Application Ideas	Construction			Sheet Size Master Roll	Specs
			Total Thickness (mils)	Top Liner Adhesive Type Carrier Adhesive Type Bottom Liner	Caliper (mils)		
▶ <b>100MP</b> High Performance Acrylic	7979	Premium adhesive for harsh chemical and high temperature resistance. High shear strength withstands repeated stresses from switch actuation. Both liners are printed.	9	58# PCK 100 MP* Polyester 100 MP* 58# PCK	2 5 2	24" x 36" 48" x 360 yd	—
	7945MP	Excellent temperature, chemical and UV resistance. High shear strength withstands repeated stresses of switch actuation. Designed to separate switch circuitry until actuation. Both liners are printed.	5	58# PCK 200MP Polyester 200MP 58# PCK	2 1 2	24" x 36" 48" x 360 yd	UL
	7953MP	Same characteristics as 7945MP. Primary liner is printed. Also used for graphic attachment.	3.5	58# PCK 200MP Polyester 200MP 58# PCK	1.5 0.5 1.5	24" x 36" 48" x 360 yd	UL
	7953HL	Same characteristics as 7953MP with a single liner.	3.5	83# PCK 200MP Polyester 200MP	1.5 0.5 1.5	48" x 360 yd	—
	7956MP	Same characteristics as 7945MP. Both liners are printed.	6	58# PCK 200MP Polyester 200MP 58# PCK	2 2 2	24" x 36" 48" x 360 yd	UL
	7956MWS	For use in graphic and non-graphic applications. Metallized vapor coat and white color provide strong opacity for facilitating backlighting and eliminating floodcoats. Single liner.	6	58# PCK 200MP Polyester (white, vapor coated) 200MP	2 2 2	48" x 360 yd	UL
	7956WDL	Same characteristics as 7956MWS except in sheets.	6	58# PCK 200MP Polyester (white, vapor coated) 200MP 58# PCK	2 2 2	24" x 36" 48" x 360 yd	UL
	7957MP	Same characteristics as 7945MP, except thicker polyester. Both liners are printed.	7	58# PCK 200MP Polyester 200MP 58# PCK	2 3 2	24" x 36" 48" x 360 yd	UL
	7959MP	Same characteristics as 7945MP, except thicker polyester. Both liners are printed.	9	58# PCK 200MP Polyester 200MP 58# PCK	2 5 2	24" x 36" 48" x 360 yd	UL
	7961MP	Same characteristics as 7945MP, except thicker polyester. Both liners are printed.	11	58# PCK 200MP Polyester 200MP 58# PCK	2 7 2	24" x 36" 48" x 360 yd	UL
	7966MWS	For use in graphic and non-graphic applications. Metallized vapor coat and white color provide strong opacity for facilitating backlighting and eliminating floodcoats.	9	58# PCK 200MP Polyester (white) 200MP	2 2 5	48" x 360 yd	UL
	7966WDL	Same characteristics as 7966MWS except in sheets.	9	58# PCK 200MP Polyester (white, vapor coated) 200MP 58# PCK	2 2 5	24" x 36" 48" x 360 yd	UL
	9045MP	Excellent high temperature, chemical, and UV resistance. High cohesive strength withstands repeated stresses of switch actuation. Heavy liner for improved handling and lay-flat properties. Both liners are printed.	5	94# PCK 200MP Polyester 200MP 94# PCK	2 1 2	24" x 36" 48" x 360 yd	UL

1 – More information on pages 8–9. \*Products in this platform are 3M™ VHB™ Tapes offering our highest strength.

**Note:** This technical information and data should be considered representative or typical only and should not be used for specification purposes.



## 3M™ Membrane Switch Spacers — Double Coated Spacers (cont.)

Adhesive Family <sup>1</sup>	Product	Description/ Application Ideas	Construction			Sheet Size Master Roll	Specs
			Total Thickness (mils)	Top Liner Adhesive Type Carrier Adhesive Type Bottom Liner	Caliper (mils)		
▶ <b>200MP</b> High Performance Acrylic (cont.)	<b>9056MP</b>	Same characteristics as 9045MP, except thicker polyester. Both liners are printed.	6	94# PCK 200MP Polyester 200MP 94# PCK	2 2 2	24" x 36" 48" x 360 yd	UL
	<b>9057MP</b>	Same characteristics as 9045MP, except thicker polyester. Both liners are printed.	7	94# PCK 200MP Polyester 200MP 94# PCK	2 3 2	24" x 36" 48" x 360 yd	UL
	<b>9059MP</b>	Same characteristics as 9045MP, except thicker polyester. Both liners are printed.	9	94# PCK 200MP Polyester 200MP 94# PCK	2 5 2	24" x 36" 48" x 360 yd	UL
	<b>9061MP</b>	Same characteristics as 9045MP, except thicker polyester. Both liners are printed.	11	94# PCK 200MP Polyester 200MP 94# PCK	2 7 2	24" x 36" 48" x 360 yd	UL

1 – More information on pages 8–9.

## 3M™ Membrane Switch Spacers — Single Coated Spacers

Adhesive Family <sup>1</sup>	Product	Description/ Application Ideas	Construction			Sheet Size Master Roll	Specs
			Total Thickness (mils)	Carrier Adhesive Type Bottom Liner	Caliper (mils)		
▶ <b>200MP</b> High Performance Acrylic	<b>7992MP</b>	Adhesive 200MP on one side of a clear polyester carrier.	4	Polyester Film 200MP 94# PCK	2 2	24" x 36" 48" x 360 yd	—
	<b>7992MPW</b>	Adhesive 200MP on one side of a white polyester carrier. Ideal for providing keypad light management in membrane switch circuit.	4	White Polyester Film 200MP 94# PCK	2 2	24" x 36" 48" x 360 yd	UL
	<b>7993MP</b>	Excellent temperature, chemical, and UV resistance. Used for lead protection, dome retainer sheets, and for printing conductive circuitry.	3	Polyester Film 200MP 94# PCK	1 2	24" x 36" 48" x 360 yd	UL
	<b>7995MP</b>	Same characteristics as 7993MP, except with thicker polyester.	5	Polyester 200MP 94# PCK	3 2	24" x 36" 48" x 360 yd	UL
	<b>7997MP</b>	Same characteristics as 7993MP, except with thicker polyester.	7	Polyester 200MP 94# PCK	5 2	24" x 36" 48" x 360 yd	UL

1 – More information on pages 8–9.

## 3M™ Screen Printable Adhesives

Product Group	Product	Description/ Application Ideas	Adhesion Specs	Size
Screen Printable Adhesives	<b>SP7533</b>	Water-dispersed, pressure sensitive. Excellent balance of peel and shear strength. High heat resistance.	Process dependent	1 liter (6/case) 5 liters (2/case) 1 gallon (4/case)
	<b>SP7555</b>	UV curable.	Process dependent	1 liter (6/case)

**Note:** This technical information and data should be considered representative or typical only and should not be used for specification purposes.

# 3M™ Industrial Attachment Tapes — X-Series

Product	Description/Application Ideas	Adhesive Caliper (mils)	Carrier Type	Liner <sup>2</sup>		Master Size	Adhesion				Chem. Resist.	Temp. Range	
				Type	Caliper (mils)		Metal	HSE Plastic	LSE Plastic	Foam		Low (°F)	High (°F)
<b>Adhesive Transfer Tapes</b>													
XG2105	Used for paper attachment.	2	n/a	55# DK	3.2	48" x 60 yd	5	5	5	4	5	-60	250
XT2105	Attach coated papers and plastics.	2	n/a	55# DK	3.2	48" x 60 yd	6	9	9	4	5	-40	200
XT2112	Attach paperboard and plastics.	5	n/a	55# DK	3.2	48" x 60 yd							
XP2112	Ideal for hanging posters and signs, trophy and recognition placards, and nameplates and emblems; securely attach smooth surface moldings and trim.	5	n/a	55# DK	3.2	48" x 36 yd	9	10	10	9	8	-40	450
<b>Double Coated Tapes</b>													
XG5110	Attach papers and plastic films in print, graphics and specialty packaging applications.	4	Clear PP	55# DK	3.2	27" x 60 yd	5	5	5	5	5	-60	250
XG6110	Used to attach papers and plastic film in print, graphic and specialty packaging applications.	4	Clear PET	55# DK	3.2	48" x 60 yd	5	5	5	5	5	-60	250
XP6114	High shear strength tape for mounting plastic and metal trim.	5.6	PET	58# PCK	4.2	48" x 36 yd	9	10	10	9	8	-40	450
XR4115	Aggressive rubber adhesive for superior quick stick adhesion. Clean removal from solid surfaces.	6	HDPE	58# DK	4	27" x 60 yd	8	9	9	2	2	-40	200
XR4123	Aggressive rubber adhesive with tough carrier for clean removal from solid surfaces.	9	HDPE	58# DK	4	27" x 36 yd	8	9	9	2	2	-40	200
XR8115	Hand tearable double coated paper tape for temporary holding and clean removal.	6	Paper	54# DK	3	23.5" x 36 yd	8	8	8	5	1	-40	200
XR8123	Hand tearable double coated paper tape with thick carrier for temporary holding and clean removal.	9.0	Paper	54# DK	3	22" x 36 yd	8	8	8	5	1	-40	180
XT6110	Attaching porous fabrics, flock, foams and heavy cardstocks.	3.9	PET	55# DK	3.2	48" x 36 yd	7	9	9	9	6	-40	250

2 – More information on page 15.

### Values: 1 = Lowest Performance; 10 = Highest Performance

Rankings are a general guide. Adhesives should be tested with actual components to ensure acceptable performance.

Product	Tape Thickness w/o liner (mils)	Description	Temperature Resistance		Solvent Resistance	Relative Adhesion		Application Ideas	Adhesive Transfer Tape Equivalent
			Minutes Hours	Days Weeks		HSE	LSE		
<b>ATG Adhesive Systems</b>									
XT2105-ATG	2	High tack. Excellent adhesion to coated papers, paperboard and plastics.	200°F (93°C)	150°F (65°C)	Med	High	High	Attach coated papers and plastics in printing and graphic applications.	XT2105
XT2112-ATG	5							Perfect for plastics assembly and for attaching heavy paperboards and corrugated in P.O.P. and packaging applications.	XT2112

Relative Adhesion: HSE – High Surface Energy; LSE – Low Surface Energy

### Scotch® ATG Applicator 700

Used for 3/4" and 1/2" wide tape



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### Scotch® ATG Applicator 714

Used for 1/4" wide tape



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Note: This technical information and data should be considered representative or typical only and should not be used for specification purposes.

# Scotch® ATG Adhesive Transfer Tapes

Adhesive Family <sup>1</sup>	Product	Tape Thickness w/o liner mils (mm)	Description	Temperature Resistance		Solvent Resistance	Relative Adhesion		Application Ideas	Adhesive Transfer Tape Equivalent
				Minutes Hours	Days Weeks		HSE	LSE		
<b>300</b> High Tack Acrylic	976	2.0 (0.05)	High tack. Excellent adhesion to most plastics.	250°F (121°C)	150°F (65°C)	Med	High	High	Attach fabric swatches in sample books.	927
	969	5.0 (0.13)							Assemble P.O.P. displays. Bond trim strips to furniture or luggage. Bond labels to plastic toys. Attach gaskets or foams.	950
<b>350</b> High Performance Acrylic	926	5.0 (0.13)	High performance. Excellent temperature and solvent resistance.	450°F (232°C)	300°F (149°C)	High	High	High	Bond fabric or trim to window blinds. Splice aluminum coils. Bond foam insulation. Mount nameplates on award plaques.	F9485PC
<b>400</b> General Purpose Adhesive	970XL	1.0 (0.025)	General purpose. Excellent adhesion to most paper stocks.	250°F (121°C)	180°F (82°C)	Med	Med	Low	Attach photos to layouts. Attach labels.	920XL
	924	2.0 (0.05)							Seal pocket in folders. Bond mat board in picture frames. Splice paper, films and foils. General purpose bindery attaching.	465
	987*	1.7 (0.040)								9498
<b>400/1000</b> Repositionable Adhesive	928	2.0 (0.05)	Differential tack. Repositionable.	180°F (82°C)	150°F (65°C)	Med	High/Low	Low/Low	Attach credit card in mailer. Core start/end tab paper, films and foils. Attach temporary labels.	9416

1 – More information on pages 8–9.

\* 3M Brand

Relative Adhesion: HSE – High Surface Energy; LSE – Low Surface Energy

# 3M™ VHB™ Tapes

Product Number	Tape Thickness w/o Liner mils (mm)	Liner Type	Description	Adhesive Type	Temp. Resistance °F (°C)		Solvent Resistance	Relative Adhesion		Application Ideas
					Minutes Hours	Days Weeks		HSE	LSE	
<b>4941 Tape Family</b>										
4926	15 (0.4)	A	Gray, closed-cell acrylic foam carrier. Conformable. Good adhesion to many painted metals. Plasticizer resistant. UL 746C.	Multi-purpose acrylic	300 (149)	200 (93)	High	High	Med	Bond and seal polycarbonate lens over LCD. Bond and seal plastic windows to pre-painted control panels/switch gear. Mount vinyl wiring ducts and conduit channels. Seam vinyl banners.
4936	25 (0.64)	A								
4936F	25 (0.64)	F								
4941	45 (1.1)	A								
4941F	45 (1.1)	D								
4956	62 (1.6)	A								
4956F	62 (1.6)	F								
4991	90 (2.3)	F								
4991B	90 (2.3)	F								
4919F	25 (0.64)	F								
4947F	45 (1.1)	F								
4979F	62 (1.6)	F								
<b>5952 Tape Family</b>										
5906	6 (0.15)	G	Black, closed-cell acrylic foam carrier. Good adhesion to many painted surfaces, including powder coated paint.	Modified Acrylic	300 (149)	250 (121)	High	High	Med	Bond and seal polycarbonate lens over LCD. Lens and touch panel bonding. Logo attachment. P.O.P. and display construction.
5907	8 (0.20)	G								
5908	10 (0.25)	G								
5909	12 (0.30)	G								
5915	16 (0.40)	F	Black or white, closed-cell acrylic foam carrier. Good adhesion to many painted surfaces, including powder coated paint. UL 746C.	Modified Acrylic	300 (149)	250 (121)	High	High	Med	Bonds to a variety of plastics and paint systems. Bond architectural signs to frames. Attach trim and extrusions. Hat channels and stiffeners.
5915P	16 (0.40)	E								
5915WF	16 (0.40)	F								
5925	25 (0.60)	F								
5925P	25 (0.60)	E								
5925WF	25 (0.60)	F								

**Liner Types:**

- A – 3 mil 54# Densified Kraft Paper
- B – 5 mil Clear Polyethylene Film
- C – 2 mil Polyester Film

- D – 5 mil Red Polyethylene Film
- E – 4 mil 58# Polycoated Kraft Paper
- F – 5 mil Red Printed Polyethylene Film
- G – 3 mil Clear PET

**Multi-purpose Acrylic:** Bonds to a wide range of materials including metals, glass, and high and medium surface energy plastics and paints. Resists migration of plasticizers in vinyl substrates.

**Modified Acrylic:** Bonds to medium low surface energy paints and plastics, including many powder coated paints in addition to the substrates listed with the multi-purpose acrylic adhesive (except plasticized vinyl).

**Relative Adhesion:**

HSE – High Surface Energy; LSE – Low Surface Energy

**Note:** The technical information and data on these pages should be considered representative or typical only and should not be used for specification purposes.

## 3M™ VHB™ Tapes (cont.)

Product Number	Tape Thickness w/o Liner mils (mm)	Liner Type	Description	Adhesive Type	Temp. Resistance °F (°C)		Solvent Resistance	Relative Adhesion		Application Ideas
					Minutes Hours	Days Weeks		HSE	LSE	
<b>5952 Tape Family (cont.)</b>										
5930	32 (0.80)	F	Black or white, closed-cell acrylic foam carrier. Good adhesion to many painted surfaces, including powder coated paint. UL 746C.	Modified Acrylic	300 (149)	250 (121)	High	High	Med	Bonds to a variety of plastics and paint systems. Bond architectural signs to frames. Attach trim and extrusions. Hat channels and stiffeners.
5930P	32 (0.80)	E								
5930WF	32 (0.80)	F								
5952	45 (1.1)	F								
5952P	45 (1.1)	E								
5952WF	45 (1.1)	F								
5962	62 (1.6)	F								
5962P	62 (1.6)	E								
5962WF	62 (1.6)	F	Meets FAR 25.853 (a) 12 sec vertical burn Appendix F, Part 1 (a) (ii)	Modified Acrylic	300 (149)	200 (93)	High	High	Med	Overhead stow bins, signage, kick plates, galley modules, plastic and metal decorative trim, ceiling tile stiffeners, mirror mounting, air duct spuds, floor and wall panel attachment, clip attachment.
5958FR	40 (1.0)	F								
<b>RP Tape Family</b>										
RP16	16 (0.4)	A	Gray, closed-cell acrylic foam carrier. Conformable. Good adhesion to many painted metals.	Multi-purpose Acrylic	250 (121)	200 (93)	High	High	Med	Panel bonding, stiffener attachment and trim attachment.
RP16F	16 (0.4)	F								
RP25	25 (0.6)	A								
RP25F	25 (0.6)	F								
RP32	32 (0.8)	A								
RP32F	32 (0.8)	F								
RP45	45 (1.1)	A								
RP45F	45 (1.1)	F								
RP62	62 (1.6)	A								
RP62F	62 (1.6)	F								

**Liner Types:**

A – 3 mil 54# Densified Kraft Paper  
 B – 5 mil Clear Polyethylene Film  
 C – 2 mil Polyester Film

D – 5 mil Red Polyethylene Film  
 E – 4 mil 58# Polycoated Kraft Paper  
 F – 5 mil Red Printed Polyethylene Film  
 G – 3 mil Clear PET

**Multi-purpose Acrylic:** Bonds to a wide range of materials including metals, glass, and high and medium surface energy plastics and paints. Resists migration of plasticizers in vinyl substrates.

**Modified Acrylic:** Bonds to medium low surface energy paints and plastics, including many powder coated paints in addition to the substrates listed with the multi-purpose acrylic adhesive (except plasticized vinyl).

**Relative Adhesion:**

HSE – High Surface Energy; LSE – Low Surface Energy

## 3M™ Double Coated Foam Tapes

Carrier	Product	Liner Type	Tape Thickness mils (mm)	Description	Adhesive Type	Temp. Resistance °F (°C)		Solvent Resistance	Relative Adhesion		Application Ideas	
						Minutes Hours	Days Weeks		HSE	LSE		
Urethane	4004	A	250 (6.4)	Off-white, open-cell urethane foam carrier. High shear adhesive with high temperature resistance.	100	380 (193)	220 (104)	Med	High	Low	Bond acoustic panels to walls. Mount air fresheners, soap dispensers, interior signs and nameplates. Attach wire clips to various surfaces. Mount electrical channel to wall.	
	4026	A	62 (1.6)									
	4052	A	31 (0.8)									Black version of 4032.
	4056	A	62 (1.6)									Black version of 4016 and 4026.
	4085	E	45 (1.1)	Off-white, open-cell urethane foam carrier. High tack adhesive.	740	200 (93)	125 (52)					
Polyethylene	4451	C	32 (0.8)	Black, closed-cell high density polyethylene foam carrier.	A135	150 (66)	120 (49)	Med	High	Low	Removable applications where good static is needed. Exhibits and trade shows. Nameplates.	
	4462	B	31 (0.8)	White or black, closed-cell polyethylene foam carrier. High tack adhesive.	745	158 (70)	120 (49)	Med	High	Low	Attach hooks, wire clips and racks. Mount retail shelf price channels. Mount pen holders.	
	4466	B	62 (1.6)									
	4492	C	31 (0.8)	White or black, closed-cell polyethylene foam carrier. High shear adhesive with high temperature resistance.	430	180 (82)	158 (70)	Med	High	Low	Mount nameplates on awards and novelties. P.O.P. displays and signs.	
	4496	C	62 (1.6)									
Acrylic	4658F	D	31 (0.8)	Clear, closed-cell acrylic foam tape. Clean removability from many substrates.	100	212 (100)	175 (80)	High	High	Low	Removable P.O.P. displays, signs, exhibits and trade shows, nameplates.	

Note: The technical information and data on these pages should be considered representative or typical only and should not be used for specification purposes.

## 3M™ Bonding Films

Product Number	Caliper (mils)	Base Resin	Color	Bond/ Cure Time	Bondline Temp. (°F)	Description	Size
406	3.0	EAA	Clear	2–5 sec.	320	Flexible, light colored, thermoplastic bonding film exhibits good adhesion to a variety of substrates, especially metals.	48" x 180 yd
583	2.0	Nitrile Phenolic	Brown	2–5 sec.	250	Heat or solvent-activated dry film adhesive.	48" x 180 yd
588	6.0	Nitrile Phenolic	Yellow	2–5 sec.	250	Heat or solvent-activated dry film adhesive.	21" x 180 yd
615	2.5 or 4.0	Polyester	Tan	2–5 sec.	280	Flexible, light colored, thermoplastic bonding films exhibit good adhesion to a variety of substrates. 615 contains a non-woven scrim.	0.6m x 155m
615S	6.0 or 9.0	Polyester	Tan	2–5 sec.	280	Flexible, light colored, thermoplastic bonding films exhibit good adhesion to a variety of substrates. 615S contains a non-woven scrim.	6 mil: 0.6m x 155m 9 mil: 0.6m x 80m
668	2.5 or 4.0	Polyamide	Tan	2–5 sec.	320	Flexible, light colored, thermoplastic bonding film is tacky at room temperature and has good adhesion to a variety of substrates at elevated temperatures.	0.6m x 155m
690	8.0	Polyester	Tan	2–5 sec.	280	Flexible, light colored, thermoplastic bonding film is tacky at room temperature and has good adhesion to a variety of substrates at elevated temperatures.	0.6m x 80m*

\*MOQ is 2 rolls.

## 3M™ Tapes for Electronic Solutions

Adhesive Family <sup>1</sup>	Product	Description/ Application Ideas	Adhesive Caliper (mils)	Liner <sup>2</sup>		Master Size	Specs	Adhesion				Chem. Resist.	Temp. Range	
				Type	Caliper (mils)			Metal	HSE Plastic	LSE Plastic	Foam		Low (°F)	High (°F)
Electrically Conductive	9703	Z-axis only electrically conductive for interconnects, low outgassing version of 9705.	2.0	58# PCK	4.0	24" x 108 yd	—	5	4	4	—	6	20	160
	9705	Z-axis only electrically conductive for interconnects, acrylic adhesive, Ag fillers.	2.0	58# PCK	4.0	24" x 108 yd	—							
	9706	Z-axis only electrically conductive for interconnects, higher adhesion ECATT 9705 version, Ag fillers.	2.0	Dual Lined PET	2.0/ 2.0	24" x 108 yd	—	8	6	4	—	6	20	160
	9709	XYZ-axis conductive adhesive with inherent EMI shielding performance, Ag fillers.	2.0	Dual Lined PET	1.5/ 2.0	14" x 108 yd	—	5	5	4	4	6	20	160
	9709S	XYZ-axis conductive adhesive with inherent EMI shielding performance, Ag fillers. Good grounding to stainless steel and plated surfaces.	2.0	Dual Lined PET	1.5/ 2.0	14" x 108 yd	—							
	9709SL	Premium low release liner version of 9709S.	2.0	Dual Lined 58# PCK/PET	2.0/ 4.0	14" x 108 yd	—							
	9712	XYZ-axis conductive adhesive for EMI shielding (acrylic adhesive, carbon scrim).	5.0	58# PCK	4.0	24" x 108 yd	—	8	6	4	—	6	20	185
	9713	XYZ-axis conductive adhesive for EMI shielding (acrylic adhesive, Ni-carbon scrim).	3.0	58# PCK	4.0	24" x 108 yd	—							
9719	XYZ-axis conductive adhesive for EMI shielding (silicone adhesive, Ni-carbon scrim).	4.0	PET	4.0	14" x 108 yd	—								
8805	Improved adhesion ceramic-filled thermally conductive adhesive transfer tape.	5.0	PET	2.0	14" x 36 yd	—								
Thermally Conductive	8810	10 mil version of 8805.	10.0	PET	2.0	14" x 36 yd	—	8	6	4	—	6	20	185
	8815	15 mil version of 8805.	15.0	PET	2.0	14" x 36 yd	—							

1 – More information on pages 8–9.

2 – More information on page 15.

**Values: 1 = Lowest Performance; 10 = Highest Performance**

Rankings are a general guide. Adhesives should be tested with actual components to ensure acceptable performance.

**Note:** This technical information and data should be considered representative or typical only and should not be used for specification purposes.



# 3M™ Tapes for Electronic Solutions (cont.)

Adhesive Family <sup>1</sup>	Product	Description/ Application Ideas	Adhesive Caliper (mils)	Liner <sup>2</sup>		Master Size	Specs	Adhesion				Chem. Resist.	Temp. Range	
				Type	Caliper (mils)			Metal	HSE Plastic	LSE Plastic	Foam		Low (°F)	High (°F)
Thermally Conductive (cont.)	8820	20 mil version of 8805.	20.0	PET	2.0	14" x 36 yd	—	8	6	4	—	6	20	185
	8904-02	Flame-retardant, ceramic-filled acrylic transfer tape. LED module/board bonding.	8.0	PET	2.0	600mm x 40m	UL							
	8904-02S	10 mil version of 8904-02.	10.0	PET	2.0	600mm x 40m	UL							
	8904-05	20 mil version of 8904-02.	20.0	PET	2.0	600mm x 40m	UL							
	9882	Ceramic-filled adhesive transfer tape.	2.0	PET	2.0	14" x 36 yd	UL	7	4	2	—	6	20	160
	9885	5 mil version of 9882.	5.0	PET	2.0	14" x 36 yd	UL	5	5	4	—	5	20	160
	9890	Soft thermal tape.	40.0	PCK	5.5	Call	—							
	9889FR*	10 mil version of 9882.	10.0	PET	2.0	14" x 36 yd	UL	7	4	2	—	6	20	185

1 – More information on pages 8–9.

2 – More information on page 15.

\*9889FR is not available in the U.S.

## Values: 1 = Lowest Performance; 10 = Highest Performance

Rankings are a general guide. Adhesives should be tested with actual components to ensure acceptable performance.

Adhesive Family <sup>1</sup>	Product	Product Description				Thermal Performance			Dielectric Properties		UL Flammability Rating	Potential Operating Temperature Range (°C)***
		Base Material Type	Thickness mil (mm)	Filler Type	Liner Type	Conductivity (W/m-K) 3M ASTM D5470 TM	Impedance		Dielectric Strength (KV/mm)	Volume Resistivity (ohm/cm)		
							°C-in <sup>2</sup> /W	°C-cm <sup>2</sup> /W				
Thermally Conductive Pads	5516/ 5516S* Soft Pad	Filled Silicone Polymer	20 (0.5)	Ceramic	PET	3.1	0.31	2.0	3.1	6.9 x 10 <sup>14</sup>	3M V1 or VO TM**	Short Term: 150 Long Term: 100–125
			40 (1.0)				0.53	3.4				
			60 (1.5)				0.76	4.9				
			80 (2.0)				0.98	6.3				
	5519/ 5519S* Soft Pad	Filled Silicone Polymer	20 (0.5)	Ceramic	PET	4.1	0.29	1.9	3.1	6.9 x 10 <sup>14</sup>	3M V1/VO or VO TM**	
			40 (1.0)				0.48	3.1				
			60 (1.5)				0.65	4.2				
			80 (2.0)				0.82	5.3				
	5591S* Ultra Soft Pad	Filled Silicone Polymer	20 (0.5)	Ceramic	PET	1.0	1.14	7.3	7.9	2.0 x 10 <sup>12</sup>	3M V1 or VO TM**	
			40 (1.0)				1.92	12.4				
			60 (1.5)				2.71	17.5				
			80 (2.0)				3.49	22.5				
	5592/ 5592S* Soft Pad	Filled Silicone Polymer	20 (0.5)	Ceramic	PET	1.1	0.64	4.1	14.7	3.0 x 10 <sup>12</sup>	3M V1 or VO TM**	
			40 (1.0)				1.15	7.4				
			60 (1.5)				1.66	10.7				
			80 (2.0)				2.43	15.7				
	5595/ 5595S* Soft Pad	Filled Silicone Polymer	20 (0.5)	Ceramic	PET	1.6	0.70	4.5	15.7	5.0 x 10 <sup>12</sup>	3M V1 or VO TM**	
			40 (1.0)				1.21	7.8				
			60 (1.5)				1.71	11.0				
			80 (2.0)				2.22	14.3				
5589H* Soft Pad	Filled Acrylic Polymer	40 (1.0)	Ceramic	PET	2.0	1.33	8.6	21	3.4 x 10 <sup>12</sup>	UL VO		
		60 (1.5)				1.67	1.67					
5590H*	Filled Acrylic Polymer	20 (0.5)	Ceramic	PET	3.0	0.46	3.0	33	2.7 x 10 <sup>12</sup>	UL VO		
		40 (1.0)				0.70	4.5					
		60 (1.5)				0.95	6.1					

\*The "S" version has a polymeric permanent film on one side to be used as a non-tacky surface for ease in reworking an assembly. Thermal Conductivity and Thermal Impedance are slightly changed with addition of the film, while Dielectric strength is improved. Optional thicknesses > 2.0mm. The "H" version has both a very low tack surface and a medium tack surface.

\*\*Test results based on 3M UL Test Method. The 3M V1 TM testing applies to the 0.5mm thick products in the "S" version.

\*\*\*Thermal impedance is measured with the test sample under a nominal 10 psi pressure to reflect a typical end use application. Short Term = Hours/Days. Long Term = Weeks/Months.

Note: This technical information and data should be considered representative or typical only and should not be used for specification purposes.

# 3M™ Tapes for Electronic Solutions (cont.)

## 3M™ Double Coated Tapes

Adhesive Family <sup>1</sup>	Product	Description/ Application Ideas	Tape Cal. (mils)	Carrier Type	Liner <sup>2</sup>		Master Size	Specs	Adhesion				Chem. Resist.	Temp. Range	
					Type	Caliper (mils)			Metal	HSE Plastic	LSE Plastic	Foam		Low (°F)	High (°F)
<b>200MP</b> High Performance Acrylic	<b>9492MP</b>	2.5 mil version of 9495MP.	2.5	PET	58# PCK	4.2	48" x 180 yd	—	10	9	1	2	9	-40	400
	<b>9495B</b>	Black version of 9495MP.	5.7	Black	58# PCK PET	4.2	54" x 180 yd	—							
	<b>9495FL</b>	Same as 9495MP with two liners; 3.0 mil opaque white HDPE.	5.7	PET	HDPE/ 58# PCK	3.0/ 4.2	48" x 180 yd	—							
	<b>9495MP</b>	Double-coated version of 468MP. Offers improved handling and ease of die-cutting.	5.7	PET	58# PCK	4.2	54" x 180 yd	UL							
	<b>9495MPF</b>	9495MP with a 2 mil polyester film liner.	5.7	PET	PET	2.0	54" x 180 yd	—							
<b>300LSE</b> Low Surface Energy Acrylic	<b>9495LE</b>	Double-coated version of 9472LE. Improved handling and ease of die-cutting.	6.7	PET	58# PCK	4.2	54" x 180 yd	UL	9	10	10	1	7	-40	300
<b>300MP/ 300LSE</b> Differential Adhesive	<b>9490LE</b>	Adhesive 300MP for foam laminating. Adhesive 300LSE bonds to powder coated metals, oily metals and LSE plastics.	6.7	PET	58# PCK	4.2	54" x 180 yd	—	7 9	7 10	8 10	8 1	7 7	-40 -40	250 300
<b>300MP</b> High Tack Acrylic	<b>9609</b>	Thick double-coat for cell phone lens attachment. Provided on 6" core only.	9.0	PET	83# PCK	6.2	48" x 180 yd	—	7	7	8	9	7	-40	250
	<b>9690</b>	Double-coated version of 9695 for foam lamination and graphic attachment.	5.6	PET	83# PCK	6.2	54" x 180 yd	—							
	<b>9690B</b>	Black version of 9690. Ideal for LED lens attachment for pagers and cellular phones.	5.6	Black PET	83# PCK	6.2	54" x 180 yd	—							
	<b>9786</b>	Thin nonwoven carrier for dimensional stability and improved handling. Temperature resistance up to 300°F.	5.5	Non-woven	58# PCK printed	4.2	48" x 180 yd	—							
	<b>9786NP</b>	Same as 9786 except an unprinted liner.	5.5	Non-woven	58# PCK unprinted	4.2	54" x 180 yd	—							
<b>420</b> Acrylic Adhesive	<b>9795</b>	Double coated version of F9755PC for foam lamination and graphic attachment.	5.6	PET	83# PCK	6.2	54" x 180 yd	—	7	7	8	4	6	-40	300
	<b>9795B</b>	Thin polyester black film carrier for improved handling, die-cutting and laminating.	5.6	Black PET	83# PCK	6.2	54" x 180 yd	—							

1 – More information on pages 8–9.  
2 – More information on page 15.

**Values: 1 = Lowest Performance; 10 = Highest Performance**

Rankings are a general guide. Adhesives should be tested with actual components to ensure acceptable performance.

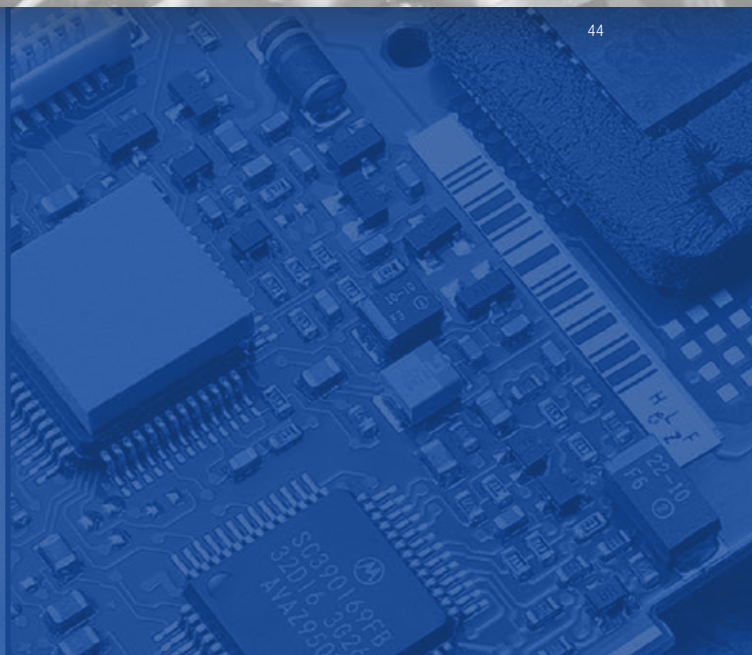


## Performance Label Materials

# Strengthen Your Competitive Advantage

As a premier durable label material supplier, 3M provides technical solutions and superior products that enhance your customers' confidence in their image, product and processes.

Today's printing world is more complex than ever. With more than 150,000 combinations of 3M adhesives, topcoats, facestocks and liners, 3M has the solutions you need to strengthen your competitive advantage.



## Adhesive Families — Label Materials

100

**100 High Temperature Acrylic**

- Up to 450°F short-term heat resistance and excellent solvent resistance.
- High peel strength compared to other acrylic formulations.
- Exceptional shear strength even at elevated temperatures.
- Exhibits low outgassing characteristics.

150

**150 High Temperature Acrylic**

- Up to 450°F short-term heat resistance and excellent solvent resistance.
- High internal strength ideal for applications on high surface energy plastics and metals.

200MP

**200MP High Performance Acrylic**

- Up to 400°F short-term heat resistance and excellent solvent resistance.
- Outstanding adhesion to metal and high surface energy plastics.
- Excellent shear strength to resist slippage and edge lifting.
- Short term repositionability for placement accuracy.

300

**300 High Strength Acrylic**

- Up to 250°F short-term heat resistance.
- Greater initial adhesion especially to low surface energy plastics.
- Quick flowing to speed lamination of textured plastics, foams, fabrics and coated papers.

310

**310 High Precision Acrylic**

- Provides firmness and high precision strength on a variety of surfaces including HSE plastics and metals.
- Compatible with a variety of print technologies including thermal transfer and laser printing.

320

**320 High Tenacity Acrylic**

- Up to 250°F short-term heat resistance.
- High bond strength to a variety of surfaces.
- Excellent flagging resistance on small diameter surfaces.

350

**350 High-Holding Acrylic**

- Ideal for very high bond strength to many surfaces.
- Most universal adhesive — ideal for powder coatings, LSE plastics and oily metals.
- Up to 350°F short-term heat resistance and excellent solvent resistance.

400

**400 Low Temperature Acrylic**

- Good low temperature performance and peel strength on many surfaces.
- Up to 250°F short-term heat resistance.
- Excellent adhesion to uncoated papers.
- Clarity and UV resistance for window label applications.

500

**500 High Stability Acrylic**

- Cleanly removes from most surfaces up to one year after application.
- Excellent for die-cut masks needing outdoor performance and removability.
- For vinyl label stocks only.

1000 Series

**1000 Series Repositionable Acrylic**

- Good holding to many surfaces.
- Clean removal or numerous reapplications.
- Stain resistance on many surfaces.

F2201

**F2201 Freezer Acrylic**

- Low 0°F application temperature, high initial tack.
- Good moisture resistance.
- Good long-term adhesion.

G1120

**G1120 Rubber Based Tire Tread**

- Extremely aggressive.
- Designed for use in tire label applications.

P1110

**P1110 Permanent Rubber Based**

- Excellent ultimate adhesion.
- High initial tack.
- Good choice for labeling LSE or waxy surfaces.
- Good choice for toy labeling applications.

▶ P1212

**P1212 General Purpose Acrylic**

- Excellent clarity, good initial tack.
- Excellent die-cutting properties.
- Good UV resistance.
- UL recognized for indoor use.

P1400

**P1400 High Performance Tackified Acrylic**

- Excellent UV and moisture resistance.
- Formulated for use in demanding environments.
- Excellent adhesion to wide variety of substrates.
- UL recognized for indoor/outdoor use.

P1410

**P1410 Tackified Acrylic**

- High tack.
- Neutral pH.
- Good adhesion to polyolefins.

P1425

**P1425 High Shear Acrylic**

- Good shear performance.
- Good plasticizer and chemical resistance.
- Adheres well to LSE plastics.



P1480

**P1480 High Performance Tackified Acrylic**

- High initial tack.
- Good ultimate adhesion on a wide variety of surfaces.
- Excellent choice for textured surfaces or powder coats.
- Designed to meet difficult automotive underhood battery specifications.

P1500

**P1500 Medical Acrylic**

- Excellent peel and tack.
- Suitable for direct skin contact or medical drapes.

P1650

**P1650 High Performance Acrylic**

- Designed to meet difficult automotive underhood specifications.
- Good chemical and moisture resistance.
- Excellent thermal stability.
- Resistance to many automotive and industrial fluids.

P1655

**P1655 White Opaque High Performance Acrylic**

- Excellent opacity.
- Designed to meet difficult automotive underhood specifications.
- Excellent thermal stability.



R3500

**R3500 Ultra Removable Adhesive**

- Good initial tack and long-term adhesion.
- Multi-repositionable, static cling alternative.
- Clean removability (no residue).

R3800

**R3800 Ultra Removable Adhesive**

- Lower tack version of adhesive R3500.
- Good initial tack and long-term adhesion.
- Clean removability (no residue).



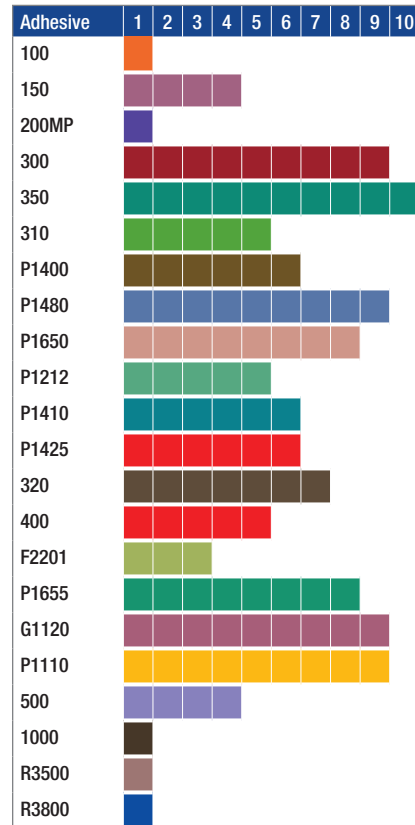
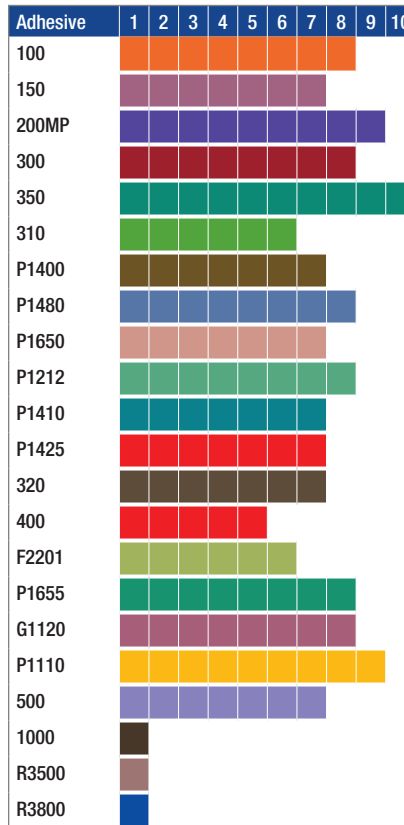
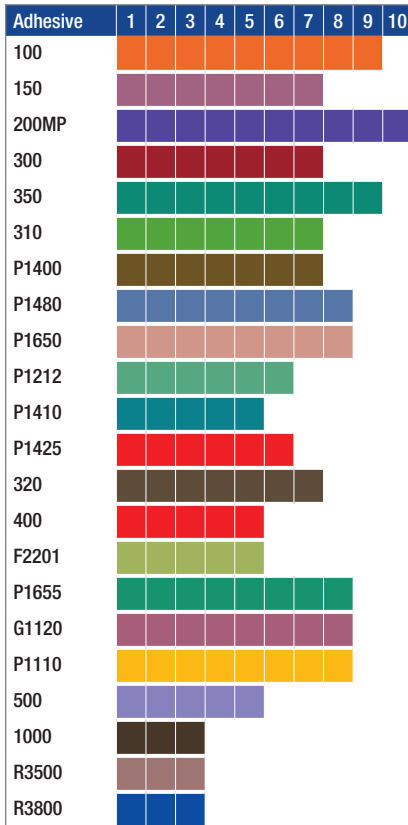
## Adhesive Selection Guide Based on Surface Energy

These charts are based on relative adhesion within each given surface energy category.

Metals	Surface Energy (Dynes/cm)
Copper	1103
Aluminum	840
Zinc	753
Tin	526
Lead	543

High Surface Energy (HSE) Plastics	Surface Energy (Dynes/cm)
Polyimide	50
Phenolic	47
Nylon®	46
Alkyd Enamel	45
Polyester	43
Epoxy Paint	43
Polyurethane	43
ABS	42
Polycarbonate	42
PVC	39
Modified PPE Resin	38
Acrylic	38
Polane® Paint	38

Low Surface Energy (LSE) Plastics	Surface Energy (Dynes/cm)
PVA	37
Polystyrene	36
Acetal	36
EVA	33
Polyethylene	31
Polypropylene	29
PVF	28
PTFE	18
Powder Coatings	Broad Range



Values: 1 – Lowest Performance; 10 – Highest Performance

Note: This technical information and data should be considered representative or typical only and should not be used for specification purposes.

# Adhesive Properties

Adhesive Family	Temperature (°F)			Adhesive Properties			Adhesion to			Environmental Properties Resistance to:			
	Minimum Application	Low Service	High Service	Initial Peel	Ultimate Peel	Convertibility	Metal	HSE Plastic	LSE Plastic	Chemical	Ultra Violet	Moisture	
<b>High Temperature Adhesives</b>													
100	50	-40	450	3	9	10	9	8	1	10	10	10	8418, 7811, 7812, 8417
150	50	-40	450	6	7	10	7	7	4	5	10	9	3921, 76999
200	50	-40	350	3	10	10	10	9	1	7	8	8	3929, 3925
200MP	50	-40	400	4	10	10	10	9	1	10	10	10	9017FL, 9018 FL
<b>High Performance Adhesives</b>													
300	50	-40	300	6	7	4	7	8	9	7	7	8	7331, 7860, 7331FL, 7810, 7880, 7880HL, 7350FL, 7350, 7861, 7881, 7222, 7865, 7813, 7883, 7883HL, 7887, 7323, 7863, 7604FP, 7004, 7380, 7381, 7384, 7866, 7935, 7937, 7902, 7931, 7980, 7950, 7924, 7925
350	50	-40	350	7	9	8	9	10	10	9	7	10	7051SA, 7214SA, 7220SA, 7868, 7871, 7871FL, 7340FL, 7850TL, 7874, 7876, 7879FL, 7873, 7872, 7872FL, 7605, 7779, 7847, 7613T, 7930T, 7046, 7904, 76716, 7053, 7035, 7037, 7907, 7908, 7908FL, 7905, 7026, 7028, 7033, 7903, 7903FL, 7246, 7247
310	50	-40	300	5	6	6	7	7	5	7	7	8	7816, 7816FL, 7815, 7815FL, 7840, 7840TL, 7845TL, 7818, 7897, 7875, 7841, 7776
P1400	40	-20	302	4	6	6	7	7	6	5	8	7	OFM03402, OFM2502, FM02511K, OFM3102, OFM2402, OFM2802, OFM2902, OFM3602, OFV0202, FP032002, OFM0102, OFM010N, FV02610N, OFL020N, 7045, 7043, 7029, 7025, 7032, 7027, 7034, 7291, 7777
P1480	40	-22	300	6	8	4	8	8	9	7	5	7	FM041902, FM047202, FM047302, FV0216R2, FV022702, FV023202, FP022102, FP022202, FPE06505, FPE06602
P1650	40	-40	302	6	7	4	8	7	8	7	5	7	FM033202, FM034602, FP035402
<b>General Purpose</b>													
P1212	40	-20	302	4	5	6	6	8	5	4	5	6	FM122, FM282, FM031902, FM1182, FM162, FM042, FM142, FM232, FM092, FM052, FM062, FM152, FM112, FV032, FV031705-60, FV102, FV122, FV01462, FV232, FV362, FV018602, FP010402, FP012602, FP018802, FP011, FP082, FS022, FS442, FA032, FAC00102, FM011, FM01N, FM022, FM1142, FM292, FM452, FM45N, FM071, FM3602, FM125, FM3605, FV02800N, FV02490N, FL01N, FL02N, FA102, FA112, 8524, FM852, FM1852
P1410	40	-20	302	6	6	6	5	6	4	5	—	5	FV292, FV512, FV612, FP102, FMV01202, FMV01402, FMV02, FMV22

**Values: 1 = Lowest Performance; 10 = Highest Performance**

Rankings are a general guide. Adhesives should be tested with actual components to ensure acceptable performance.

Note: This technical information and data should be considered representative or typical only and should not be used for specification purposes.

## Adhesive Properties (cont.)

Adhesive Family	Temperature (°F)			Adhesive Properties			Adhesion to			Environmental Properties Resistance to:			
	Minimum Application	Low Service	High Service	Initial Peel	Ultimate Peel	Convertibility	Metal	HSE Plastic	LSE Plastic	Chemical	Ultra Violet	Moisture	
<b>Specialty Adhesives</b>													
320	50	-40	250	7	7	6	7	7	7	6	6	8	3690E, 3698E, 7800, 7801, 7002, 7000, 7000FL, 7011, 7110, 7940
400	10	-60	250	5	5	6	5	5	5	5	10	8	7120, 7733FL, 7830, 7864, 7831, 7730FL, 7731FL, 7741, 7732FL, 7742, 7744FL, 7745FL, 8041, 8042, 7735FL, 7737FL, 7738FL, 7920
F2201	0	-40	250	3	4	5	5	6	3	3	5	4	FM01961K, FV022902, FV100K, FV252, FP016102, FP024102
P1655	40	-40	302	1	7	4	8	8	8	7	5	7	FP032302
<b>Rubber Based Adhesives</b>													
G1120	40	-20	140	7	9	2	8	8	9	3	3	3	FP028502, FPE004302
P1110	55	-40	155	6	7	4	8	9	9	3	3	3	FM53R2, FV052, FP027402, FS242
<b>Removable Adhesives</b>													
500	50	-40	175	4	5	3	5	7	4	5	10	10	7600, 7901
1000	50	-20	250	2	3	7	3	1	1	2	5	3	7113, 7142
R3500	40	-20	155	1	3	6	3	1	1	2	7	3	7065, 7063, FM01972, FM1732R, FV1222, FV016402, FP016902, FP0862, FV1405
R3800	50	20	155	1	3	6	3	1	1	2	7	2	FV010002, FP024502, FP024402

**Values: 1 = Lowest Performance; 10 = Highest Performance**

Rankings are a general guide. Adhesives should be tested with actual components to ensure acceptable performance.

# Facestock Properties

Facestock	Film Properties	Processing Properties		Environmental Resistance to:			Features	
	Service Temperatures	Printability	Conformability	Chemical	Moisture	Outdoor/UV		
Acetate	-20° to 140°F	—	2	2	2	2	Rigid film, tears easily, works well for security seals or overlamine.	FA032, 8041, 8042, FA102, FA112
Acrylate	-40° to 175°F	Thermal Transfer	3	7	7	10	Excellent clarity and UV resistance. 5 year outdoor performance.	7735FL
Acrylate, Cast	-40° to 392°F 530° for 30 sec. 500° for 7 min.	Thermal Transfer	7	9	9	7	Ultra-high temperature performance.	3921, 76999
Acrylate, Cast Modified	-40° to 392°F 530° for 1 min. 482° for 5 min. 440° for 60 min.	Laser Markable	7	10	8	10	Ultra-high temperature performance. Can be imaged and kiss cut by a laser beam. Long-term readability, chemical and abrasion resistance.	7847
Acrylic	-20° to 140°F	Flexo	3	5	7	7	Good clarity and UV resistance.	FAC00102
Aluminum Foil	-40° to 350°F	Embossing, Flexo, Letterpress, Screen	4	7	10	10	Vinyl top-coated for ink receptivity. Facestock can be embossed using dot matrix impact printers.	7800, 7801, 7940
Polyimide	-40° to 500°F	Dot Matrix, Thermal Transfer	6	10	10	10	Ultra-high temperature performance. Easy readability of variable information and bar codes.	7811, 7812
Kimdura™, Smudgeproof Polyolefin	-20° to 170°F	Flexo, Screen, Thermal Transfer	5	7	7	7	Biaxially oriented film offers consistent caliper, suitable for high speed dispensing.	7291
Thermoplastic Polycarbonate	-40° to 250°F	—	4	8	9	7	Used to achieve the attractive appearance of subsurface screen printed polycarbonate.	7737FL, 7738FL, FL01N, FL02N, OFL010N, OFL020N
Paper	-40° to 350°F	Flexo, Thermal Transfer	3	3	2	6	Pharmaceutical and performance paper.	7002, 7004, 7000, 7000FL, 7113, 7142, 7110, 7120
Polyart®	-40° to 160°F	Dot Matrix, Flexo, Ion Deposition, Letterpress, Screen, Thermal Transfer	7	6	8	7	Non-glare surface, biaxially oriented, printable with some cold fusing and flash fusing laser printers. Accepts handwriting with a ballpoint pen or marker.	FPE05102
Polyester EDP, DMI and Laser TC	-40° to 302°F -20° to 257°F Clear only	Dot Matrix, Flexo, Laser, Letterpress, Offset, Screen, Thermal Transfer	2	9	9	8	Polyester EDP available in white, silver and clear. Optimal clarity for overlamine applications. High quality rigid film with high tensile strength. Excellent dimensional stability. Not recommended for curved surfaces. High quality rigid film. High tear resistance, notch sensitive.	FM046302, FM162, OFM2502, FM142, FM14K, OFM3002, FM043302, FM152, OFM2702, 7480, 7840, 7880, 7880HL, FM162, 7745FL, 7881, 7883, 7883HL, 7887, 7897, 7840TL, 7840HL, FM01961K, FM031902, 7744FL, 7845HL, 7845TL
Polyester, White and Clear Laser TC	-20° to 257°F	Dot Matrix, Flexo, Laser, Letterpress, Offset, Screen, Thermal Transfer	2	9	9	8	Polyester available in white, silver and clear. Clear polyester provides optimal clarity for overlamine applications. High quality rigid film with high tensile strength. Excellent dimensional stability. Not recommended for curved surfaces. High quality rigid film. High tear resistance, notch sensitive.	FM02511K, FM1852, FM852
Polyester MC	-40° to 302°F	Flexo, Laser, Screen, Thermal Transfer	2	9	9	8		7231, FM01961K, FM022202, FM031902, FM034602, FM1182, OFM03502, FM01972
Polyester PT	-40° to 302°F -20° to 257°F Clear only	Flexo, Screen, Thermal Transfer	2	9	9	8		7037, 7903, 7903FL, 7909, 9017FL, 9018FL, 7340FL

## Values: 1 = Lowest Performance; 10 = Highest Performance

Rankings are a general guide. Adhesives should be tested with actual components to ensure acceptable performance.

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## Facestock Properties (cont.)

Facestock	Film Properties	Processing Properties		Environmental Resistance to:			Features	
	Service Temperatures	Printability	Conformability	Chemical	Moisture	Outdoor/UV		
Polyester TC	-40° to 302°F -20° to 257°F Clear only	Flexo, UV Inkjet, Hot Stamp, Letterpress, Offset, Screen, Thermal Transfer	2	9	9	8	Polyester films exhibit excellent water and moisture barrier properties making it an ideal face stock for durable label applications. Able to withstand higher temperatures, polyester has excellent dimensional stability and tensile strength. High quality overlamine films utilize polyester for its optimal clarity. Compatible with a wide range of coatings, polyester film is commonly used in a wide range of printing applications including thermal transfer, laser, UV inkjet, flexographic and screen print processes.	7331, 7860, 7331FL, 7816, 7816FL, 7817, 7830, 7864, 7868, 7871, 7871FL, 8418, FM033202, FM041902, FM122, FM282, FM53R2, OFM0302, OFM03402, 7220SA, 7214SA, 7480, 7810, 7815, 7815FL, 7840, 7840TL, 7850TL, 7874, 7850, 7850HL, 7350FL, 7350, 7861, 7831, 7876, FM042, OFM1502, OFM3102, 7745FL, 7845TL, 7881, FM232, 7222, 7865, 7813, 7818, 7879FL, 7883, 7887, 7897, FM047202, FM092, OFM2402, 7323, 7863, 7873, FM047302, FM052, FM062, FM1172, FM912, OFM0702, OFM2802, FM046202, FM3602, FM125, FM3605, FM102, FM112, FM852, FM1852, OFM2902, 7819, 7872, 7872FL, 7875, OFM3602, 7744FL, 7745FL, 7380, 7381, 7866, 7384, 7935, 7937, FMV01202, FMV01402, FMV02, FMV22, FM1732R, 7034, 7035, 7907, 7908, 7908FL, 7920, 7931, 7935, 7937, 7980, 7029, 7905, 7950, 7025, 7026, 7032, 7028, 7033, 7924, 7925
Polyester NTC	-20° to 257°F	—	2	9	9	8	Optimal clarity for overlamine applications.	7730FL, 7731FL, 7741, 8417, FM011, FM01N, FM022, FM1142, FM292, FM452, FM45N, OFM0102, OFM010N, 7732FL, 7742, FM071
Polyethylene	-20° to 140°F	Flexo	10	3	7	4	High tear resistance and elongation, low tensile strength.	FPE06505, FPE06602, FPE42, FPE004302, FPE05102
Polyolefin	-40° to 140°F	Flexo, Thermal Transfer	9	7	7	3	Extremely pliable and conformable, moisture resistant. PVC-free vinyl alternative.	FP035402
Polypropylene, Label-Lyte® EDP	-20° to 220°F	Flexo, Thermal Transfer	8	7	8	7	Outdoor UV durability up to one year. Excellent ink adhesion, good stiffness for auto application; excellent opacity.	FP010402
Polypropylene, Label-Lyte® T2S	-20° to 220°F	Flexo, Thermal Transfer	8	7	8	7		76716, 7776, 7777, 7779, FP018802, FP018902, FP029102
Polypropylene T1S	-20° to 140°F	Flexo	8	7	8	7	Semi-hard film with high tear resistance and good dimensional stability.	FP011
Polypropylene EDP	-20° to 140°F	Flexo, Ion Deposition, Lithography, Offset, Screen, Thermal Transfer	6	7	8	3	Excellent opacity, moisture and tear resistance, excellent dimensional stability, resistant to cracking and abrasion, antistatic coating to eliminate double feeding when printing and folding.	FP022102, FP024102, FP027402, FP032002

**Values: 1 = Lowest Performance; 10 = Highest Performance**  
 Rankings are a general guide. Adhesives should be tested with actual components to ensure acceptable performance.

**Note:** This technical information and data should be considered representative or typical only and should not be used for specification purposes.



## Facestock Properties (cont.)

Facestock	Film Properties	Processing Properties		Environmental Resistance to:			Features	
	Service Temperatures	Printability	Conformability	Chemical	Moisture	Outdoor/UV		
Polypropylene TC, White, Clear or Metalized	-20° to 140°F	Flexo	8	7	8	7	High tensile strength, but notch sensitive.	FP031702, FP032302, FP082, FP092, FP102, FPM000902, FP012602, FP016102, FP022202, FP027202, FP011902, FP016902, FP024502, FP56N, FP024402, FP0862, FP029502
Polystyrene, Matte and Gloss Clear	-20° to 140°F	Flexo	2	2	5	2	Economical, hard, rigid film. Tear and temperature sensitive. Not recommended for outdoor use.	FS152, FS242, FS302, FS442
Retro-Reflective Film	-40° to 300°F	Thermal Transfer	7	7	9	8	When bar code printed, the facestock extends the max. and min. scanning distance of long-range scanners.	3929, 39294
Teslin®, Polyolefin	-40° to 250°F	Flexo, Continuous Laser	9	8	9	7	Durable alternative to paper labels, excellent abrasion properties.	7841, 7841TL, 7841HL
Vinyl (PVC) EDP, White	-20° to 140°F	Dot Matrix, Flexo, Laser, Thermal Transfer	10	4	7	7	Conformability reduces as gauge increases. Multi-purpose film available in flexible, semi-rigid or rigid. Polymerically plasticized for dimensional stability. Handles outdoor conditions well. Will burn in flame, but should be self-extinguishing after removal. Low tear resistance. Available in medical grades.	FV100K, FV1002, FV512, FV02410K
Vinyl (PVC) NTC, White, Clear, Color or Translucent	-20° to 140°F	Press Printable Solvent Inks	10	4	7	7		7605, FV1405, FV0216R2, IJ39-20, FV102, FV612, FV092, FV003602, FV362, 3690E, 3698E, 7045, 7046, FV027805, 7051, 7051SA, 7065, 7901, 7902, 7904, 7052, 7053, FV031705-60
Vinyl (PVC) TC, White	-20° to 140°F	Flexo, Letterpress	10	4	7	7		7604FP, 7613T, 7600, 7930T
Vinyl (PVC) TC2	-20° to 140°F	Flexo	10	4	7	7		FV052, FV232
Vinyl (PVC) TC3, White, Colors or Clear	-20° to 140°F	Flexo, Letterpress	10	4	7	7		FV023202, FV025102, FV032, FV122, FV252, FV292, FV010002, FV1222
Vinyl (PVC) TC6, White, Colors or Clear	-20° to 140°F	Flexo, Thermal Transfer	10	4	7	7		FV022702, FV022902, OFV0102, OFV0202, FV01462, FVS110S, FVS12S, FV016402, FV018602
Vinyl (PVC) TC9	-20° to 140°F	UV Flexo, UV Screen	10	4	7	7		7043
Vinyl, Textured	-20° to 140°F	—	10	4	7	7		FV02800N, FV02490N, FV02610N

### Values: 1 = Lowest Performance; 10 = Highest Performance

Rankings are a general guide. Adhesives should be tested with actual components to ensure acceptable performance.

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## Liner Selection

Liner	Mil (nominal) Thickness	Description	Layflat	Semi Layflat	Back Side Printable	Fanfold	Roll-to-Roll
40# SC, 43# DK	2.4	Semi-bleached, super calendered/densified kraft sheet.			■		■
2.2 Glassine	2.2	Double sided glassine liner assures consistent die cutting. The backside release coating helps minimize label blocking.					■
3.0 Glassine	3.0	Double sided glassine liner assures consistent die cutting. The backside release coating helps minimize label blocking.				■	■
44# Polykraft	3.1	Polypropylene has been laminated to a 44# brown kraft sheet. Excellent caliper control and strength making it ideal for high-speed labeling applications.			■		■
50# SC, 55# DK	3.2	Semi-bleached, super calendered/densified kraft sheet designed for high-speed die-cutting and matrix stripping. Not recommended for sheet on press applications.			■		■
50# C2S	3.2	Back side has been lightly coated with silicone to reduce label pick. Recommended when using very soft adhesives or where heavy adhesive coat weights are required.					■
50# TL	3.4	Stabilized bleached kraft sheet with good caliper control. Ideal for most sheet-on-press applications. Back side is printable.		■	■	■	■
78# CCK, HL	4.6	Bleached, clay-coated kraft sheet. Excellent for sheet-on-press applications where additional strength and stiffness is required.		■	■	■	■
90# Polycoated	7.0	Bleached kraft sheet polyethylene-coated on two sides.	■				
1.0 Polyester	1.0	Used when high strength and caliper control are important. Recommended for high-speed labeling application or where clarity of the adhesive is critical.					■
1.5 Polyester	1.5	Clear polyester. Used when high strength and caliper control are important. Recommended for high-speed labeling applications or where clarity of the adhesive is critical.					■
4.0 Polyester	4.0	Clear polyester. Excellent for doming applications where ultimate lay flat is required.	■				

The chart above is a general guide. Facestocks and adhesives should be tested with actual components to ensure acceptable performance.

# 3M™ Roll Label Materials

Facestock	Product	Typical Performance Characteristics	Construction		Roll Width Minimum Mini-Master (shown in red)	Print Method	Specs
			Caliper (mils)	Facestock Adhesive Type Liner			
Polyester Gloss White	▶ 7816	Offers excellent durability. Film adhesive that resists oozing. Precision Roll Program — custom slit rolls as small as 2.5" x 1668 ft., as wide as 54", and with up to one splice.	2.0 0.8 3.2	PET, White TC <b>310</b> 55# Densified Kraft	54" 1668 ft. Min. <b>6"</b> Precision	Flexo, Thermal Transfer	UL CSA RoHS
	7816FL	Same as 7816 label stock, except with polyester liner.	2.0 0.8 1.5	PET, White TC <b>310</b> Polyester Film	54" 1668 ft. Min.	Flexo, Thermal Transfer	UL CSA RoHS
	▶ FM122	Good initial tack. General purpose adhesive for durable goods and nameplate applications.	2.0 0.9 3.2	PET, White TC <b>P1212</b> 50# SC	54" 1668 ft. Min.	Flexo, Thermal Transfer	UL CSA RoHS
	7868	Excellent high temperature resistance. Excellent adhesion to LSE plastics and smooth powder coats. Precision Roll Program — custom slit rolls as small as 2.5" x 1668 ft., as wide as 54", and with up to one splice.	2.0 1.1 3.2	PET, White TC <b>350</b> 55# Densified Kraft	54" 1668 ft. Min. <b>6"</b> Precision	Flexo, Thermal Transfer	UL CSA RoHS
	▶ 7871	Heavy adhesive coat weight for textured surfaces. Excellent high temperature resistance. Excellent adhesion to LSE plastics and powder coats. Precision Roll Program — custom slit rolls as small as 2.5" x 1668 ft., as wide as 54", and with up to one splice.	2.0 1.8 3.2	PET, White TC <b>350</b> 55# Densified Kraft	54" 1668 ft. Min. <b>6"</b> Precision	Flexo, Thermal Transfer	UL CSA RoHS
	7871FL	Same as 7871 label stock, except with film liner.	2.0 1.8 1.5	PET, White TC <b>350</b> Polyester Film	54" 1668 ft. Min.	Flexo, Thermal Transfer	UL CSA RoHS
	7220SA	Gloss finish, adhesive allows trapped air to release to prevent bubbling, chemical resistant, good for powder coated surfaces, slightly oily metals, high performance adhesive.	2.0 1.1 6.8	PET, White TC <b>350</b> 90# Polycoated Kraft	Sheet: 20" x 27" Roll: 54" x 750"	Screen Flexo	RoHS
	FM033202	Chemical resistant film paired with adhesive designed for use in automotive applications. Excellent thermal stability.	2.0 1.2 3.2	PET, White TC <b>P1650</b> 50# SC	54" 1668 ft. Min.	Flexo, Thermal Transfer	RoHS
	FM041902	Durable film facestock with aggressive, high tack adhesive. Good adhesion to powder coats and textured surfaces.	2.0 1.3 3.2	PET, White TC <b>P1480</b> 50# SC	54" 1668 ft. Min.	Flexo, Thermal Transfer	RoHS
	FM53R2	Rubber-based adhesive with high adhesion to LSE plastics or waxy surfaces.	2.0 0.9 3.2	PET, White TC <b>P1110</b> 50# SC	54" 1668 ft. Min.	Flexo, Thermal Transfer	RoHS
	OFM03402	Glossy film label with excellent UV resistance and adhesion to a variety of substrates. Good choice for durable goods or lawn and garden applications.	2.0 0.9 3.2	PET, White TC <b>P1400</b> 50# SC	54" 1668 ft. Min. <b>6"</b>	Flexo, Thermal Transfer	UL RoHS
	▶ 7817	Glossy film label with excellent UV resistance and adhesion to a variety of substrates. Good choice for durable goods or lawn and garden applications.	2.0 0.9 3.2	PET, White Gloss TC <b>P1400</b> 50# SC	54" 1668 ft. Min.	Flexo, Thermal Transfer	UL RoHS
	7231	Print receptive film accepts most film ink systems and thermal transfer printing. General purpose adhesive for durable goods and nameplate applications.	2.0 0.9 3.2	PET, White MC <b>P1425</b> 50# SC	54" 1668 ft. Min.	Flexo, Thermal Transfer	UL RoHS
	7331/7860	High abrasion and solvent resistance. Good for indoor and outdoor use. Excellent bond to LSE plastics.	2.0 0.8 3.2	PET, White TC <b>300</b> 55# Densified Kraft	54" 1668 ft. Min. <b>6"</b>	Flexo, Thermal Transfer	UL CSA RoHS
	7331FL	Same as 7331 label stock with film liner for automatic application equipment.	2.0 0.8 1.5	PET, White TC <b>300</b> Polyester Film	54" 1668 ft. Min.	Flexo, Thermal Transfer	CSA RoHS
	7830/7864	Good abrasion and chemical resistance. Thin label profile provides good performance on small diameter packages. Excellent cold temperature performance.	1.0 0.8 3.2	PET, White TC <b>400</b> 55# Densified Kraft	54" 1668 ft. Min.	Flexo, Thermal Transfer	UL CSA RoHS
	FM282	Thinner version of FM122. Suitable for slightly curved surfaces.	1.0 0.8 3.2	PET, White TC <b>P1212</b> 50# SC	54" 1668 ft. Min.	Flexo, Thermal Transfer	UL CSA RoHS
	8418	Ideal for fuel line identification.	1.0 1.4 2.5	PET, White TC <b>100</b> 43# Densified Kraft	48" x 216 yd	Flexo, Thermal Transfer	UL RoHS

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# 3M™ Roll Label Materials (cont.)

Facestock	Product	Typical Performance Characteristics	Construction		Roll Width Minimum Mini-Master (shown in red)	Print Method	Specs
			Caliper (mils)	Facestock Adhesive Type Liner			
Polyester Matte White	7815	Same as 7810 label stock, except #310 adhesive. Firm adhesive that resists oozing.	2.3 0.8 3.2	PET, White TT TC <b>310</b> 50# SC	54" 1668 ft. Min. <b>4.5", 6"</b>	Flexo, Thermal Transfer	UL CSA RoHS
	7246	Extreme durability topcoat. Eliminates the need for protective overlaminates in many applications.	2.2 1.8 2.2	PET TT3, Matte White <b>350</b> 40# Densified Glassine	48" 1668 ft. Min. <b>4.5", 6"</b>	Flexo, Thermal Transfer	UL RoHS
	7815FL	Same as 7815 label stock, except polyester liner.	2.3 0.8 1.5	PET, White TT TC <b>310</b> Polyester Film	54" 1668 ft. Min.	Flexo, Thermal Transfer	UL CSA RoHS
	7874	350 adhesive for performance applications that require thermal transfer printing and demand adhesive performance on difficult to stick to surfaces (e.g., LSE plastics or powder coats).	2.3 1.8 3.2	PET, White TT TC <b>350</b> 50# SC	54" 1668 ft. Min.	Flexo, Thermal Transfer	UL CSA RoHS
	7810	Features ultra smooth top-coat. Ideal for bar code applications. Good durability with a wide range of ribbons.	2.3 0.8 3.2	PET, White TT TC <b>300</b> 50# SC	54" 1668 ft. Min. <b>6"</b>	Flexo, Thermal Transfer	UL CSA RoHS
	FM034602	Micro-cavitated film with print receptive coating for use with most film inks systems and thermal transfer printing. Designed for use in automotive applications. Excellent thermal stability.	2.0 1.3 3.2	PET, White MC <b>P1650</b> 50# SC	54" 1668 ft. Min.	Flexo, Thermal Transfer, Laser	RoHS
Polyester Gloss Clear	7876	Heavy adhesive coat weight for textured surfaces. Excellent high temperature resistance. Excellent adhesion to LSE plastics and powder coats.	2.0 1.8 3.2	PET, Clear TC <b>350</b> 55# Densified Kraft	54" 1668 ft. Min. <b>4.5", 6"</b>	Flexo, Thermal Transfer	UL CSA RoHS
	OFM3102	Durable film offers thermal stability and moisture resistance. Adheres to a variety of surfaces and offers excellent UV resistance.	2.0 0.9 3.2	PET, Clear TC <b>P1400</b> 50# SC	54" 1668 ft. Min. <b>6"</b>	Flexo, Thermal Transfer	UL RoHS
	7350/7861	Offers high abrasion and solvent resistance. Excellent adhesion to LSE plastics. Ideal for indoor and outdoor applications.	2.0 0.8 3.2	PET, Clear TC <b>300</b> 55# Densified Kraft	54" 1668 ft. Min. <b>6"</b>	Flexo, Thermal Transfer	UL CSA RoHS
	7350FL	Same as 7350 label stock with film liner for automatic application equipment.	2.0 0.8 1.5	PET, Clear TC <b>300</b> Polyester Film	54" 1668 ft. Min.	Flexo, Thermal Transfer	CSA RoHS
	7831	Thin label profile provides good performance on small diameter packages. Excellent cold temperature performance.	1.0 0.8 3.2	PET, Clear TC <b>400</b> 55# Densified Kraft	54" 1668 ft. Min.	Flexo, Thermal Transfer	UL CSA RoHS
	FM042	High clarity general purpose adhesive with good initial tack and excellent die cutting properties. Adhesion to metals and HSE plastics.	2.0 0.9 3.2	PET, Clear TC <b>P1212</b> 50# SC	54" 1668 ft. Min.	Flexo, Thermal Transfer	UL CSA RoHS
Polyester Matte Clear	FM232	Matte film suitable for thin gauge label applications or as a printable overlaminate film. General purpose adhesive for HSE substrates.	1.0 0.8 3.2	PET, Clear TC <b>P1212</b> 50# SC	54" 1668 ft. Min.	Flexo, Thermal Transfer	UL CSA RoHS
Polyester Matte Silver	7247	Extreme durability topcoat. Eliminates the need for protective overlaminates in many applications.	2.3 1.8 2.2	PET TT3, Matte Silver, <b>350</b> 40# Densified Glassine	48" 1668 ft. Min. <b>4.5", 6"</b>	Flexo, Thermal Transfer	UL RoHS
	7818	Compatible with a wide range of ribbons. Firm adhesive that resists oozing. Excellent durability.	3.3 0.8 3.2	PET, Silver TT TC <b>310</b> 55# Densified Kraft	54" 1668 ft. Min. <b>4.5", 6"</b>	Flexo, Thermal Transfer	UL CSA RoHS
	7879FL	Heavy adhesive coat weight for textured surfaces. Excellent adhesion to LSE plastics and powder coats.	3.3 1.8 1.5	PET, Silver TT TC <b>350</b> Polyester Film	54" 1668 ft. Min.	Flexo, Thermal Transfer	UL CSA RoHS
	7222/7865	Offers high abrasion and chemical resistance. Excellent "quick stick" and bond to LSE plastics. Uses include instruction and schematic panels.	2.0 0.8 3.2	PET, Matte Silver Gloss TC <b>300</b> 55# Densified Kraft	54" 1668 ft. Min. <b>6"</b>	Flexo, Thermal Transfer	UL CSA RoHS
	7813	Ultra-smooth matte top-coat. Excellent durability with a wide variety of ribbons. Excellent adhesion to LSE plastics.	3.3 0.8 3.2	PET, Silver Matte TT TC <b>300</b> 55# Densified Kraft	54" 1668 ft. Min. <b>6"</b>	Flexo, Thermal Transfer	UL CSA RoHS
	FM043702	Thermal transfer printable top-coating. Designed for use in demanding environments including automotive underhood applications.	2.0 1.3 3.2	PET, Matte Silver TC <b>P1650</b> 50# SC	54" 1668 ft. Min.	Flexo, Thermal Transfer	RoHS







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# 3M™ Roll Label Materials (cont.)

Facestock	Product	Typical Performance Characteristics	Construction		Roll Width Minimum Mini-Master (shown in red)	Print Method	Specs
			Caliper (mils)	Facestock Adhesive Type Liner			
Polyester Matte Silver (cont.)	FM047202	Metallized film offers excellent thermal stability and moisture resistance. High performance adhesive ideal for demanding applications, including powder coated paints.	2.0 1.2 3.2	PET, Matte Silver TC <b>P1480</b> 50# SC	54" 1668 ft. Min.	Flexo, Thermal Transfer	RoHS
	OFM2402	Durable, moisture resistant film. Adhesive offers adhesion to a variety of surfaces, including LSE plastics. Designed for use on durable goods in an outdoor environment.	2.0 0.9 3.2	PET, Matte Silver TC <b>P1400</b> 50# SC	54" 1668 ft. Min. <b>6"</b>	Flexo, Thermal Transfer	UL RoHS
	FM092	Matte film with gloss top-coating. Adhesive offers good initial tack and excellent die cutting properties. Excellent choice for use in nameplate applications.	2.0 0.9 3.2	PET, Matte Silver TC <b>P1212</b> 50# SC	54" 1668 ft. Min.	Flexo, Thermal Transfer	UL CSA RoHS
Polyester Bright Silver	OFM2802	Designed for use in outdoor applications. Good adhesion to HSE and LSE plastics.	2.0 0.9 3.2	PET, Bright Silver TC <b>P1400</b> 50# SC	54" 1668 ft. Min. <b>6"</b>	Flexo, Thermal Transfer	UL RoHS
	7323/7863	Excellent abrasion and chemical resistance. Excellent adhesion to LSE plastics.	2.0 0.8 3.2	PET, Silver Gloss TC <b>300</b> 55# Densified Kraft	54" 1668 ft. Min. <b>6"</b>	Flexo, Thermal Transfer	UL CSA RoHS
	7873	Heavy adhesive coat weight for textured surfaces. Excellent high temperature resistance. Excellent adhesion to LSE plastics and powder coats.	2.0 1.8 3.2	PET, Silver Gloss TC <b>350</b> 55# Densified Kraft	54" 1668 ft. Min.	Flexo, Thermal Transfer	UL CSA RoHS
	7340FL	Facestock uses unique 3M film technology to produce a mirror like film that reflects without metalization.	2.55 1.1 1.5	PET, Mirror Finish <b>350</b> Polyester	54" x 1668 ft.	Flexo, Thermal Transfer	RoHS
	FM047302	Reflects with 98% efficiency.	2.0 1.2 3.2	PET, Bright Silver TC <b>P1480</b> 50# SC	54" 1668 ft. Min.	Flexo, Thermal Transfer	RoHS
	FM1172	High tack rubber-based adhesive. Good adhesion to waxy surfaces.	2.0 1.2 3.2	PET, Bright Silver TC <b>P1110</b> 50# SC	54" 1668 ft. Min.	Flexo, Thermal Transfer	RoHS
	FM052	Good choice where a thinner profile label is required.	1.0 0.8 3.2	PET, Bright Silver TC <b>P1212</b> 50# SC	54" 1668 ft. Min.	Flexo, Thermal Transfer	UL CSA RoHS
	FM062	General purpose adhesive. Excellent die cutting properties.	2.0 0.9 3.2	PET, Bright Silver TC <b>P1212</b> 50# SC	54" 1668 ft. Min.	Flexo, Thermal Transfer	UL CSA RoHS
	FM912	Thicker version of FM1172 for use where more rigidity is required.	3.0 0.9 3.2	PET, Bright Silver TC <b>P1212</b> 50# SC	54" 1668 ft. Min.	Flexo, Thermal Transfer	RoHS
Polyester Brushed Silver	7214SA	Gloss finish, adhesive allows trapped air to release to prevent bubbling, chemical resistant, good for powder coated surfaces, slightly oily metals, high performance adhesive. Brushed silver finish.	2.0 1.1 6.8	PET, Brushed Silver TC <b>350</b> 90# Polycoated Kraft	Sheet: 20" x 27" Roll: 54" x 750"	Flexo, Thermal Transfer	RoHS
	FM046202	Aggressive, high tack adhesive. Designed for adhesion to difficult surfaces.	2.0 1.2 3.2	PET, Brushed Silver TC <b>P1480</b> 50# SC	54" 1668 ft. Min.	Flexo, Thermal Transfer	RoHS
	FM102	Durable high performance material with good moisture resistance. Designed for indoor and outdoor applications, with adhesion to a variety of surfaces.	1.0 0.8 3.2	PET, Brushed Silver TC <b>P1212</b> 50# SC	54" 1668 ft. Min.	Flexo, Thermal Transfer	UL CSA
	OFM2902	Durable high performance material with good moisture resistance. Designed for indoor and outdoor applications, with adhesion to a variety of surfaces.	2.0 0.9 3.2	PET, Brushed Silver TC <b>P1400</b> 50# SC	54" 1668 ft. Min. <b>6"</b>	Flexo, Thermal Transfer	UL RoHS
	FM112	Excellent choice for nameplate applications. Adheres well to metal and HSE plastics.	2.0 0.9 3.2	PET, Brushed Silver TC <b>P1212</b> 50# SC	54" 1668 ft. Min.	Flexo, Thermal Transfer	UL CSA

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# 3M™ Roll Label Materials (cont.)

Facestock	Product	Typical Performance Characteristics	Construction		Roll Width Minimum Mini-Master (shown in red)	Print Method	Specs
			Caliper (mils)	Facestock Adhesive Type Liner			
Polyester Platinum	 7872	Heavy adhesive coat weight for textured surfaces. Excellent adhesion to LSE plastics and powder coats. Precision Roll Program — custom slit rolls as small as 2.5" x 1668 ft., as wide as 54", and with up to one splice.	2.0 1.8 3.2	PET, Platinum TC <b>350</b> 55# Densified Kraft	54" 1668 ft. Min. <b>6"</b> Precision	Flexo, Thermal Transfer	UL CSA RoHS
	7872FL	Same as 7872 label stock, except with film liner.	2.0 1.8 1.5	PET, Platinum TC <b>350</b> Polyester Film	54" 1668 ft. Min.	Flexo, Thermal Transfer	UL CSA RoHS
	 7875	Durable facestock for harsh environments. Firm adhesive resists oozing. Precision Roll Program — custom slit rolls as small as 2.5" x 1668 ft., as wide as 54", and with up to one splice.	2.0 0.8 3.2	PET, Platinum TC <b>310</b> 55# Densified Kraft	54" 1668 ft. Min. <b>6"</b> Precision	Flexo, Thermal Transfer	UL CSA RoHS
	0FM3602	Moisture resistant film paired with tackified acrylic designed for use in lawn and garden applications.	2.0 0.9 3.2	PET, Platinum TC <b>P1400</b> 50# SC	54" 1668 ft. Min.	Flexo, Thermal Transfer	UL CSA RoHS
	FM3602	Platinum silver polyester with permanent acrylic adhesive for bar code labels or nameplates.	2.0 0.9 3.2	PET, Platinum TC <b>P1212</b> 50#	54" 1668 ft. Min.	Flexo, Thermal Transfer	UL CSA RoHS
Vinyl White	 FV032	Soft conformable vinyl that offers durability and moisture resistance. General purpose adhesive.	3.4 0.9 3.2	Soft White TC3 <b>P1212</b> 50# SC	54" 1668 ft. Min. <b>6"</b>	Flexo	UL RoHS
	7051SA	White finish, adhesive allows trapped air to release to prevent bubbles, good for powder coated surfaces, high performance adhesive.	3.8 1.1 6.8	Soft White EL Vinyl NT <b>350</b> 90# Polycoated Kraft	Sheet: 20" x 27" Roll: 54" x 750"	Flexo	RoHS
	7605	Conformable to contoured surfaces. Excellent adhesion to LSE plastics and textured powder coats.	3.4 1.8 3.2	Soft White NTC <b>350</b> 55# Densified Kraft	54" 1668 ft. Min.	Flexo	RoHS
	 FV0216R2	High performance adhesive ideal for demanding applications, including powder coated paints. Excellent choice for machinery label applications.	3.4 1.2 3.2	Soft White NTC <b>P1480</b> 50# SC	54" 1668 ft. Min.	Flexo	RoHS
	FV022702	Soft conformable film offers durability and moisture resistance. High performance adhesive ideal for demanding applications, including powder coated paints.	3.4 1.2 3.2	Soft White TC6 <b>P1480</b> 50# SC	54" 1668 ft. Min.	Flexo, Thermal Transfer	RoHS
	FV023202	High initial tack adhesive with good moisture resistance. Performs well in ladder label applications.	3.4 1.2 3.2	Soft White TC3 <b>P1480</b> 50# SC	54" 1668 ft. Min.	Flexo	RoHS
	 7604FP	Top-coated, conformable to contoured surfaces. Consistent, high-speed dispensing. Excellent squeeze bottle performance.	3.5 1.2 3.2	Soft White TC3 <b>300</b> 55# Densified Kraft	54" 1668 ft. Min.	Flexo	RoHS
	FV052	High initial tack adhesive. Good choice for retread tire label applications.	3.4 1.3 3.2	Soft White TC <b>P1110</b> 50# SC	54" 1668 ft. Min.	Flexo	RoHS
	FV292	Adheres to a variety of surfaces including polyolefins. Excellent choice for wire marking applications.	3.4 0.9 3.2	Soft White TC3 <b>P1410</b> 50# SC	54" 1668 ft. Min.	Flexo	RoHS
	 0FV0202	Designed for use in outdoor applications. Good adhesion to HSE and LSE plastics.	3.4 0.9 3.2	Soft White TC6 <b>P1400</b> 50# SC	54" 1668 ft. Min. <b>6"</b>	Flexo, Thermal Transfer	UL RoHS
	FV022902	Soft conformable film with thermal transfer printable top-coat. Excellent choice for drum labeling applications.	3.4 0.8 3.2	Soft White TC6 <b>F2201</b> 50# SC	54" 1668 ft. Min.	Flexo, Thermal Transfer	RoHS
	FV102	Non top-coated semi rigid white vinyl label product offers excellent moisture resistance paired with a general purposed adhesive.	3.4 0.9 3.2	Semi-rigid NTC <b>P1212</b> 50# SC	54" 1668 ft. Min.	Flexo	RoHS
	FV122	Semi rigid white vinyl label product that had been top-coated to accept a variety of flexo film and UV rotary letterpress inks. General purpose adhesive.	3.4 0.9 3.2	Semi-rigid TC3 <b>P1212</b> 50# SC	54" 1668 ft. Min.	Flexo	RoHS
	FV252	Freezer grade adhesive offers high initial tack and good clarity. Offers adhesion when applied at temperatures as low as 0°F.	3.4 0.8 3.2	Soft White TC3 <b>F2201</b> 50# SC	54" 1668 ft. Min.	Flexo	RoHS

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# 3M™ Roll Label Materials (cont.)

Facestock	Product	Typical Performance Characteristics	Construction		Roll Width Minimum Mini-Master (shown in red)	Print Method	Specs
			Caliper (mils)	Facestock Adhesive Type Liner			
Vinyl White (cont.)	7890	Can be used on rigid and semi-rigid containers. Excellent for general purpose labeling such as drum labels.	3.5 1.1 3.2	Rigid White Gloss TC <b>300</b> 55# Densified Kraft	54" 1668 ft. Min.	Flexo, Thermal Transfer	UL RoHS
	FV025102	High performance adhesive ideal for demanding applications, including powder coated paints.	6.0 1.2 3.2	Semi-rigid TC3 <b>P1480</b> 50# SC	54" 1668 ft. Min.	Flexo	RoHS
	 FV100K	Similar to FV02410K except with a freezer grade adhesive. Suitable for drum labeling applications.	3.4 0.8 5.9	Soft White EDP <b>F2201</b> 83# Laser	54" 5000 ft. Min.	Flexo, Thermal Transfer, DMI, Laser	RoHS
Vinyl Clear	 FV01462	Thermal transfer printable clear vinyl.	4.0 0.9 3.2	Soft Clear TC6 <b>P1212</b> 50# SC	54" 1668 ft. Min.	Flexo, Thermal Transfer	RoHS
	FV018702	Firm clear vinyl label product offers excellent moisture resistance.	4.0 0.9 3.3	Rigid Clear NTC <b>P1212</b> 50# SC	54" 1668 ft. Min.	Flexo	RoHS
	FV172	Soft conformable translucent vinyl that has been topcoated for water-based flexo inks. High clarity general purpose adhesive.	3.4 0.9 3.2	Soft Translucent TC1 <b>P1212</b> 50# SC	54" 1668 ft. Min.	Flexo	RoHS
	FV612	Non top-coated vinyl is suitable for wire marking applications.	3.4 0.9 3.3	Soft Translucent NTC <b>P1410</b> 50# SC	54" 1668 ft. Min.	Flexo	RoHS
Vinyl Yellow & Black	FV362	Non top-coated conformable yellow vinyl with a general purpose adhesive.	3.4 0.9 3.2	Soft Yellow Vinyl NTC <b>P1212</b> 50# SC	54" 1668 ft. Min.	Flexo	—
	FV232	Top-coated version of FV362 for press printing.	3.4 0.9 3.2	Soft Yellow Vinyl TC2 <b>P1212</b> 50# SC	54" 1668 ft. Min.	Flexo	—
	FV018602	Top-coated black vinyl for press printing.	3.4 0.9 3.2	Soft Black Vinyl TC6 <b>P1212</b> 50# SC	54" 1668 ft. Min.	Flexo	—
Vinyl Cast	3690E	Durable coat film flexible and conformable. Outstanding weathering properties. Non-transferable on some surfaces.	2.0 1.0 3.2	Bright White NTC <b>320</b> 90g/sm glassine	48" 1620 ft. Min.	Thermal Transfer	UL CSA RoHS
	3698E	Same as 3690E except in matte silver. Outstanding weathering properties. Non-transferable on some surfaces.	2.0 1.0 3.2	Matte Silver NTC <b>320</b> 90g/sm glassine	48" 1620 ft. Min.	Thermal Transfer	UL CSA RoHS
Retro- reflective	3929	When bar code printed, the facestock extends the maximum scanning distance of long range scanners. Excellent for bin labels or shelf markers.	4.8 1.0 4.6	Silver Gloss TC <b>200</b> 78# Clay Coated Kraft	40" 2000 ft. Min. <b>6" x 450 ft.</b>	Flexo, Thermal Transfer	RoHS
	39294	Bead-free retro-reflective for improved die life. When bar code printed, the facestock extends the maximum scanning distance of long range scanners.	4.8 1.0 4.6	White Gloss TC <b>200</b> Polycoated Kraft	48" x 1668 ft. Min. 4.5", 6" x 1668 ft.	Flexo, Thermal Transfer	RoHS
	3925	Yellow retro-reflective version of 3929.	4.8 1.0 4.6	Yellow Gloss TC <b>200</b> 78# Clay Coated Kraft	40" 2000 ft. Min.	Flexo, Thermal Transfer	RoHS
Poly- propylene	 7776	Light duty facestock with firm adhesive that resists oozing.	2.6 0.8 3.2	PP, Label-Lyte™ <b>310</b> 55# Densified Kraft	54" 1668 ft. Min.	Flexo, Thermal Transfer	UL CSA RoHS
	7777	Corona treated. Bright white facestock offers high opacity. Film stiffness allows for easy die cutting and dispensing for automatic applications. Can be thermal transfer printed with resin ribbon.	2.6 0.9 3.2	PP, Label-Lyte™ <b>Permanent Acrylic</b> 50# Densified Kraft	54" 1668 ft. Min. <b>6"</b>	Flexo, Thermal Transfer	UL CSA RoHS
	7779	Same as 7777 except with 350 adhesive. Excellent adhesion to powder coats and LSE plastics.	2.6 1.1 3.2	PP, Label-Lyte™ <b>350</b> 55# Densified Kraft	54" 1668 ft. Min.	Flexo, Thermal Transfer	UL CSA RoHS

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# 3M™ Roll Label Materials (cont.)

Facestock	Product	Typical Performance Characteristics	Construction		Roll Width Minimum Mini-Master (shown in red)	Print Method	Specs
			Caliper (mils)	Facestock Adhesive Type Liner			
Poly- propylene (cont.)	 76716	Extreme Durability when printed with 3M™ Durable Resin Ribbon 92904.	2.6 1.1 3.3	Polypropylene Film <b>350</b> 55# Densified Kraft	54" 1668 ft. Min.	Flexo, Thermal Transfer	RoHS
	FP012602	Press printable stock with good initial tack and excellent die cutting properties. Adhesion to HSE substrates.	2.3 0.9 3.2	PP, TC2S <b>P1212</b> 50# SC	54" 1668 ft. Min.	Flexo	RoHS
	FP016102	Conformable moisture resistant film. Freezer grade adhesive that can be applied at temperatures as low as 0°F.	2.3 0.8 3.2	PP, TC2S <b>F2201</b> 50# SC	54" 1668 ft. Min.	Flexo	RoHS
	 FP018802	Bright white facestock with high opacity. Thermal transfer printable. Good adhesion to glass and metal.	2.6 0.9 3.2	PP, Label-Lyte™ T2S <b>P1212</b> 50# SC	54" 1668 ft. Min.	Flexo, Thermal Transfer	RoHS
	FP022102	High performance adhesive designed for demanding LSE substrates. Matte film.	3.0 1.2 3.2	PP, EDP <b>P1480</b> 50# SC	54" 1668 ft. Min. <b>6"</b>	Flexo	RoHS
	 FP022202	High performance adhesive ideal for demanding applications, including powder coated paints.	2.3 1.2 3.2	PP, TC2S <b>P1480</b> 50# SC	54" 1668 ft. Min.	Flexo	RoHS
	FP029102	High performance adhesive with high tack and peel from difficult textured LSE plastics.	2.6 1.2 3.2	PP, TC2S <b>P1480</b> 50# SC	54" 1668 ft. Min.	Flexo, Thermal Transfer	RoHS
	FP027402	High tack rubber-based adhesive. Good adhesion to waxy surfaces. Excellent choice for candle pad label applications or carpet backing labels.	3.0 1.3 3.2	PP, EDP C1S <b>P1110</b> 50# SC	54" 1668 ft. Min.	Flexo, Thermal Transfer	RoHS
	FP032002	High performance adhesive ideal for demanding applications, including powder coated paints. Excellent choice for machinery label applications, with adhesive designed for adhesion to smooth HSE and LSE substrates.	3.0 0.9 3.2	PP, EDP C1S <b>P1400</b> 50# SC	54" 1668 ft. Min.	Flexo, Thermal Transfer	RoHS
	FP032302	White opaque adhesive paired with metallized film offers exceptional opacity.	2.3 1.1 3.2	PP, Metallized TC <b>P1655</b> 50# SC	54" 1668 ft. Min.	Flexo	RoHS
	FP011	High clarity adhesive. Suitable for overlaminating applications or thin profile label applications. Corona treated film for press printing applications.	1.2 0.8 2.5	PP, Clear T1S <b>P1212</b> 40# SC	54" 1668 ft. Min.	Flexo	RoHS
	FP082	Durable moisture resistant film offers excellent conformability. Top-coated to accept flexographic film inks.	2.0 0.9 3.2	PP, Clear TC <b>P1212</b> 50# SC	54" 1668 ft. Min.	Flexo	RoHS
	FP092	Freezer grade adhesive. Adhesive dry ingredients are listed by FDA as indirect food contact additives when used in food packaging with minimum opportunity for exposure. See 21 CFR 175.105.	2.0 0.8 3.2	PP, Clear TC <b>F2201</b> 50# SC	54" 1668 ft. Min.	Flexo	RoHS
	FP102	General purpose adhesive offers excellent adhesion to a wide variety of substrates, including polyolefins.	2.0 0.9 3.2	PP, Clear TC <b>P1410</b> 50# SC	54" 1668 ft. Min.	Flexo	RoHS
	 FPM000902	Bright silver conformable film with adhesive designed to adhere to multiple surfaces. Excellent choice for candle label applications.	2.0 0.9 3.2	PP, Silver TC <b>P1212</b> 50# SC	54" 1668 ft. Min.	Flexo	RoHS
Polystyrene	FS302	Hard rigid film that offers excellent moisture resistance. High clarity general purpose adhesive. Good for candle top applications.	2.0 0.9 3.2	Clear Polystyrene <b>F2201</b> 50# SC	54" 1668 ft. Min.	Flexo	RoHS
	FS152	Rigid film offers exhibits good dispensing properties. Good adhesion to smooth LSE substrates and folded cartons.	2.5 0.9 3.2	White Polystyrene <b>P1410</b> 50# SC	54" 1668 ft. Min.	Flexo	RoHS
	FS242	High initial tack rubber-based adhesive. Adheres to waxy surfaces and rubber hoses.	2.5 1.2 3.2	White Polystyrene <b>P1110</b> 50# SC	54" 1668 ft. Min.	Flexo	RoHS
	FS442	Matte clear durable hard rigid film that offers excellent moisture resistance. Good adhesion to metals, glass and HSE plastics.	2.0 0.9 3.2	Matte Polystyrene <b>P1212</b> 50# SC	54" 1668 ft. Min.	Flexo	RoHS

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# 3M™ Roll Label Materials (cont.)

Facestock	Product	Typical Performance Characteristics	Construction		Roll Width Minimum Mini-Master (shown in red)	Print Method	Specs
			Caliper (mils)	Facestock Adhesive Type Liner			
Polyethylene	FPE05102	Biaxially oriented film that is compatible with a variety of print methods. General purpose adhesive designed to adhere to both smooth LSE and HSE surfaces.	3.8 0.9 3.2	Matte Polyart™ TC <b>P1425</b> 50# SC	54" x 1668 ft. Min.	Flexo, Thermal Transfer, DMI	RoHS
	FPE06602	Conformable film suitable alternative to vinyl label materials. Aggressive adhesive designed to adhere to both LSE and HSE surfaces.	2.5 1.1 3.2	White Polyethylene <b>P1480</b> 50# SC	54" x 1668 ft. Min.	Flexo, Thermal Transfer	RoHS
	FPE42	Conformable film suitable alternative to vinyl label materials. Aggressive adhesive designed to adhere to both LSE and HSE surfaces.	3.0 0.9 3.2	Clear Polyethylene <b>P1410</b> 50# SC	54" x 1668 ft. Min.	Flexo, Thermal Transfer	RoHS
Acetate	FA032	Matte high-quality film offers excellent dispensability. Die cuts easily to extend die life.	2.0 0.9 3.2	Matte Clear Acetate <b>P1212</b> 50# SC	48" 1668 ft. Min.	Flexo	RoHS
Acrylic	FAC00102	Clear acrylic film. General purpose adhesive with minimal cold flow. Durable overlaminate.	2.0 0.8 3.2	Clear Acrylic <b>P1212</b> 50# SC	54" 1668 ft. Min.	Flexo	UL CSA RoHS
Kimdura	7291	Smudge-proof top coat. Good for general purpose applications. Can be printed by dot-matrix, thermal transfer, and ion deposition.	3.7 0.9 3.2	Smudge-proof TC Kimdura™ <b>P1400</b> 50# Densified Kraft	54" 1668 ft. Min.	Flexo, Thermal Transfer	UL CSA RoHS
Teslin	7841	Excellent toner anchorage. Good conformability. Good print contrast when bar coding.	7.0 0.8 3.2	Matte White Teslin™ <b>310</b> 55# Densified Kraft	54" 1668 ft. Min.	Flexo, Laser	UL CSA RoHS
Paper	7000	High-gloss for fine printing. Adheres well to curved surfaces.	4.0 0.9 2.5	60# White High Gloss <b>320</b> 43# Densified Kraft	60" 1668 ft. Min.	Flexo	RoHS
	7000FL	Same as 7000 with film liner.	4.0 0.9 1.5	60# White High Gloss <b>320</b> Polyester Film	54" 1668 ft. Min.	Flexo	RoHS
	7002	Facestock provides excellent graphic reproductions. Excellent flag resistance on small diameter vials.	4.0 0.9 2.5	60# Bright White High Gloss <b>320</b> 43# Densified Kraft	60" 1668 ft. Min.	Flexo	RoHS
	7004	Excellent quick stick and adhesion to low surface energy plastics.	2.8 0.9 2.5	60# Bright White High Gloss <b>300</b> 43# Densified Kraft	54" 1668 ft. Min.	Flexo	RoHS
	7113	Ideal for data-processing applications. Can be cleanly removed and repositioned on most surfaces.	4.0 0.4 3.2	46# Uncoated Paper <b>1000</b> 50# Densified Kraft	48" 1668 ft. Min.	Flexo	RoHS
	7142	Good thermal transfer printable facestock. Can be removed cleanly or repositioned on most substrates.	3.5 0.4 2.5	55# Coated Paper <b>1000</b> 40# Kraft Glassine	48" 1668 ft. Min. <b>6"</b>	Flexo, Thermal Transfer	RoHS
	7011	Excellent flag resistance on small diameter vials. Used for unit dose pharmaceutical packages.	2.3 0.9 2.5	32# Coated Paper <b>320</b> 43# Densified Kraft	60" 1668 ft. Min.	Flexo	RoHS
	7110	Readily fractures or delaminates. Ideal for tamper-resistant labeling. Provides write-on capability.	2.8 1.1 2.5	40# Uncoated Paper <b>320</b> 43# Densified Kraft	60" 1668 ft. Min.	Flexo	RoHS
	7120	Conforms to curved surfaces. Resists staining and moisture. Adheres to many textured surfaces.	3.5 1.3 2.5	60# Semi-gloss White Paper <b>400</b> 43# Densified Kraft	54" 1668 ft. Min.	Flexo	RoHS
Acrylate	3921	Offers ultra-high temperature performance. Thermal transfer printable.	2.0 1.0 3.0	Matte White Acrylate <b>150</b> 55# Densified Kraft	48" 1668 ft. Min. <b>6"</b>	Thermal Transfer	UL CSA RoHS
	76999	Offers ultra-high temperature performance. Thermal transfer printable with un-branded liner.	2.0 1.0 3.1	Matte White Acrylate <b>150</b> 55# Densified Kraft	48" 1668 ft. Min.	Thermal Transfer	UL CSA RoHS
Polyimide White	7812	Offers ultra-high temperature performance. Easy readability of bar codes. Thermal transfer printable.	2.0 2.0 3.2	Polyimide, Matte White <b>100</b> 50# Densified Kraft	12" x 1000 ft. <b>6" x 500</b>	Thermal Transfer	UL CSA RoHS

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# 3M™ Dot Matrix Label Materials

Facestock	Product	Typical Performance Characteristics	Construction		Roll Width Minimum Mini-Master (shown in red)	Print Method	Specs
			Caliper (mils)	Facestock Adhesive Type Liner			
Polyester Matte White	7840	Matte top-coat offers excellent ink anchorage for various electronic printing technologies. Firm adhesive that resists oozing.	2.3 0.8 3.2	PET, White DMI TC <b>310</b> 55# Densified Kraft	54" 1668 ft. Min.	Flexo, DMI	UL CSA RoHS
	7880	Matte top-coat resists scuffing, chemicals and moisture. Excellent adhesion to LSE plastics. Liner perforates and fan-folds easily.	2.3 0.8 3.2	PET, White DMI TC <b>300</b> 55# Densified Kraft	54" 1668 ft. Min. <b>6"</b>	Flexo, DMI	UL CSA RoHS
	7880HL	Heavy liner version of 7880 label stock for excellent liner stability in high humidity.	2.3 0.8 4.6	PET, White Laser TC <b>300</b> Clay Coated Kraft Laser	54" 1668 ft. Min.	Flexo, DMI	UL CSA RoHS
	FM162	Computer imprintable film that also accepts thermal transfer print. Adheres well to metals and HSE plastics.	2.0 0.9 3.2	PET, White EDP <b>P1212</b> 50# SC	54" 1668 ft. Min.	Flexo, Thermal Transfer, DMI	UL RoHS
	OFM2502	Absorbent matte coated for a variety of electronic print technologies. Good adhesion to both HSE and LSE plastics.	2.0 0.9 3.2	PET, White EDP <b>P1400</b> 50# SC	54" 1668 ft. Min.	Flexo, Thermal Transfer, DMI	UL RoHS
Polyester Matte Clear	7745FL	Dot-matrix imprintable matte top-coat. Ideal where variable information is needed.	1.3 0.8 1.5	PET, Clear DMI TC <b>400</b> Polyester Film	54" 1668 ft. Min. <b>6"</b>	Flexo, DMI	UL CSA RoHS
	7881	Matte top-coat provides good chemical and abrasion resistance. Excellent adhesion to LSE plastics.	2.3 0.8 3.2	PET, Clear DMI TC <b>300</b> 55# Densified Kraft	54" 1668 ft. Min. <b>6"</b>	Flexo, DMI	UL CSA RoHS
	FM142	Absorbent matte coated for a variety of electronic print technologies. General purpose adhesive for HSE substrates.	2.0 0.9 3.2	PET, Clear EDP <b>P1212</b> 50# SC	54" 1668 ft. Min.	Flexo, Thermal Transfer, DMI	UL RoHS
Polyester Matte Silver	7883	Matte top-coat resists scuffing, chemicals, and moisture. Excellent adhesion to LSE plastics. Liner can be perforated and fan-folded easily.	3.3 0.8 3.2	PET, Silver DMI TC <b>300</b> 55# Densified Kraft	54" 1668 ft. Min. <b>6"</b>	Flexo, DMI	UL CSA RoHS
	7883HL	Heavy liner version of 7883 label stock for excellent liner stability in high humidity.	3.3 0.8 4.6	PET, Silver DMI TC <b>300</b> Clay Coated Kraft Laser	54" 1668 ft. Min.	Flexo, DMI	UL CSA RoHS
	7887	Same as 7883 label stock except thinner facestock.	2.3 0.8 3.2	PET, Silver DMI TC <b>300</b> 55# Densified Kraft	54" 1668 ft. Min.	Flexo, DMI	UL CSA RoHS
	7897	Firm adhesive resists oozing. Liner perforates and fan-folds easily.	2.3 0.8 3.2	PET, Silver DMI TC <b>310</b> 55# Densified Kraft	54" 1668 ft. Min.	Flexo, DMI	UL CSA RoHS
Polyester Bright Silver	FM152	Bright metallized film with a matte absorbent top-coating designed for computer imprinting applications. Excellent adhesion to HSE substrates.	2.0 0.9 3.2	PET, Bright Silver EDP <b>P1212</b> 50# SC	54" 1668 ft. Min.	Flexo, Thermal Transfer, DMI	UL RoHS
Vinyl White	FV512	Same film as FV062 with an adhesive designed to adhere to a variety of surfaces, including polyolefins.	3.4 0.9 3.2	Semi-rigid EDP <b>P1410</b> 50# SC	54" 1668 ft. Min.	Flexo, Thermal Transfer, DMI	RoHS
Polypropylene White	FP010402	Matte top-coating is designed for compatibility with a variety of film ink systems. Film stiffness allows for easy die cutting and dispensing.	2.8 0.9 3.2	PP, Label-Lyte™ EDP <b>P1212</b> 50# SC	54" 1668 ft. Min.	Flexo, Thermal Transfer, DMI	RoHS
	FP024102	Freezer grade adhesive that can be applied at temperatures as low as 0°F. Suitable for frozen food or drum label applications.	3.0 0.8 3.2	PP, EDP C1S <b>F2201</b> 50# SC	54" 1668 ft. Min.	Flexo, Thermal Transfer, DMI	RoHS
Polyimide White	7811	Offers ultra-high temperature performance. Easy readability of variable information and bar codes.	2.0 2.0 3.0	Matte Polyimide TC <b>100</b> 50# Densified Kraft	12" 1000 ft. <b>6" x 500</b>	DMI	UL CSA RoHS

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# 3M™ Digital Label Materials

Facestock	Product	Typical Performance Characteristics	Construction		Roll Width Minimum Mini-Master (shown in red)	Print Method	Specs
			Caliper (mils)	Facestock Adhesive Type Liner			
Vinyl White	IJ39-20	Solvent or UV inkjet printable film with high tack and peel adhesive	3.2 1.2 6.8	Matte Vinyl <b>Permanent Acrylic</b> 90# Polycoated Kraft	54" x 50 yd 60" x 50 yd	Inkjet, Screen, UV Flexo	RoHS
Polyester Matte White	▶ 7840HL	Matte top-coat offers excellent ink anchorage for various electronic printing technologies. Firm adhesive that resists oozing. Clay-coated liner.	2.3 0.8 4.6	PET, White Laser TC <b>310</b> Clay Coated Kraft Laser	54" 1668 ft. Min.	Flexo, Laser	UL CSA RoHS
	7850HL	Matte top-coat offers excellent ink anchorage for laser toner and dot-matrix. Excellent high temperature performance especially to LSE plastics and smooth powder coats.	2.3 1.1 4.6	PET, White Laser TC <b>350</b> Clay Coated Kraft Laser	54" 1668 ft. Min.	Flexo, Laser	UL CSA RoHS
	▶ FM01961K	Adhesive can be applied at temperatures as low as 0°F. Liner has special surface finish on the back side to enhance feed and reduce static problems. Excellent for drum labeling applications.	2.0 0.8 4.6	PET, White MC <b>F2201</b> Clay Coated Kraft Laser	54" 5000 ft. Min. <b>9"</b>	Flexo, Thermal Transfer, Laser	RoHS
	FM031902	Print receptive film accepts most film ink systems and thermal transfer printing Excellent for temporary membership card applications. Film is also laser printable.	5.0 0.9 3.2	PET, White MC <b>P1212</b> 50# SC	54" 5000 ft. Min.	Flexo, Thermal Transfer, Laser	RoHS
Polyester Gloss White Laser	FM1852	Unique gloss top coat compatible with laser toner print technology for short run digitally printed labels. Pattern adhesive keeps digital press clean.	2.0 0.9 3.2	PET, White Laser TC <b>P1212 Pattern</b> 50# SC	54" 1668 ft. Min. 8.5" x 1250 ft. PreSlit	Flexo, Laser	RoHS
Polyester Gloss Clear	FM02511K	Durable film with clear laser topcoat. Adheres to a variety of substrates. Offers excellent UV resistance. Liner designed for lay-flat through laser applications.	2.0 0.9 4.6	PET, Clear Laser TC <b>P1400</b> Clay Coated Kraft Laser	54" 1668 ft. Min.	Flexo, Thermal Transfer, Laser	RoHS
	FM852	Unique gloss top coat compatible with laser toner print technology for short run digitally printed labels. Pattern adhesive keeps digital press clean.	2.0 0.9 3.2	PET, Clear Laser TC <b>P1212 Pattern</b> 50# SC	54" 1668 ft. Min. 8.5" x 1250 ft. PreSlit	Flexo, Laser	RoHS
Polyester Matte Clear	7845HL	Matte top-coat provides good chemical and abrasion resistance. Excellent adhesion to HSE plastics and metals.	1.3 0.8 4.6	PET, Clear Laser TC <b>310</b> Clay Coated Kraft Laser	54" 1668 ft. Min.	Flexo, Laser	UL RoHS
	FM02090K	Translucent matte coated for a variety of electronic print technologies. Liner has a special surface finish on the back side to enhance feed and reduce static problems.	2.0 0.8 4.6	PET, Translucent EDP <b>P1212</b> Clay Coated Kraft Laser	54" 5000 ft. Min.	Flexo, Thermal Transfer, Laser	RoHS
	FM14K	Matte coated for a variety of electronic print technologies. Liner has a special surface finish on the back side to enhance feed and reduce static problems.	2.0 0.8 4.6	PET, Clear EDP <b>P1212</b> Clay Coated Kraft Laser	54" 5000 ft. Min.	Flexo, Thermal Transfer, Laser	UL RoHS
	FM1681	Translucent matte coated for a variety of electronic print technologies. Excellent for use as a laser printable overlaminates.	2.0 0.8 2.5	PET, Translucent EDP <b>P1212</b> 40# SC	54" 1668 ft. Min.	Flexo, Thermal Transfer, Laser	RoHS
Vinyl White	FV02410K	Top-coated for laser printing applications. Liner has a special surface finish on the back side to enhance feed and reduce static problems.	3.4 0.9 4.6	Soft White EDP <b>P1425</b> Clay Coated Kraft Laser	54" 5000 ft. Min.	Flexo, Thermal Transfer, DMI, Laser	RoHS
	FV100K	Similar to FV02410K except with a freezer grade adhesive. Suitable for drum labeling applications.	3.4 0.8 4.6	Soft White EDP <b>F2201</b> Clay Coated Kraft Laser	54" 5000 ft. Min.	Flexo, Thermal Transfer, DMI, Laser	RoHS
Acrylate	7847	Excellent temperature, chemical, and environmental resistance. Two-layered film construction provides excellent long-term performance. Excellent adhesion to LSE plastics. Brittle facestock provides destructibility on some substrates.	2.4 1.2 3.2	Matte Black/White <b>350</b> 65# Densified Kraft	48" 984 ft. <b>3.5", 4.75"</b>	Laser Etch	UL CSA RoHS
	7848	Same as 7847 label stock, except with matte silver/black facestock.	2.4 1.2 3.2	Matte Silver/White <b>350</b> 65# Densified Kraft	48" 984 ft.	Laser Etch	UL CSA RoHS

Note: This technical information and data should be considered representative or typical only and should not be used for specification purposes.



# 3M™ Removable Label Materials

Facestock	Product	Typical Performance Characteristics	Construction		Roll Width Minimum Mini-Master (shown in red)	Print Method	Specs
			Caliper (mils)	Facestock Adhesive Type Liner			
Polyester White	FM01972	Matte film that offers thermal stability. Suitable for masking applications.	2.0 0.8 3.2	PET, White MC <b>R3500</b> 50# SC	54" 1668 ft. Min.	Flexo, Thermal Transfer	RoHS
	FM1732R	Thermal transfer printable with resin ribbons. Removable from a variety of surfaces.	2.0 0.8 3.2	PET, White TC <b>R3500</b> 50# SC	54" 1668 ft. Min.	Flexo, Thermal Transfer	RoHS
Vinyl White	7600	Top-coated, high bond, but offers clean removability on most surfaces for up to one year. Excellent for plasticizer resistance.	3.5 1.0 2.5	Soft White Gloss TC <b>500</b> 43# Densified Kraft	54" 1668 ft. Min. <b>6"</b>	Flexo	RoHS
	FV010002	Ultra removable adhesive. Static cling alternative.	3.4 0.8 3.2	Soft White Vinyl TC3 <b>R3800</b> 50# SC	54" 1668 ft. Min.	Flexo	RoHS
	FV1222	Soft conformable vinyl that offers long term adhesion with clean removability.	3.4 0.8 3.2	Soft White Vinyl TC3 <b>R3500</b> 50# SC	54" 1668 ft. Min.	Flexo	RoHS
Vinyl Clear	FV016402	Top-coated vinyl is an excellent alternative to static cling. Designed for high-speed die cutting and matrix stripping.	4.0 0.8 3.2	Soft Clear Vinyl TC6 <b>R3500</b> 50# SC	54" x 1668 ft. Min.	Flexo, Thermal Transfer	RoHS
Vinyl Static Cling	FVS110S	Highly plasticized vinyl label material that adheres to most clean smooth surfaces without the use of pressure sensitive adhesives.	7.5 — 3.4	Clear Vinyl TC6 <b>None</b> 60# Gloss	54" 1668 ft. Min.	Flexo, Thermal Transfer	RoHS
	FVS12S	White version of FVS110S. Utilizes a non-silicone coated liner specially designed for static cling vinyl.	7.5 — 3.4	White Vinyl TC6 <b>None</b> 60# Gloss	54" 1668 ft. Min.	Flexo, Thermal Transfer	RoHS
Polypropylene White	FP011902	Removable adhesive from polyethylene and polypropylene surfaces only.	2.3 0.8 3.2	PP, White TC2S <b>RMR10</b> 50# SC	54" 1668 ft. Min.	Flexo	RoHS
	FP016902	Good conformability. Good removability from a variety of surfaces. Excellent alternative to static cling.	2.3 0.8 3.2	PP, White TC2S <b>R3500</b> 50# SC	54" 1668 ft. Min. <b>6"</b>	Flexo	RoHS
	FP024502	Glossy white label paired with adhesive designed to be easily removable from a variety of surfaces with lower peel and tack than R3500 adhesive.	2.3 0.8 3.2	PP, White TC2S <b>R3800</b> 50# SC	54" 1668 ft. Min.	Flexo	RoHS
Polypropylene Clear	FP56N	Clear conformable label offers long term adhesion with clean removability. Excellent alternative to static cling with film liner for high speed dispensing.	2.0 0.8 1.0	PP, Clear TC2S <b>R3500</b> Clear Polyester	54" 1668 ft. Min.	Flexo	RoHS
	FP024402	Specially formulated adhesive designed to be easily removable from a variety of surfaces. Offers lower peel and tack than R3500 adhesive.	2.0 0.8 3.2	PP, Clear TC2S <b>R3800</b> 50# SC	54" 1668 ft. Min.	Flexo	RoHS
	 FP0862	Clear conformable label offers long term adhesion with clean removability. Excellent alternative to static cling.	2.0 0.8 3.2	PP, Clear TC2S <b>R3500</b> 50# SC	54" x 1668 ft. Min. <b>6"</b>	Flexo	RoHS
Paper White	7113	Ideal for data-processing applications. Can be cleanly removed and repositioned on most surfaces.	4.0 0.4 3.2	46# Uncoated Paper <b>1000</b> 50# Densified Kraft	48" 1668 ft. Min.	Flexo	RoHS
	7142	Good thermal transfer printable facestock. Can be removed cleanly or repositioned on most substrates.	3.5 0.4 2.5	55# Coated Paper <b>1000</b> 40# Kraft Glassine	48" 1668 ft. Min. <b>6"</b>	Flexo, Thermal Transfer	RoHS

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# 3M™ Tamper Evident Label Materials

Facestock	Product	Typical Performance Characteristics	Construction		Roll Width Minimum Mini-Master (shown in red)	Print Method	Specs
			Caliper (mils)	Facestock Adhesive Type Liner			
Destructible Facestocks	7110	Readily fractures or delaminates. Ideal for tamper-resistant labeling. Provides write-on capability.	2.8 1.1 2.5	40# Uncoated White Paper <b>320</b> 43# Densified Kraft	60" 1668 ft. Min.	Flexo	UL* RoHS
	7613T	Resists one-piece removal. Facestock fractures and tears easily. Excellent adhesion to powder coating, LSE plastics and oily metals.	2.0 0.8 3.2	White Vinyl TC <b>350</b> 55# Densified Kraft	48" 1668 ft. Min. <b>4.5", 6"</b>	Flexo, Thermal Transfer	UL CSA RoHS
	7930T	Same as 7613, except with 90# polycoated kraft liner.	2.0 0.8 6.7	White Vinyl TC <b>350</b> 90# Polycoated Kraft	Sheet: 20"x 27" Roll: 48" x 750 ft.	Screen, Flexo, Thermal Transfer	UL CSA RoHS
	3812	This destructible, non-shrink white film is designed as a non-removable security label. Once applied in a correct manner, one-piece removal is not possible on most surfaces.	1.6 1.2 3.2	Urethane, Matte White <b>350</b> Glassine	48" 1668 ft. Min. 6" PreSlit	Flexo, Thermal Transfer	RoHS
	FA102	Same as FA112 with a white film.	2.0 0.9 3.2	White Acetate <b>P1212</b> 50# SC	48" 1668 ft. Min.	Flexo	RoHS
	FA112	High-quality film resists one piece removal, fractures easily. Good initial tack adhesive.	2.0 0.9 3.2	Clear Acetate <b>P1212</b> 50# SC	48" 1668 ft. Min.	Flexo	RoHS
Polyester Tamper Indicating Films	7380	Tamper evident VOID. Ideal for security rating plates and certification plates.	2.3 0.8 3.2	Matte White VOID DMI TC <b>300</b> 55# Densified Kraft	54" 1668 ft. Min. <b>6"</b>	Flexo, DMI	UL CSA RoHS
	▶ 7381/7866	Used for closures in packaging of OTC drugs. Facestock resists harsh environments.	2.0 0.8 3.2	Gloss White VOID TC <b>300</b> 55# Densified Kraft	54" 1668 ft. Min. <b>4.5", 6"</b>	Flexo, Thermal Transfer	UL CSA RoHS
	7384	Tamper evident VOID. Mirror finish hides security feature. Ideal for security closure seal.	2.0 0.8 3.2	PET, Bright Silver TC <b>300</b> 55# Densified Kraft	54" 1668 ft. Min. <b>4.5", 6"</b>	Flexo, Thermal Transfer	UL CSA RoHS
	7935	Facestock resists harsh environments. Heavy lay-flat liner. Ideal for screen printing.	2.0 0.8 6.7	Gloss White VOID TC <b>300</b> 90# Polycoated Kraft	Sheet: 20"x 27" Roll: 54" x 750 ft.	Screen, Flexo	UL RoHS
	7937	Ideal for security rating plates and certification plates. Heavy lay-flat liner. Ideal for screen printing.	2.3 0.8 6.7	Matte White VOID DMI TC <b>300</b> 90# Polycoated Kraft	Sheet: 20"x 27" Roll: 54" x 750 ft.	Screen, Flexo, DMI	UL RoHS
	FMV01402	Tamper evident with triangle pattern. Alternative to standard VOID labels.	2.0 0.9 3.2	White Triangle TC <b>P1410</b> 50# SC	54" 1668 ft. Min. <b>4.5", 6"</b>	Flexo, Thermal Transfer	RoHS
	FMV01202	Same as FMV01402 in bright silver finish.	2.0 0.9 3.2	Bright Silver Triangle TC <b>P1410</b> 50# SC	54" 1668 ft. Min. <b>4.5", 6"</b>	Flexo, Thermal Transfer	RoHS
	FMV02	Thermal transfer printable VOID label. General purpose adhesive offers excellent adhesion to a wide variety of substrates, including polyolefins.	2.0 0.9 3.2	Bright Silver VOID TC <b>P1410</b> 50# SC	54" 1668 ft. Min. <b>6"</b>	Flexo, Thermal Transfer	RoHS
	FMV22	Same as FMV02 in white finish.	2.0 0.9 3.2	White VOID TC <b>P1410</b> 50# SC	54" 1668 ft. Min.	Flexo, Thermal Transfer	RoHS

\*Can be used to display the UL listing mark, but each case must be reviewed and approved by UL follow-up services before use.




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# 3M™ Health Care Label Materials

Facestock	Product	Typical Performance Characteristics	Construction		Roll Width Minimum Mini-Master (shown in red)	Print Method	Specs
			Caliper (mils)	Facestock Adhesive Type Liner			
Paper	 7000	High-gloss for fine printing. Adheres well to curved surfaces.	3.2 0.9 2.5	60# White High Gloss <b>320</b> 43# Densified Kraft	60" 1668 ft. Min. <b>6"</b>	Flexo	RoHS
	7000FL	Same as 7000 with film liner.	3.2 0.9 1.5	60# White High Gloss <b>320</b> Polyester Film	54" 1668 ft. Min.	Flexo	RoHS
	7002	Facestock provides excellent graphic reproductions. Excellent flag resistance on small diameter vials.	2.8 0.9 2.5	60# Bright White High Gloss <b>320</b> 43# Densified Kraft	60" 1668 ft. Min.	Flexo	RoHS
	7004	Excellent quick stick and adhesion to low surface energy plastics.	2.8 0.9 2.5	60# Bright White High Gloss <b>300</b> 43# Densified Kraft	54" 1668 ft. Min.	Flexo	RoHS
Litho White	7113	Ideal for data-processing applications. Can be cleanly removed and repositioned on most surfaces.	4.0 0.4 3.2	46# Uncoated Paper <b>1000</b> 50# Densified Kraft	48" 1668 ft. Min.	Flexo	RoHS
	7142	Good thermal transfer printable facestock. Can be removed cleanly or repositioned on most substrates.	3.5 0.4 2.5	55# Coated Paper <b>1000</b> 40# Kraft Glassine	48" 1668 ft. Min.	Flexo, Thermal Transfer	RoHS
Litho Tamper-Indicating White	 7110	Readily fractures or delaminates. Ideal for tamper-resistant labeling. Provides write-on capability.	2.8 1.1 2.5	40# Uncoated Paper <b>320</b> 43# Densified Kraft	60" 1668 ft. Min.	Flexo	RoHS
	7011	Excellent flag resistance on small diameter vials. Used for unit dose pharmaceutical packages.	2.3 0.9 2.5	35# Coated Paper <b>320</b> 43# Densified Kraft	60" 1668 ft. Min.	Flexo	RoHS
Saturated Latex Impregnated White	7120	Conforms to curved surfaces. Resists staining and moisture. Adheres to many textured surfaces.	3.5 1.3 2.5	60# Semi-gloss White Paper <b>400</b> 43# Densified Kraft	54" 1668 ft. Min.	Flexo	RoHS
Polyolefin	 FP035402	Offers excellent durability, conformability and moisture resistance. Conforms for use with blood bags.	3.3 1.3 3.1	Matte White Polyolefin <b>P1650</b> 50# SC	54" 5000 ft. Min.	Flexo, Thermal Transfer	RoHS





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# 3M™ Sheet Label Materials (Standard Sheet Size 20" x 27" Packed 100 sheets/box)

Facestock	Product	Typical Performance Characteristics	Construction		Roll Width Minimum	Print Method	Specs
			Caliper (mils)	Facestock Adhesive Type Liner			
Vinyl White	 FV031705	Flexible film, ideal for screen printing with solvent ink systems, UV inkjet or UV flexo.	3.2 0.9 6.8	Soft White Vinyl NTC <b>P1212</b> 90# Polycoated Kraft	Sheet: 20" x 27" Master: 54" x 750 ft.	Screen	RoHS
	7043	Specially top-coated vinyl for UV curable screen inks. Good general purpose adhesive for a variety of surfaces.	3.2 0.9 6.8	Soft White Vinyl TC9 <b>P1400</b> 90# Polycoated Kraft	Sheet: 20" x 27" Master: 54" x 750 ft.	Screen	UL RoHS
	7045	Non top-coated film with good conformability. Excellent choice for curved surfaces	3.2 0.9 6.8	Soft White Vinyl NTC <b>P1400</b> 90# Polycoated Kraft	Sheet: 20" x 27" Master: 54" x 750 ft.	Screen	UL RoHS
	7046	Flexible film, ideal for screen printing with solvent ink systems.	3.2 1.1 6.8	Soft White Vinyl NTC <b>350</b> 90# Polycoated Kraft	Sheet: 20" x 27" Master: 54" x 750 ft.	Screen	UL RoHS
	FV027805	Flexible film, ideal for printing with solvent, UV inkjet or UV flexo inks. High tack and peel adhesive suitable for outdoor, textured LSE substrates.	3.2 1.1 6.8	Soft White Vinyl NTC <b>P1480</b> 90# Polycoated Kraft	Sheet: Custom Sizes Master: 54" or 60" x 750 ft.	Screen	RoHS
	7049	Non top-coated film with good conformability. Excellent choice for curved surfaces. General purpose adhesive for a variety of surfaces. High performance adhesive.	3.8 0.9 6.8	Soft White EL Vinyl NTC <b>P1400</b> 90# Polycoated Kraft	Sheet: 20" x 27" Master: 54" x 750 ft.	Screen	UL RoHS
	7051	Non top-coated film with good conformability. Excellent choice for curved surfaces. General purpose adhesive for a variety of surfaces. High performance adhesive.	3.8 1.1 6.8	Soft White EL Vinyl NTC <b>350</b> 90# Polycoated Kraft	Sheet: 20" x 27" Master: 54" x 750 ft.	Screen	UL RoHS
	 7051SA	White finish adhesive allows trapped air to release to prevent bubbles, good for powder coated surfaces, high performance adhesive.	3.8 1.1 6.8	Soft White EL Vinyl NT <b>350</b> 90# Polycoated Kraft	Sheet: 20" x 27" Roll: 54" x 750 ft.	Flexo	RoHS
	7065	Ultra removable from smooth surfaces. Topcoated. Excellent alternative to static cling.	4.0 0.8 6.8	Soft White Vinyl NTC <b>R3500</b> 90# Polycoated Kraft	Sheet: 20" x 27" Master: 54" x 750 ft.	Screen	RoHS
	 7902	Non top-coated. Conformable to contoured surfaces. Heavy lay-flat liner. Ideal for screen printing.	3.5 1.2 6.8	Soft White Vinyl NTC <b>300</b> 90# Polycoated Kraft	Sheet: 20" x 27" Roll: 54" x 750 ft.	Screen	UL CSA RoHS
	7904	Conformable to contoured surfaces. Excellent adhesion to LSE plastics and textured powder coats.	3.4 1.8 6.8	Soft White Vinyl NTC <b>350</b> 90# Polycoated Kraft	Sheet: 20" x 27" Roll: 54" x 750 ft.	Screen	RoHS
	7901	Non top-coated. High bond, but offers clean removability on most surfaces for up to one year. Excellent for plasticizer resistance.	3.5 1.0 6.8	Soft White Vinyl NTC <b>500</b> 90# Polycoated Kraft	Sheet: 20" x 27" Roll: 54" x 750 ft.	Screen	RoHS
7930T	Resists one-piece removal. Facestock fractures and tears easily. Excellent adhesion to powder coating, LSE plastics and oily metals.	2.0 0.8 6.8	White Destructible TC <b>350</b> 90# Polycoated Kraft	Sheet: 20" x 27" Roll: 48" x 750 ft.	Screen	UL CSA RoHS	
Vinyl Clear	7053	Semi-flexible, non top-coated film designed for screen printing applications.	4.0 1.1 6.8	Soft Clear Vinyl NTC <b>350</b> 90# Polycoated Kraft	Sheet: 20" x 27" Master: 54" x 750 ft.	Screen	RoHS
	FV1405	Ultra removable from smooth surfaces. Non-topcoated. Excellent alternative to static cling.	4.0 0.8 6.8	Soft Clear Vinyl NTC <b>R3500</b> 90# Polycoated Kraft	Sheet: 20" x 27" Rolls: 27" x 750 ft. Master: 54" x 750 ft.	Screen	RoHS

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# 3M™ Sheet Label Materials (Standard Sheet Size 20" x 27" Packed 100 sheets/box) (cont.)

Facestock	Product	Typical Performance Characteristics	Construction		Roll Width Minimum	Print Method	Specs
			Caliper (mils)	Facestock Adhesive Type Liner			
Polyester White	 7034	Glossy white film, excellent choice for screen printing applications. Good convertibility.	2.0 0.9 6.8	PET, White TC <b>P1400</b> 90# Polycoated Kraft	Sheet: 20" x 27" Master: 54" x 750 ft.	Screen, Flexo	UL RoHS
	7035	Excellent adhesion to LSE plastics and powder coated paints. Moderate coat weight of adhesive improves processing.	2.0 1.1 6.8	PET, White TC <b>350</b> 90# Polycoated Kraft	Sheet: 20" x 27" Master: 54" x 750 ft.	Screen, Flexo	UL RoHS
	7037	Same film as 7036 with aggressive adhesive for difficult substrates.	2.0 1.1 6.8	PET, White MC <b>350</b> 90# Polycoated Kraft	Sheet: 20" x 27" Master: 54" x 750 ft.	Screen, Flexo	UL RoHS
	 7220SA	Adhesive allows trapped air to release to prevent bubbling, chemical resistant, goo for powder coated surfaces, slightly oily metals, high performance adhesive.	2.0 1.1 6.8	PET, Gloss White TC <b>350</b> 90# Polycoated Kraft	Sheet: 20" x 27" Roll: 54" x 750 ft.	Screen, Flexo	RoHS
	7907	350 adhesive for performance applications that require thermal transfer printing and demand adhesive performance on difficult to stick to surfaces (e.g. HSE plastics or powder coats).	2.3 1.8 6.8	PET, Matte White TC <b>350</b> 90# Polycoated Kraft	Sheet: 20" x 27" Roll: 54" x 750 ft.	Screen, Flexo	UL CSA RoHS
	 7908	Heavy adhesive coat weight for textured surfaces. Excellent high temperature resistance. Excellent adhesion to LSE plastics and powder coats.	2.0 1.8 6.8	PET, Gloss White TC <b>350</b> 90# Polycoated Kraft	Sheet: 20" x 27" Roll: 54" x 750 ft.	Screen, Flexo	UL CSA RoHS
	7908FL	Same as 7908 except with thick polyester liner suitable for domed decals.	2.0 1.8 4.0	PET, Gloss White TC <b>350</b> Polyester	Sheet: 20" x 27" Roll: 54" x 750 ft.	Screen, Flexo	UL CSA RoHS
	7920	Good abrasion and chemical resistance. Excellent cold temperature performance. Ideal for screen printing.	1.0 0.8 6.8	PET, Gloss White TC <b>400</b> 90# Polycoated Kraft	Sheet: 20" x 27" Roll: 54" x 750 ft.	Screen, Flexo	UL CSA RoHS
	7931	High abrasion and solvent resistance. Good for indoor and outdoor use. Excellent bond to LSE plastics.	2.0 0.8 6.8	PET, Gloss White TC <b>300</b> 90# Polycoated Kraft	Sheet: 20" x 27" Roll: 54" x 750 ft.	Screen, Flexo	UL CSA RoHS
	7935	Facestock resists harsh environments. Heavy layflat liner. Ideal for screen printing.	2.0 0.8 6.8	PET, Gloss White VOID TC <b>300</b> 90# Polycoated Kraft	Sheet: 20" x 27" Roll: 54" x 750 ft.	Screen, Flexo	UL RoHS
	7937	Ideal for security rating plates and certification plates. Heavy lay-flat liner. Ideal for screen printing.	2.3 0.8 6.8	PET, Matte White VOID DMI TC <b>300</b> 90# Polycoated Kraft	Sheet: 20" x 27" Roll: 54" x 750 ft.	Screen, Flexo	UL RoHS
	7980	Matte top-coat resists scuffing, chemicals, and moisture. Excellent adhesion to smooth LSE plastics. Designed for screen printing.	2.3 0.8 6.8	PET, Matte White TC <b>300</b> 90# Polycoated Kraft	Sheet: 20" x 27" Roll: 54" x 750 ft.	Screen, Flexo, DMI	UL RoHS
	FM125	Gloss white polyester with permanent acrylic adhesive for bar code labels or nameplates with layflat liner for screen printed durable graphics.	2.0 0.9 7.0	PET, White TC <b>P1212</b> 90# Polycoated Kraft	Custom Sheet Sizes Roll: 54" x 750 ft.	Screen	RoHS
Polyester Clear	 7029	Excellent UV resistance. Good adhesion to a variety of surfaces.	2.0 0.9 6.8	PET, Clear TC <b>P1400</b> 90# Polycoated Kraft	Sheet: 20" x 27" Master: 54" x 750 ft.	Screen, Flexo	UL RoHS
	7905	Heavy adhesive coat weight for textured surfaces. Excellent high temperature resistance. Excellent adhesion to LSE plastics and powder coats.	2.0 1.8 6.8	PET, Gloss Clear TC <b>350</b> 90# Polycoated Kraft	Sheet: 20" x 27" Roll: 54" x 750 ft.	Screen, Flexo	UL CSA RoHS
	7950	Offers high abrasion and solvent resistance. Excellent adhesion to smooth LSE plastics. Ideal for indoor and outdoor applications.	2.0 0.8 6.8	PET, Gloss Clear TC <b>300</b> 90# Polycoated Kraft	Sheet: 20" x 27" Roll: 54" x 750 ft.	Screen, Flexo	UL CSA RoHS

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# 3M™ Sheet Label Materials (Standard Sheet Size 20" x 27" Packed 100 sheets/box) (cont.)

Facestock	Product	Typical Performance Characteristics	Construction		Roll Width Minimum	Print Method	Specs
			Caliper (mils)	Facestock Adhesive Type Liner			
Polyester Silver	▶ 7025	General purpose adhesive designed for outdoor applications. Designed for use with smooth surfaces.	2.0 0.9 6.8	PET, Bright Silver TC <b>P1400</b> 90# Polycoated Kraft	Sheet: 20" x 27" Master: 54" x 750 ft.	Screen, Flexo	UL RoHS
	7026	Excellent chemical and moisture resistance.	2.0 1.1 6.8	PET, Bright Silver TC <b>350</b> 90# Polycoated Kraft	Sheet: 20" x 27" Master: 54" x 750 ft.	Screen, Flexo	UL RoHS
	7027	Good adhesion to smooth HSE and LSE surfaces. Ideal for indoor and outdoor applications.	2.0 0.9 6.8	PET, Brushed Silver TC <b>P1400</b> 90# Polycoated Kraft	Sheet: 20" x 27" Master: 54" x 750 ft.	Screen, Flexo	UL RoHS
	7028	Similar to 7909 with slightly lower coat weight for easier processing.	2.0 1.1 6.8	PET, Brushed Silver TC <b>350</b> 90# Polycoated Kraft	Sheet: 20" x 27" Master: 54" x 750 ft.	Screen, Flexo	UL RoHS
	FM3605	Platinum silver polyester with permanent acrylic adhesive for bar code labels or nameplates with layflat liner for screen printed durable graphics.	2.0 0.9 7.0	PET, Silver TC <b>P1212</b> 90# Polycoated Kraft	Custom Sheet Sizes Master: 54" x 750 ft.	Screen	RoHS
	7032	Excellent lay-flat performance for screen printing applications.	2.0 0.9 6.8	PET, Matte Silver TC <b>P1400</b> 90# Polycoated Kraft	Sheet: 20" x 27" Master: 54" x 750 ft.	Screen, Flexo	UL RoHS
	7033	Aggressive adhesive for harsh environments.	2.0 1.1 6.8	PET, Matte Silver TC <b>350</b> 90# Polycoated Kraft	Sheet: 20" x 27" Master: 54" x 750 ft.	Screen, Flexo	UL RoHS
	▶ 7214SA	Adhesive allows trapped air to release to prevent bubbling, chemical resistant, good for powder coated surfaces, slightly oily metals, high performance adhesive.	2.0 1.1 6.8	PET, Brushed Silver TC <b>350</b> 90# Polycoated Kraft	Sheet: 20" x 27" Roll: 54" x 750 ft.	Flexo	RoHS
	7903	Heavy adhesive coat weight for textured surfaces. Excellent high temperature resistance. Excellent adhesion to LSE plastics and powder coated paints.	2.0 1.8 6.8	PET, Bright Silver PT <b>350</b> 90# Polycoated Kraft	Sheet: 20" x 27" Roll: 54" x 750 ft.	Screen, Flexo	UL CSA RoHS
	▶ 7903FL	Same as 7903 except with thick polyester liner suitable for domed decals.	2.0 1.8 4.0	PET, Bright Silver PT <b>350</b> Polyester	Sheet: 20" x 27" Roll: 54" x 750 ft.	Screen, Flexo	CSA RoHS
	7924	Excellent abrasion and chemical resistance. Excellent adhesion to smooth LSE plastics. Ideal for indoor and outdoor applications.	2.0 0.8 6.8	PET, Gloss Silver TC <b>300</b> 90# Polycoated Kraft	Sheet: 20" x 27" Roll: 54" x 750 ft.	Screen, Flexo	UL CSA RoHS
	9017FL	Bright silver with thick polyester liner suitable for domed decals. Thick, high-performance adhesive for durable applications.	2.0 5.0 4.0	PET, Bright Silver PT <b>200MP</b> Polyester	Sheet: 20" x 27" Roll: 54" x 750 ft.	Screen, Flexo	RoHS
	9018FL	Brushed silver with thick polyester liner suitable for domed decals. Thick, high-performance adhesive for durable applications.	2.0 5.0 4.0	PET, Brushed Silver PT <b>200MP</b> Polyester	Sheet: 20" x 27" Roll: 54" x 750 ft.	Screen, Flexo	RoHS
Polyester Gold	7925	Offers high abrasion and solvent resistance. Excellent quick stick and bond to smooth LSE plastics. Uses include instruction and schematic panels.	2.0 0.8 6.8	PET, Gloss Gold TC <b>300</b> 90# Polycoated Kraft	Sheet: 20" x 27" Roll: 54" x 750 ft.	Screen, Flexo	UL CSA RoHS
Aluminum Foil Silver	7940	Vinyl top-coated for ink receptivity. Heavy adhesive coat weight suitable for textured surfaces.	2.0 1.7 6.8	Matte Silver TC <b>320</b> 90# Polycoated Kraft	Sheet: 20" x 27" Rolls: See product 7800	Screen, Flexo, DMI	UL CSA RoHS
Polyethylene	FPE06505	Biaxially oriented film that is compatible with a variety of print methods. Aggressive adhesive designed to adhere to both LSE and HSE surfaces.	3.8 1.1 3.2	Matte Polyart™ TC <b>P1480</b> 90# Polycoated Kraft	54" x 1668 ft. Min. Custom Sheet Sizes	Screen, Flexo, Thermal Transfer, DMI	RoHS

Performance Label Materials

Note: This technical information and data should be considered representative or typical only and should not be used for specification purposes.

# 3M™ Overlamine Label Materials

Facestock	Product	Typical Performance Characteristics	Construction		Roll Width Minimum Mini-Master (shown in red)	Print Method	Specs
			Caliper (mils)	Facestock Adhesive Type Liner			
Polyester Gloss Clear	 7730FL	Non top-coated. Film liner offers excellent graphic appearance. Ideal for metallized or dark colors. Excellent durability and UV resistance.	1.0 0.8 1.5	PET, Clear NTC <b>400</b> Polyester Film	54" 1668 ft. Min. <b>6"</b>	—	UL CSA RoHS
	7731FL	Non top-coated. Same as 7730FL, except with 2.0 mil facestock.	2.0 0.8 1.5	PET, Clear NTC <b>400</b> Polyester Film	54" 1668 ft. Min. <b>6"</b>	—	UL CSA RoHS
	 7733FL	Resists UV exposure for extended periods of time. Provides premium clarity that will not impart haze on underlying graphics.	1.0 0.8 1.5	PET, Clear UV <b>400</b> Polyester	54" 1668 ft. Min. <b>6", 12.25"</b>	—	UL RoHS
	7741	Non top-coated. For general purpose overlaminate. Excellent abrasion, chemical, and UV resistance.	1.0 0.8 2.5	PET, Clear NTC <b>400</b> 43# Densified Kraft	54" 1668 ft. Min.	—	UL CSA RoHS
	8417	Non top-coated. Ideal for fuel line identification.	1.0 1.2	PET, Clear NTC <b>100</b>	48" 216 yd	—	UL RoHS
	 FM011	Basic polyester overlaminate film with general purpose adhesive.	1.0 0.8 2.5	PET, Clear NTC <b>P1212</b> 40# SC	54" 1668 ft. Min. Precision	—	UL RoHS
	FM01N	Same as FM011 with film liner.	1.0 0.8 1.0	PET, Clear NTC <b>P1212</b> Clear Polyester	54" 1668 ft. Min.	—	UL RoHS
	FM022	General purpose overlaminate film for indoor use.	2.0 0.9 3.2	PET, Clear NTC <b>P1212</b> 50# SC	54" 1668 ft. Min.	—	UL RoHS
	FM1142	4.0 mil version of FM022.	4.0 0.9 3.2	PET, Clear NTC <b>P1212</b> 50# SC	54" 1668 ft. Min.	—	RoHS
	FM292	High clarity adhesive. Abrasion resistant film. Designed for indoor applications.	3.0 0.9 3.2	PET, Clear NTC <b>P1212</b> 50# SC	54" 1668 ft. Min.	—	UL RoHS
	FM452	Heavy gauge durable non top-coated film designed for overlaminate applications. Abrasion resistant. Designed for indoor applications.	5.0 0.9 3.2	PET, Clear NTC <b>P1212</b> 50# SC	54" 1668 ft. Min.	—	UL RoHS
	FM45N	Same as FM452 with a film liner for ultimate adhesive clarity.	5.0 0.9 1.0	PET, Clear NTC <b>P1212</b> Clear Polyester	54" 1668 ft. Min.	—	UL RoHS
	OFM0102	Excellent UV resistance. Designed for indoor and outdoor overlaminate applications.	1.0 0.8 3.2	PET, Clear NTC <b>P1400</b> 50# SC	54" 1668 ft. Min.	—	UL RoHS
	 OFM010N	Same as OFM0102 with a clear liner for ultimate adhesive smoothness.	1.0 0.8 1.0	PET, Clear NTC <b>P1400</b> Clear Polyester	54" 1668 ft. Min.	—	UL RoHS
Polyester Matte Clear	7732FL	Non top-coated. Film liner provides excellent clarity. Ideal for metallized or dark colors. Excellent durability and UV resistance.	1.0 0.8 1.5	PET, Matte NTC <b>400</b> Polyester Film	54" 1668 ft. Min.	—	UL CSA RoHS
	7742	Non top-coated. For general purpose overlaminate. Excellent abrasion, chemical and UV resistance.	1.0 0.8 2.5	PET, Matte NTC <b>400</b> 43# Densified Kraft	54" 1668 ft. Min.	—	UL CSA RoHS
	 7744FL	Thermal transfer printable matte top-coat. Ideal where variable information is needed. Film liner provides smoother adhesive appearance.	1.3 0.8 1.5	PET, Matte TT TC <b>400</b> Polyester	54" 1668 ft. Min.	Flexo, Thermal Transfer	UL CSA RoHS
	7745FL	Dot-matrix imprintable matte top-coat. Ideal where variable information is needed.	1.3 0.8 1.5	PET, Matte DMI TC <b>400</b> Polyester Film	54" x 1668 ft. Min. <b>6"</b>	Flexo, DMI	UL CSA RoHS
	 FM071	Matte clear film for general purpose overlaminate applications.	1.0 0.8 2.5	PET, Matte NTC <b>P1212</b> 40# SC	54" 1668 ft. Min.	—	UL RoHS

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## 3M™ Overlamine Label Materials (cont.)

Facestock	Product	Typical Performance Characteristics	Construction		Roll Width Minimum Mini-Master (shown in red)	Print Method	Specs
			Caliper (mils)	Facestock Adhesive Type Liner			
Acetate Clear	8042	Matte overlamine designed for use with 803 chart tape.	1.6 0.7	Matte Acetate <b>400</b>	47" 216 yd	—	RoHS
Acrylate Clear	7735FL	Ideal for long term outdoor applications. Special UV resistant film provides 5 years outdoor durability.	3.0 0.8 1.5	UV Resistant Acrylate <b>400</b> Polyester Film	48" 1668 ft. Min. <b>6"</b>	Flexo, Thermal Transfer	UL CSA RoHS
Acrylic Clear	8524	Clear overlamine for outdoor applications. Ideal for use with IJ8624.	2.0 0.9 3.2	UV Resistant Film <b>P1212</b> 50# SC	54" x 50 yd	—	RoHS
Textured Vinyl Clear	FV02800N	Textured, durable film is an alternative to polycarbonate for less demanding applications. High clarity general purpose adhesive with good initial tack and excellent die cutting properties.	4.0 0.9 1.0	Textured Vinyl NTC <b>P1212</b> Clear Polyester	54" 1668 ft. Min.	—	RoHS
	FV02490N	Thicker version of FV02800N.	5.0 0.9 0.0	Textured Vinyl NTC <b>P1212</b> Clear Polyester	54" 1668 ft. Min.	—	RoHS
	FV02610N	Adhesive offers excellent UV resistance for outdoor applications.	5.0 1.0 1.0	Textured Vinyl NTC <b>P1400</b> Clear Polyester	54" 1668 ft. Min.	—	RoHS
Polycarbonate Clear	7737FL	Used to achieve the attractive appearance of a subsurface screen printed polycarbonate.	3.0 0.8 1.5	Velvet Clear Lexan™ <b>400</b> Polyester Film	54" 1668 ft. Min.	—	UL CSA RoHS
	7738FL	Same as 7737FL, except with 5.0 mil facestock.	5.0 0.8 1.5	Velvet Clear Lexan™ <b>400</b> Polyester Film	54" 1668 ft. Min.	—	UL CSA RoHS
	FL01N	Liner offers high strength and caliper control Recommended where the clarity of the adhesive is critical.	5.0 1.1 1.0	Velvet Clear Lexan™ <b>P1212</b> Clear Polyester	54" 1668 ft. Min. <b>6"</b>	—	RoHS
	FL02N	Similar to 7737FL. High clarity general purpose adhesive. Designed for indoor use.	3.0 1.1 1.0	Velvet Clear Lexan™ <b>P1212</b> Clear Polyester	54" 1668 ft. Min. <b>6"</b>	—	UL RoHS
	OFL010N	Specialty durable polycarbonate overlamine. High performance adhesive formulated for demanding applications. Adheres to a variety of surfaces. Excellent UV resistance.	3.0 1.0 1.0	Velvet Clear Lexan™ <b>P1400</b> Clear Polyester	54" 1668 ft. Min.	—	UL RoHS
	OFL020N	Thicker caliper version of OFL010N.	5.0 1.0 1.0	Velvet Clear Lexan™ <b>P1400</b> Clear Polyester	54" 1668 ft. Min.	—	UL RoHS

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## 3M™ Foil Label Materials

Facestock	Product	Typical Performance Characteristics	Construction		Roll Width Minimum Mini-Master (shown in red)	Print Method	Specs
			Caliper (mils)	Facestock Adhesive Type Liner			
Aluminum Foil	7800	Vinyl top-coated for ink receptivity. Heavy adhesive coat weight suitable for textured surfaces. Excellent adhesion to LSE plastics.	2.0 1.7 3.0	Matte Silver TC <b>320</b> 60# Densified Kraft	40" 1668 ft. Min. <b>6.5"</b>	Flexo, DMI	UL CSA RoHS
	7801	Vinyl top-coated for ink receptivity. Heavy adhesive coat weight ideal for textured surfaces. Excellent adhesion to LSE plastics.	2.0 1.7 3.0	Bright Silver TC <b>320</b> 60# Densified Kraft	40" 1668 ft. Min.	Flexo, DMI	UL CSA RoHS
	7940	Vinyl top-coated for ink receptivity. Excellent for rough or textured surfaces. High-temperature resistant adhesive.	2.0 3.5 6.8	Matte Silver TC <b>320</b> 90# Polycoated Liner	Roll: 40" x 750 ft. Min. Sheet: 20" x 27"	Flexo, Screen	UL CSA RoHS

## 3M™ Tire Label Materials

Facestock	Product	Typical Performance Characteristics	Construction		Roll Width Minimum Mini-Master (shown in red)	Print Method	Specs
			Caliper (mils)	Facestock Adhesive Type Liner			
Polypropylene	FP028502	Excellent film opacity. Extremely aggressive rubber-based adhesive designed for use in tire label applications	2.6 1.8 3.2	PP, White TC2S <b>G1120</b> 50# SC	54" 1668 ft. Min.	Flexo, Thermal Transfer	RoHS
Polyethylene	FPE004302	Conformable film for easy printing with flexo or thermal transfer ribbons. Extremely aggressive rubber-based adhesive designed for use in tire label applications.	3.8 1.5 3.2	Polyart TC <b>G1120</b> 50# SC	54" 1668 ft. Min.	Flexo, Thermal Transfer	RoHS

**Note:** This technical information and data should be considered representative or typical only and should not be used for specification purposes.

The background of the page is a collage of commercial graphics. In the top right, a white truck is shown with a large advertisement on its side for 'DAILY PRINTING, INC.' featuring the phone number '763.475.2333' and the slogan 'and imagination. Daily.' with the website 'www.dailyprinting.com'. On the left side, there are several vertical billboards. One prominently displays the word 'Motions' in a stylized font. Another partially visible billboard shows the word 'Animal'.

## Commercial Graphics

# Give Your Customers Peace of Mind

When customers invest in your commercial graphics, they put their reputations on display. For long-, medium- and short-term applications, 3M films stand up to the elements to ensure a high-quality image and give your customers peace of mind.

Graphics using 3M materials apply easily and resist fading, peeling and cracking. This is the image that keeps your customers coming back with repeat business.

## 3M™ Graphic Films

Product Number	Product Name	Colors	Adhesive	Signs & Graphics	Window	Walls	Floors	Sidewalk	Durability
<b>Digital Printable Films</b>									
<b>Translucent Films</b>									
IJ63	3M™ Scotchcal™ Changeable Translucent Graphic Film	Matte White	Removable	■	■				1.5 yrs.
IJ3630	3M™ Scotchcal™ Translucent Graphic Film	White	Permanent	■	■				7 yrs.
<b>Opaque Films</b>									
IJ35	3M™ Scotchcal™ Graphic Film	White (Gloss & Matte)	Permanent	■		■			5 yrs.
IJ35C	3M™ Scotchcal™ Graphic Film with Comply™ Adhesive	White (Gloss & Matte)	Permanent	■		■			5 yrs.
IJ40C	3M™ Scotchcal™ Graphic Film with Comply™ Adhesive	White (Gloss & Matte)	Removable	■		■	■		1 yr. floors, 7 yrs. walls
40C	3M™ Controltac™ Graphic Film	White (Gloss & Matte)	Removable	■		■	■		
IJ86E	3M™ Wall Decorating Film	Matte White	Removable						1 yr.
IJ160	3M™ Controltac™ Graphic Film	White	Removable, Slideable			■			5 yrs.
IJ160C	3M™ Controltac™ Graphic Film with Comply™ Adhesive	White	Removable, Slideable			■			5 yrs.
IJ162	3M™ Controltac™ Graphic Film	White, Transparent	Removable, Slideable				■	■	1 yr.
IJ170Cv3	3M™ Scotchcal™ Graphic Film with Comply™ v3 Adhesive	White	Removable	■		■			1 yr.
IJ3650	3M™ Scotchcal™ Graphic Film	White, Transparent	Permanent			■			7 yrs.
IJ8624	3M™ Scotchcal™ Graphic Film for Textured Surfaces	White	Removable			■			1 mo.
<b>Reflective Films</b>									
IJ680	3M™ Scotchlite Reflective Graphic Film	White	Permanent, Repositionable	■					9 yrs.
IJ680CR	3M™ Scotchlite™ Removable Reflective Graphic Film with Comply™ Adhesive	White	Removable, Repositionable	■					9 yrs.
IJ5000	3M™ Scotchlite™ Reflective Graphic Film	White	Permanent	■					1.5 yrs.
IJ5100	3M™ Scotchlite™ Reflective Graphic Film	White	Permanent	■					7 yrs.
IJ5100R	3M™ Scotchlite™ Reflective Graphic Film	White	Removable	■					7 yrs.
<b>Transparent Films</b>									
IJ8150	3M™ Scotchcal™ Clear View Graphic Film	Transparent	Removable	■	■				3 yrs.
IJ61	3M™ Changeable Window Graphic Film	Transparent	Removable	■	■				1 yr.
<b>Perforated Films</b>									
IJ66	3M™ Scotchcal™ Perforated Window Graphic Film, 50% Perforation	White	Removable		■				1 yr.
IJ67	3M™ Scotchcal™ Perforated Window Graphic Film, 40% Perforation	White	Removable		■				1 yr.
IJ8171	3M™ Scotchcal™ Perforated Window Graphic Film	White	Removable		■				3 yrs.
<b>Screen Printable Films</b>									
<b>Translucent Films</b>									
3630	3M™ Scotchcal™ Translucent Graphic Film Series	Various	Permanent	■	■				7 yrs.
<b>Opaque Films</b>									
50	3M™ Scotchcal™ Graphic Film Series	Various	Removable	■	■				3 yrs.
160	3M™ Controltac™ Graphic Film Series	White, Transparent, Black	Removable, Slideable	■		■			5 yrs.
160C	3M™ Controltac™ Graphic Film with Comply™ Adhesive Series	White, Black	Removable, Slideable	■		■			5 yrs.
162	3M™ Controltac™ Graphic Film Series	White, Transparent	Removable, Slideable				■		1 yr.
164	3M™ Controltac™ Graphic Film	White	Removable, Slideable				■		5 mo.
180	3M™ Controltac™ Graphic Film Series	Various	Removable, Slideable	■		■			7 yrs.
180C	3M™ Controltac™ Graphic Film with Comply™ Adhesive Series	Various	Removable, Slideable	■		■			7 yrs.
180Cv2	3M™ Controltac™ Graphic Film with Comply™ v2 Adhesive	White	Removable, Slideable	■		■			7 yrs.
181	3M™ Controltac™ Graphic Film	White	Removable, Slideable	■					8 yrs.
1000	3M™ Scotchcal™ Graphic Film Series	Various	Permanent	■					5 yrs.
3545C	3M™ Controltac™ Removable Graphic Film with Comply™ Adhesive	White	Removable, Slideable	■	■	■			3 yrs.
3470	3M™ Scotchcal™ Graphic Film	White	Removable, Slideable	■		■			3 yrs.
3475	3M™ Scotchcal™ Graphic Film	Black	Removable, Slideable	■		■			3 yrs.
3500C	3M™ Controltac™ Changeable Graphic Film with Comply™ Adhesive	White	Removable, Slideable	■		■			2 yrs.

Removable products are only removable with heat. Durability information is for outdoor applications.

**Note:** This technical information and data should be considered representative or typical only and should not be used for specification purposes.

# 3M™ Graphic Films (cont.)

Product Number	Product Name	Colors	Adhesive	Signs & Graphics	Window	Walls	Floors	Sidewalk	Durability
<b>Screen Printable Films (cont.)</b>									
<b>Opaque Films</b>									
3650	3M™ Controltac™ Graphic Film Series	White, Transparent, Black	Removable, Slideable	■	■	■			7 yrs.
3552C	3M™ Controltac™ Changeable Graphic Film with Comply™ Adhesive	White	Removable, Slideable	■	■				2 yrs.
3662	3M™ Controltac™ Graphic Film	White	Removable, Slideable				■	■	3 mo.
3670LF	3M™ Scotchcal™ Graphic Film	White	Permanent	■					3 yrs.
3690	3M™ Scotchcal™ Graphic Film Series	White, Transparent, Black	Permanent	■		■			5 yrs.
3690C	3M™ Controltac™ Removable Graphic Film with Comply™ Adhesive Series	White, Transparent, Black	Removable, Slideable	■		■			5 yrs.
7125	3M™ Scotchcal™ Electrocut™ Graphic Film Series	Various	Permanent	■	■	■			5 yrs.
7725	3M™ Scotchcal™ Electrocut™ Graphic Film Series	Various	Permanent	■	■	■			5 yrs.
7725SE	3M™ Scotchcal™ Electrocut™ Graphic Film Series	Various Fluorescent	Permanent	■					1 yr.
8000	3M™ Scotchcal™ Graphic Film Series	Various	Removable	■					8 yrs.
<b>Reflective Films</b>									
680	3M™ Scotchlite™ Reflective Graphic Film Series	Various	Removable, Repositionable	■					9 yrs.
680CR	3M™ Scotchlite™ Reflective Graphic Film Series	Various	Removable, Repositionable	■					9 yrs.
5000	3M™ Scotchlite™ Reflective Graphic Film Series	White	Permanent	■					1.5 yrs.
5100	3M™ Scotchlite™ Reflective Graphic Film Series	Various	Permanent	■	■				7 yrs.
5100R	3M™ Scotchlite™ Reflective Graphic Film Series	Various	Removable	■					7 yrs.
<b>Transparent Films</b>									
180C-114	3M™ Controltac™ Graphic Film with Comply™ Adhesive	Transparent	Removable, Slideable	■		■			7 yrs.
8000	3M™ Scotchcal™ Graphic Film Series	Transparent	Removable	■					8 yrs.
<b>Perforated Films</b>									
8171	3M™ Scotchcal™ Perforated Window Graphic Film, 50% Perforation	White	Removable	■	■				1 yr.
<b>Diffuser Films</b>									
3635-30	3M™ Diffuser Films	Translucent	Permanent	■					9 yrs.
3635-70	3M™ Diffuser Films	Translucent	Permanent	■					9 yrs.
3735-50	3M™ Diffuser Films	Translucent	Permanent	■					9 yrs.
3735-60	3M™ Diffuser Films	Translucent	Permanent	■					9 yrs.

Removable products are only removable with heat. Durability information is for outdoor applications.

Product Number	Product Name	Colors	Adhesive	Durability	Comments
<b>Overlamine Films</b>					
3619	3M™ Scotchcal™ Luster Overlamine	Transparent	Permanent	7 yrs.	Flexible, conformable and more durable
3620	3M™ Scotchcal™ Matte Overlamine	Transparent	Permanent	7 yrs.	For digitally imaged backlit signs
3658G	3M™ Scotchcal™ Gloss Overlamine	Transparent	Permanent	7 yrs.	For flexible surfaces
3660M	3M™ Scotchcal™ Matte Overlamine	Transparent	Permanent	7 yrs.	For use on illuminated signs
8508	3M™ Scotchcal™ Gloss Overlamine	Transparent	Permanent	1 yr.	Vinyl film offers good UV protection
8509	3M™ Scotchcal™ Luster Overlamine	Transparent	Permanent	1 yr.	For flat and simple curves
8518	3M™ Scotchcal™ Gloss Overlamine	Transparent	Permanent	5 yrs.	Flexible and conformable film
8519	3M™ Scotchcal™ Luster Overlamine	Transparent	Permanent	5 yrs.	Flexible and conformable film
8520	3M™ Scotchcal™ Matte Overlamine	Transparent	Permanent	5 yrs.	Flexible and conformable film
8528	3M™ Scotchcal™ Gloss Overlamine	Transparent	Permanent	7 yrs.	For harsh environments
8580	3M™ Scotchcal™ Gloss Overlamine	Transparent	Permanent	5 yrs.	Stretchy and conformable for complex contours
8908	3M™ Scotchcal™ Luster Overlamine	Transparent	Permanent	3 yrs.	Polyolefin film with low solvents
8909	3M™ Scotchcal™ Matte Overlamine	Transparent	Permanent	3 yrs.	Polyolefin film with low solvents
8914	3M™ Scotchcal™ Optically Clear Overlamine	Transparent	Permanent	5 yrs.	For perforated window films
8915	3M™ Scotchcal™ Ultra-Matte Overlamine	Transparent	Permanent	5 yrs.	For flat surfaces
8991	Scotchgard™ Graphic and Surface Protection Film	Transparent	Permanent	5 yrs.	Film resists abrasion, stains, graffiti and cleans easily
8993	Scotchgard™ Graphic and Surface Protection Film	Transparent	Permanent	5 yrs.	Film resists abrasion, stains, graffiti and cleans easily

Durability information is for outdoor applications.

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## 3M™ Graphic Films (cont.)

Product Number	Product Name	Colors	Adhesive	Durability	Comments
<b>Overlamine Films (cont.)</b>					
<b>Anti-Slip Overlaminates</b>					
3645	3M™ Scotchcal™ Luster Overlamine	Transparent	Permanent	8 yrs.	Skid and scuff resistant for floor graphics
3647	3M™ Scotchcal™ Matte Overlamine	Transparent	Permanent	8 yrs.	Slip and scuff resistant for sidewalk graphics
3648	3M™ Scotchcal™ High Gloss Overlamine	Transparent	Permanent	8 yrs.	Slip and scuff resistant for floor graphics

Durability information is for outdoor applications.

## 3M™ Screen Printing Inks

Product Number	Product Name	Colors	Print Method	Comments
<b>Inks</b>				
1900	3M™ Screen Printing Ink Series	Various (Gloss & Matte)	Solvent Screenprint	Fast drying opaque inks
2900	3M™ Screen Printing Ink Series	Various (Gloss & Matte)	Solvent Screenprint	Transparent inks formulated for Scotchlite™ Reflective Films
9800	3M™ Screen Printing Ink Series	Various (Gloss & Matte)	UV Screenprint	Weather resistant and excellent color retention

## 3M™ Commercial Graphics — Glossary

<b>3M™ Comply™ Adhesive</b>	3M brand name for a characteristic that permits air bubbles to escape through channels in the adhesive as a film is being applied.
<b>3M™ Controltac™ Graphic Film</b>	3M brand name for films with pressure-activated adhesive that is slideable and repositionable until pressure bonds it to the substrate.
<b>3M™ Scotchcal™ Graphic Film</b>	3M brand name for films with pressure-sensitive adhesive that bonds upon contact.
<b>3M™ Scotchcal™ Overlamine</b>	3M brand name for a transparent film that can enhance or change the gloss of a graphic as well as provide resistance to dirt, abrasion and harmful UV light.
<b>3M™ Scotchlite™ Reflective Graphic Film</b>	3M brand name for a retroreflective film that allows a graphic to be clearly seen in low or no ambient light situations when a light source is directed at it from a point near the viewer's location.
<b>Cast Film</b>	Highest quality vinyl film for the best in image quality, conformability, dimensional stability and durability.
<b>Changeable Film</b>	Can be removed without heat or chemicals and leaves little or no adhesive residue.
<b>Compound Curves</b>	A surface with three-dimensional curves.
<b>Conformable</b>	A feature in some graphic films that allows it to conform around curves and rivets.
<b>Perforated</b>	A grid of small holes found in some printable films that allows an image to be seen on one side of a clear substrate, but allows a viewer to see through the film from the other side.
<b>Permanent Adhesive</b>	Adhesive that is not intended to be removable.
<b>Positionable or Repositionable</b> (As used in 3M™ Controltac™ Graphic Films only)	Light finger pressure may be used to tack the film in place to check for proper positioning and then repositioned if necessary. Firm pressure applied by any means, as well as high application temperature or removing and trying to reapply any liner, eliminates this feature.
<b>Pressure-Activated Adhesive</b> (As used in 3M™ Controltac™ Graphic Films)	Slideable, positionable and repositionable until firm pressure is applied with hand, squeegee or other application tool. Incompletely dried solvent in piezo inkjet printed film may reduce the slideability. An applied film cannot be moved to another position.
<b>Pressure-Activated Adhesive</b> (As used in 3M™ Scotchlite™ Graphic Films 680/680CR)	Slideable until firm pressure is applied with hand, squeegee or other application tool. Incompletely dried solvent in piezo inkjet printed film may reduce the slideability. An applied film cannot be moved to another position.
<b>Pressure-Sensitive Adhesive</b>	Adheres upon contact to the substrate. Does not slide and cannot be repositioned.
<b>Removable Adhesive</b>	Can be removed with heat leaving little or no adhesive residue. Occasionally chemicals are also needed.

All fleet graphics and other graphics subjected to abrasion require graphic protection. Please refer to the applicable product bulletin for a list of compatible products and intended uses.

**Note:** This technical information and data should be considered representative or typical only and should not be used for specification purposes.



## Release Liners

# Choose from a Variety of Solutions

Your customers have many different needs, and 3M offers a variety of liner and film solutions, including paper and film, silicone-free liners, non-adhesive backed films and clear films.

# 3M™ Release Liners and Printable Films

Product Group	Product	Description/Application Ideas	Construction		Master Size	Print Method	Specs
			Caliper (mils)	Liner			
Release Liners Non-silicone	4935	3M proprietary fluoropolymer release coat one side.	3.0	Polyester, Clear	40" x 360 yd	—	—
	5053	3M proprietary fluoropolymer release coat one side.	3.0	Polyester, Clear	40" x 360 yd	—	—
	5932	3M proprietary fluoropolymer release coat one side.	2.0	Polyester, Clear	54" x 360 yd	—	—
Release Liners Silicone	4986	High-density polyethylene is transparent for graphic inspection. Release coat one side. For delamination/relamination only.	3.0	HDPE Film, Clear	48" x 360 yd	—	—
	4988	Neutral-colored, polycoated lay-flat kraft liner. Release coat one side.	6.2	83# Polycoated Kraft, Neutral Color	48" x 360 yd	—	—
	4994	Caliper controlled liner for rotary die-cutting. Release coated two sides. Very low release for double lining #300 high-strength adhesive.	3.2	55# Densified Kraft, White	54" x 360 yd	—	—
	4996	Clear film is ideal for graphics inspection of backlit panels. Release coat one side.	1.4	Polyester Film, Clear	54" x 360 yd	—	—
	4997	Heavy liner ideal for kiss-cutting and lay-flat applications. Release coat one side.	4.0	70# Densified Kraft, Clear	54" x 360 yd	—	—
	4998	Release coat two sides (matte).	4.2	58# Polycoated Kraft, Tan	50" x 360 yd	—	—
	4999	Caliper controlled liner for rotary die-cutting. Release coat one side.	3.2	55# Densified Kraft, White	54" x 360 yd	—	—
	5002	Clear polyester film for rotary cutting. Release coat one side.	2.0	Polyester Film, Clear	60" x 360 yd	—	—
	5002D	Clear polyester film for rotary cutting. Release coat two sides.	2.0	Polyester Film, Clear	60" x 360 yd	—	—
	5004	Thick, clear polyester film for rotary cutting. Release coat one side.	4.0	Polyester Film, Clear	50" x 360 yd	—	—
	5051	Special PCK liner for double lining 300LSE tapes. Release coat one side.	4.2	58# Polycoated Kraft	48" x 180 yd	—	—
	7526L	Tan polycoated kraft. Release coat two sides (matte).	4.2	58# Polycoated Kraft	48" x 360 yd	—	—
	7527L	Cloudy high-density polyethylene. Release coat one side.	3.0	HDPE Film	48" x 360 yd	—	—
Printable Polyester Films — Label Component Films	8038	Top-coated film for use with standard printing inks. Top-coat is wound inside. Clear film allows for subsurface printing. Used for automotive, electronics, and other durable goods applications.	2.0	Polyester, Gloss Clear	48" x 720 yd	Press	—
	8049	Matte top-coat for dot-matrix printing. Clear film allows for subsurface printing of inks.	2.5	Polyester, Matte Clear	54" x 720 yd	Dot Matrix	UL
	8050	Matte top-coat for dot-matrix printing. Excellent abrasion and chemical resistance.	2.5	Polyester, Matte White	54" x 720 yd	Dot Matrix	UL
	8053	Same as 8050, except matte silver.	2.5	Polyester, Matte Silver	54" x 720 yd	Dot Matrix	UL
	8057	Provides excellent durability. Used for automotive, electronic, and other durable goods applications.	2.0	Polyester, Gloss White	54" x 720 yd	Thermal Transfer	—

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## Single Coated Tapes

# Modify Surfaces to Improve Appearance

Whether you need to protect surfaces against scratches, mask paint, reflect heat, repel sticky materials or modify surfaces in other ways, 3M can help.

3M's single coated tapes are designed to modify surfaces, while improving their appearance, function and productivity.

## Selecting the Right Product for the Job

To help you make sure you find the optimum 3M tape or other adhesive-backed product for your particular application, you'll want to consider several factors:

- Backing material
- Adhesive type
- Application time and temperature
- Surface characteristics (e.g., roughness, surface energy, contours, etc.)
- End use conditions (e.g., temperature, UV exposure, abrasion, etc.)

The information on these two pages integrates those factors to help you narrow your selection to fewer products for a more in-depth evaluation.

### 3M Backing Materials

In many applications, 3M backings add a second surface that affects how the underlying surface relates to the environment.

To optimize that relationship, 3M backings offer a wide choice of performance and handling characteristics.

### 3M Pressure Sensitive Adhesives

Most of the products in this section feature a 3M pressure sensitive adhesive that bonds the backing to another surface on contact. Each adhesive has different characteristics that affect production and end use performance.

Backings	Characteristics
<b>Paper</b>	
Crepe	Conformable, easy tear
Flatback	Strong, smooth, good for straight line masking
Kraft	Strong, some versions are repulpable
Tissue	Thin, porous to allow adhesive penetration of sheet
<b>Plastic</b>	
Polyester	Strong even when thin, chemical resistant, high temperature resistance
Polypropylene	Resistant to most solvents, conformable, tear resistant
Polyethylene	Conformable, easy to stretch, chemical/acid/moisture resistant, economical
Polyethylene/ Polypropylene Co-polymer	Conformable, chemical/acid/moisture resistant
UHMW-PE	High abrasion resistance, low coefficient of friction, anti-stick surface easy to clean
Polyvinyl Chloride (Vinyl)	Conformable, abrasion resistant, resistant to most chemicals
Polyimide	High temperature resistance, excellent dimensional stability, good insulation properties
Polyamide (Nylon)	High temperature resistance, high strength and toughness, good chemical resistance but can absorb moisture
Polytetrafluoroethylene (PTFE)	Low coefficient of friction, excellent high temperature and chemical resistance, anti-stick/release properties
Polyvinyl Alcohol (PVA)	Water-soluble, organic solvent resistant, high temperature resistance
Polyurethane	Abrasion/scratch resistant, impact/puncture resistant, UV and corrosion resistant
Polyvinyl Fluoride	Excellent weather resistance, excellent long-term UV resistance, thin yet stiff feel
<b>Cloth</b>	
Cotton	Strong, easy tear by hand, soft and drapable
Glass Cloth	Strong, high temperature resistance, flame-resistant
Vinyl Coated	Strong yet hand tearable, abrasion resistant, water-resistant, conformable
<b>Non-woven</b>	
Fiber	Air permeable, strong enough to hold expanding foams
<b>Metals</b>	
Aluminum	Heat and light reflective, moisture and chemical resistant, flame-resistant, outdoor weather resistant, conformable
Copper	EMI/RFI shielding
Lead	Electrically conductive, acid resistant, high conformability, x-ray opacity
Stainless Steel	Corrosion resistant
<b>Rubber</b>	
Neoprene	Abrasion resistant, die-cuttable
<b>Combination (Laminates)</b>	
Paper/Polyethylene	Weather and chemical resistant, hand tearable, stretch resistant
Metallized/Polyester	Reflective, decorative
Glass Cloth/PTFE	High temperature resistance, high strength
Glass Cloth/Aluminum	Very high temperature resistance, high strength
Non-woven/Aluminum	High heat and cold resistance

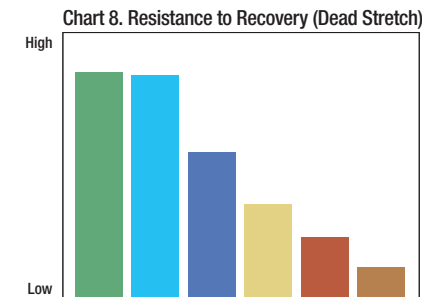
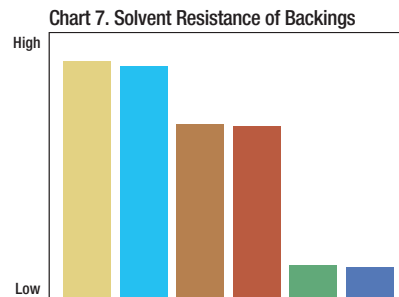
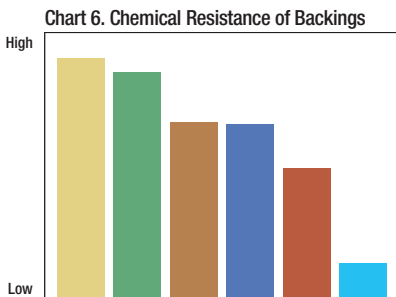
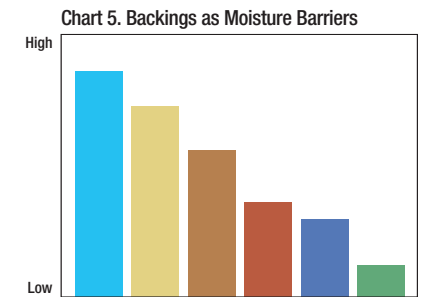
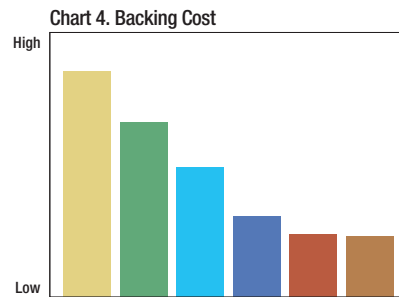
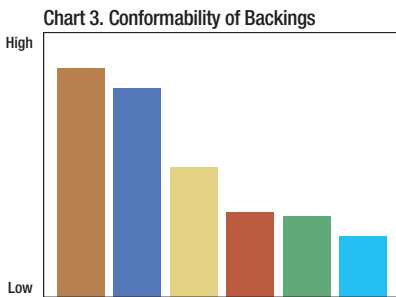
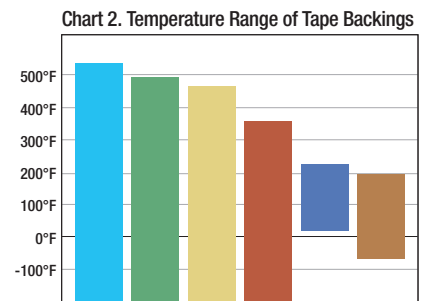
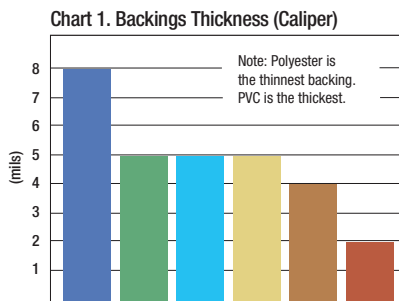
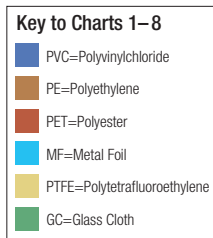
Adhesives			
Rubber	Standard Acrylic	Modified Acrylic	Silicone
High initial bond	Moderate initial bond	Bonds to wider variety than standard acrylic	Fair initial bond
Softer	Firmer	Softer	Very firm
Widest variety of surfaces including low surface energy materials*	High surface energy*	Many surfaces	Fewer surfaces
Up to 350°F	Up to 450°F	Up to 300°F	Up to 600°F, excellent low temperature performance
Fair chemical resistance	Excellent chemical resistance	Good chemical resistance	Excellent chemical resistance
Fair UV resistance	Excellent UV resistance	Moderate UV resistance	Excellent UV resistance
Poor aging	Excellent aging	Durable	Excellent aging
Removable	Permanent	Various	Removable
Good solvent resistance	Excellent solvent resistance	Good solvent resistance	Excellent solvent resistance

\*Surface energy ranges from high to low. The substrate must be unified, dry, and clean to maximize adhesive contact.

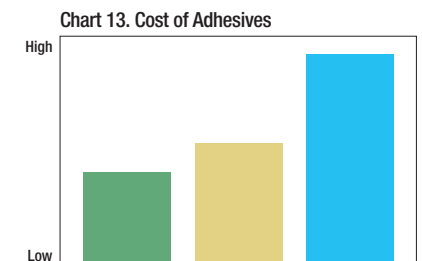
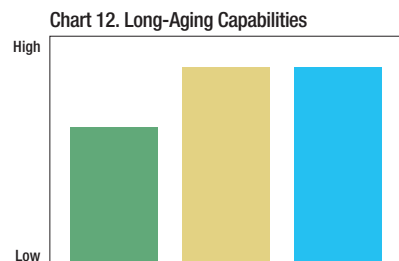
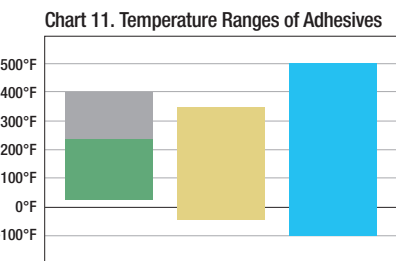
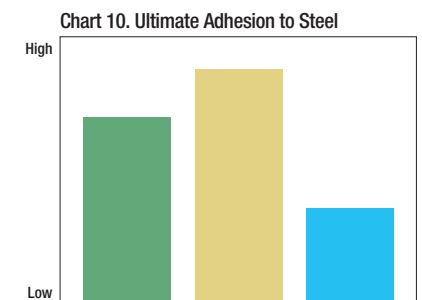
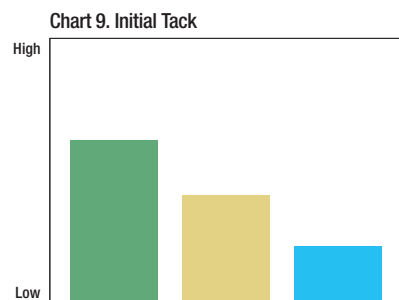
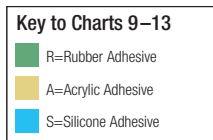
**Note:** This technical information and data should be considered representative or typical only and should not be used for specification purposes.

# Tape Reference Charts

To help select the tape backing for your application, consult the following charts. Each backing is rated in eight critical categories.



To help select the adhesive for your application, consult the charts below. Each adhesive is rated in five critical categories.



Note: This technical information and data should be considered representative or typical only and should not be used for specification purposes.



# 3M™ Single Coated Tapes

Material (alphabetical order)	Product	Typical Performance Characteristics/ Application Ideas	Color	Total Caliper mils (mm)	Backing		Adhesive Type	Specs
					Material	Caliper mils (mm)		
Premium Performance Aluminum Foil Tape	363/ 363L	An aluminum foil/glass cloth tape that can be used as a high temperature, heat reflective, protective wrap for certain cables and other components in aerospace and industrial applications. 363L is lined version.	Silver	7.3 (0.19)	Aluminum Foil Laminated to Glass Cloth	3.4 (0.086)	Silicone	F.A.R. 25.853(a)
	425	Dead-soft aluminum foil tape. Masking of sensitive components to protect from damage during aircraft paint stripping. In white goods appliances, tape provides an excellent moisture barrier, helps reflect and dissipate heat.	Silver	4.6 (0.12)	Aluminum Foil	2.8 (0.07)	Acrylic	F.A.R. 25.853(a); SAE AMS T-23397; UL 723; UL 746C; LT-80 C
	427	Dead-soft aluminum foil tape. Lined version of 425 that can be easily die-cut into special sizes or shapes. Mask sensitive components to protect from damage during paint stripping or reflect and dissipate heat.	Silver	4.6 (0.12)	Aluminum Foil	2.8 (0.07)	Acrylic	F.A.R. 25.853(a); UL 723; UL 746C; LT-80 C
	431	Dead-soft aluminum foil with transparent acrylic adhesive for many permanent sealing, holding, splicing or masking applications requiring the protection offered by a foil backing.	Silver	3.1 (0.08)	Aluminum Foil	1.9 (0.05)	Acrylic	F.A.R. 25.853(a)
	433	Dead-soft aluminum foil backing with silicone adhesive that can be used in many high temperature applications.	Silver	3.6 (0.09)	Aluminum Foil	2.0 (0.05)	Silicone	F.A.R. 25.853(a); US Gov A-A-59258; ML-T-47014
	433L	Lined version of 433.	Silver	3.5 (0.09)	Aluminum Foil	2.0 (0.05)	Silicone	F.A.R. 25.853(a)
	437	Dead-soft aluminum foil tape.	Silver	8.0 (0.20)	Aluminum Foil	2.8 (0.07)	Acrylic	—
	438/ 438L	Thickest aluminum tape. 438L is lined version.	Silver	7.2 (0.18)	Aluminum Foil	5.0 (0.13)	Acrylic	F.A.R. 25.853(a)
	439	Conformable aluminum foil with 1.2 mil acrylic adhesive on a 5.6 mil, 83# brown kraft liner. Lined version of 431.	Silver	3.1 (0.08)	Aluminum Foil	1.9 (0.05)	Acrylic	F.A.R. 25.853(a)
	3302	Aluminum foil tape. EMI/RFI shielding. Perforated.	Silver	3.5 (0.09)	Aluminum Foil	2.0 (0.05)	Conductive Acrylic	UL 510
	3334	Works well in very cold and hot temperatures. Perforated.	Silver	6.9 (0.18)	Aluminum Foil/Scrim/ Polypropylene	5.4 (0.14)	Acrylic	—
	3338	60 lb. moisture stable liner.	Silver	7.0 (0.18)	Aluminum Foil	5.0 (0.13)	Acrylic	—
	33801	High temperature acrylic adhesive at 425°F.	Silver	4.0 (0.10)	Aluminum Foil	2.0 (0.05)	Acrylic	UL 723
	33806	High temperature acrylic adhesive at 425°F.	Silver	5.0 (0.13)	Aluminum Foil	3.0 (0.076)	Acrylic	—
1430	Dead-soft aluminum foil tape combined with a non-woven web. It has a pressure sensitive adhesive and offers superior sealing benefits of foil with ease of handling and strength of cloth.	Silver	5.5 (0.14)	Aluminum/ Non-Woven Web	5.0 (0.13)	Acrylic	—	
General Purpose Aluminum Foil Tape	3311	Designed for maximum adhesion over clean, dry surfaces. Scotch® Tape branded product.	Silver	3.6 (0.09)	Aluminum Foil	2.0 (0.05)	Rubber	UL 723
	3369	Thinnest aluminum foil tape.	Silver	2.4 (0.06)	Aluminum Foil	1.1 (0.028)	Acrylic	UL 723
	33803	Highest tack rubber adhesive.	Silver	3.6 (0.09)	Aluminum Foil	1.8 (0.05)	Rubber	UL 723
	97065	Good for die-cut applications.	Silver	3.4 (0.09)	Aluminum Foil	1.8 (0.05)	Acrylic	—
	3380	Good for narrow slit rolls.	Silver	3.3 (0.08)	Aluminum Foil	2.0 (0.05)	Acrylic	UL 723
	4380	General purpose aluminum foil tape.	Silver	3.3 (0.08)	Aluminum Foil	2.0 (0.05)	Acrylic	—
	34383	General purpose aluminum foil tape.	Silver	4.5 (0.11)	Aluminum Foil	2.8 (0.07)	Acrylic	—
	3363	Good for narrow slit rolls.	Silver	5.0 (0.13)	Aluminum Foil	3.0 (0.08)	Acrylic	UL 723
3367	Good for die-cut applications.	Silver	4.4 (0.11)	Aluminum Foil	3.0 (0.08)	Acrylic	UL 723	
HVAC Construction	3320	Aluminum foil/scrim/laminate.	Silver	6.7 (0.17)	Aluminum Foil	6.0 (0.16)	Acrylic	UL 723
	3340	Aluminum foil tape for use with rigid and flexible ducts.	Silver	4.0 (0.10)	Aluminum Foil	2.0 (0.05)	Acrylic	UL 181A-P; UL 181B-FX
	3350	Polypropylene tape for use with flexible ducts.	Silver	3.1 (0.08)	Silver Polypropylene Film	1.6 (0.04)	Acrylic	UL 181 B-FX
	3380	General purpose aluminum foil tape. Go to product for this market.	Silver	3.3 (0.08)	Aluminum Foil	2.0 (0.05)	Acrylic	UL 723
	3381	Value grade aluminum foil tape.	Silver	2.7 (0.07)	Aluminum Foil	1.4 (0.04)	Acrylic	UL 723
	3382	Foil/PET laminate, tear resistance. Roof and gutter repair tape.	Silver	4.2 (0.11)	Aluminum Foil	2.5 (0.06)	Acrylic	—

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## 3M™ Single Coated Tapes (cont.)

Material (alphabetical order)	Product	Typical Performance Characteristics/ Application Ideas	Color	Total Caliper mils (mm)	Backing		Adhesive Type	Specs
					Material	Caliper mils (mm)		
Aluminum Sound Damping Foil	434	Aluminum foil constraining layer coated with a 2.0 mil (0.05mm) pressure sensitive viscoelastic polymer on a blue polyethylene easy-release liner. Controls resonant vibrations from -76°F to 68°F (-60°C to 20°C).	Silver	7.5 (0.19)	Aluminum	5.5 (0.14)	Viscoelastic Polymer	F.A.R. 25.853(a)
	435	Thicker version of 434.	Silver	13.5 (0.34)	Aluminum	8.0 (0.2)	Viscoelastic Polymer	F.A.R. 25.853(a)
	436	Aluminum foil constraining layer coated with a 5.5 mil (0.14mm) pressure sensitive viscoelastic polymer on a blue polyethylene easy-release liner. Controls resonant vibrations from -76°F to 68°F (-60°C to 20°C).	Silver	17.5 (.045)	Aluminum	12.0 (0.31)	Viscoelastic Polymer	F.A.R. 25.853(a)
	2542	Aluminum foil constraining layer coated with a 5.0 mil (0.13mm) pressure sensitive viscoelastic polymer on a 58# paper liner.	Silver	10.0 (0.25)	Aluminum	5.0 (0.13)	Viscoelastic Polymer	—
	2552	Aluminum foil constraining layer coated with a 5.0 (0.13mm) pressure sensitive viscoelastic polymer on a polycoated paper easy-release liner. Controls resonant vibrations from -25°F to 175°F (-32°C to 80°C).	Silver	15.0 (0.38)	Aluminum	10.0 (0.25)	Viscoelastic Polymer	F.A.R. 25.853(a)
	4014	Foil/foam sheet laminate.	Silver	250.0 (6.35)	Aluminum-Urethane	3.0 (0.09)	Viscoelastic Polymer	F.A.R. 25.853(a)
Fiberglass Cloth	361	Glass cloth tape coated with a silicone adhesive for many applications requiring high temperature resistance, high adhesion and a very strong abrasion-resistant backing.	White	6.4 (0.16)	Glass Cloth	5.0 (0.13)	Silicone	F.A.R. 25.853
	365	Splicing textured surfaces/thermosetting adhesive.	White	8.3 (0.20)	Glass Cloth	4.8 (0.12)	Thermoset Rubber	—
	398FR	Glass cloth film tape with acrylic adhesive. Used for sealing seams on aircraft ducting and cargo area panels. Flame retardant. Skip-slit liner for ease of application.	White	7.0 (0.18)	Glass Cloth	5.0 (0.13)	Acrylic	BMS 5-146; F.A.R. 25.853(a); F.A.R. 25.855(d)
	398FRP	Printed backing version of 398FR.	White	7.0 (0.18)	Glass Cloth	5.0 (0.13)	Acrylic	BMS 5-146; F.A.R. 25.853(a); F.A.R. 25.855(d)
	399FR	Thicker adhesive. Flame resistant.	White	9.5 (0.24)	Glass Cloth	5.0 (0.13)	Acrylic	F.A.R. 25.853(a)
	3615	An easy unwind glass tape for many applications requiring high temperature resistance, high adhesion, and a very strong abrasion-resistant backing.	White	7.0 (0.18)	Glass Cloth	5.0 (0.13)	Silicone	—
	3650	Splicing textured surfaces/thermosetting adhesive. Film lined version of 365.	White	8.3 (0.20)	Glass Cloth	4.8 (0.12)	Thermoset Rubber	—
Lead Foil	420	Lead foil backing with rubber adhesive and a clear, easy-release film liner.	Dark Silver	6.8 (0.17)	Lead Foil	4.7 (0.12)	Rubber	—
	421	Self-wound plating tape.	Dark Silver	6.3 (0.16)	Lead Foil	4.0 (0.10)	Rubber	—
	4201	Permanent acrylic adhesive.	Dark Silver	6.5 (0.17)	Lead Foil	5.0 (0.13)	Acrylic	—
	34201	Removable rubber adhesive.	Dark Silver	6.3 (0.16)	Lead Foil	5.0 (0.13)	Rubber	—
Copper Foil	3313	EMI/RFI shielding.	Copper	3.0 (0.08)	Copper Foil	1.4 (0.04)	Conductive Acrylic	UL 510
	3325	EMI/RFI shielding.	Copper	3.0 (0.08)	Copper Foil	1.5 (0.04)	Acrylic	UL 510
	33315	"Tinned," corrosion resistant.	Copper	3.3 (0.08)	Copper Foil	1.5 (0.04)	Acrylic	—
	33316	"Tinned," corrosion resistant.	Copper	3.0 (0.08)	Copper Foil	1.5 (0.04)	Conductive Acrylic	UL 510
Stainless Steel Foil	3361	Corrosion resistant.	Silver	3.8 (0.10)	Stainless Steel	2.0 (0.05)	Acrylic	—

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## 3M™ Single Coated Tapes (cont.)

Material (alphabetical order)	Product	Typical Performance Characteristics/ Application Ideas	Color	Total Caliper mils (mm)	Backing		Adhesive Type	Specs
					Material	Caliper mils (mm)		
Non-Woven	394	Air-permeable backing.	White	5.0 (0.13)	Non-Woven	4.5 (0.11)	Acrylic	—
	3294	Most permeable venting tape.	Pink	5.0 (0.13)	Non-Woven	4.5 (0.11)	Acrylic	—
Paper	101+	Indoor use. Light-duty applications.	Tan	5.1 (0.13)	Crepe Paper	—	Rubber	—
	200	Good instant adhesion.	Tan	4.4 (0.11)	Crepe Paper	—	Rubber	—
	201+	General indoor use. Light-to-medium duty. Clean removal.	Tan	4.4 (0.11)	Crepe Paper	—	Solvent-Free Rubber	—
	202	Good holding power.	Tan	6.3 (0.16)	Crepe Paper	—	Rubber	ASTM D 6123; D 6123M-97
	203	Low temperature tape. General purpose masking tape for holding, bundling, sealing and more.	Beige	4.7 (0.12)	Crepe Paper	—	Rubber	—
	213	Good on anodized aluminum.	Tan	6.0 (0.15)	Crepe Paper	—	Rubber	ASTM D 6123; D 6123M-97
	214	Stain resistant.	Tan	5.8 (0.15)	Crepe Paper	—	Rubber	ASTM D 6123; D 6123M-97
	225	Outdoor use.	Silver	5.8 (0.15)	Crepe Paper	—	Rubber	—
	226	Outdoor use.	Black	10.6 (0.27)	Polyethylene/ Crepe Paper	—	Rubber	—
	231	Best all-purpose paint masking tape.	Tan	7.6 (0.19)	Crepe Paper	—	Rubber	ASTM D 6123; D 6123M-97
	231A	Best all-purpose paint masking tape.	Tan	7.6 (0.19)	Crepe Paper	—	Rubber	ASTM D 6123; D 6123M-97
	232	Good paint lines.	Tan	6.3 (0.16)	Crepe Paper	—	Rubber	—
	234	Excellent controlled unwind.	Tan	5.9 (0.15)	Crepe Paper	—	Rubber	ASTM D 6123; D 6123M-97
	235	Photographic masking.	Black	7.0 (0.17)	Crepe Paper	5.0 (0.12)	Rubber	—
	250*	Flatback tape. Used in paint adhesion testing.	Tan	6.0 (0.15)	Flatback Paper	—	Rubber	ASTM D 6123; D 6123M-97
	253	Silicone butt splicing tape.	Tan	4.6 (0.12)	Treated Flatstock Paper	3.5 (0.09)	Silicone	—
	256*	Printable, accepts marking inks.	White, Red, Green	6.7 (0.17)	Flatback Paper	—	Rubber	ASTM D 6123; D 6123M-97
	301+	Good conformability to irregular surfaces. Great paint lines.	Yellow	6.3 (0.16)	Crepe Paper	—	Solvent- Free Rubber	—
	401+	Highly conformable to many surfaces. Superior adhesion to metal, rubber, glass and plastic. Great paint lines.	Green	6.7 (0.17)	Crepe Paper	—	Solvent- Free Rubber	—
	501+	Exceptionally conformable to irregular surfaces. Superior adhesion to metal, rubber, glass and plastic. Removes cleanly in one piece with no residue. Great paint lines.	Tan	7.3 (0.19)	Crepe Paper Treated with a Heat Resistant Saturant	—	High Temp Rubber	ASTM D 6123
2214	Good for holding and bundling.	Tan	5.4 (0.14)	Crepe Paper	—	Rubber	—	
2307	Solvent-free construction; non-critical paint masking.	Tan	5.2 (0.13)	Crepe Paper	—	Rubber	—	
2308	Good transfer resistance.	Tan	5.3 (0.13)	Crepe Paper	—	Rubber	—	
2364	High temperature, crepe paper masking tape for general masking application. Good holding power.	Tan	6.5 (0.17)	Crepe Paper	—	Synthetic Rubber	ASTM D 6123; D 6123M-97	

\*Scotch brand.

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# 3M™ Single Coated Tapes (cont.)

Material (alphabetical order)	Product	Typical Performance Characteristics/ Application Ideas	Color	Total Caliper mils (mm)	Backing		Adhesive Type	Specs
					Material	Caliper mils (mm)		
Paper (cont.)	2380	High temperature. Best holding to widest variety of surfaces.	Tan	7.2 (0.18)	Crepe Paper	—	Synthetic Rubber	ASTM D 6123; D 6123M-97
	2393	Smooth, heavy duty, high temperature masking tape.	Tan	7.6 (0.19)	Crepe Paper	—	Rubber	ASTM D 6123; D 6123M-97
	2460	For paint bake operations at temperatures up to 300°F (149°C). 14 days outdoor.	Gold	3.3 (0.08)	Flatback Paper	—	Acrylic	—
	2480S	A thin, strong, smooth flat back paper that gives sharp paint lines with low paint ridge. 60 days outdoor.	Green	4.0 (0.10)	Flatback Paper	—	Acrylic	—
	2510	General purpose masking tape for holding, bundling, sealing and general paint masking where a dark colored tape is required.	Black	5.6 (0.14)	Crepe Paper	—	Rubber	ASTM D 6123; D 6123M-97
	2515**	General purpose splicing, holding and bundling applications.	Tan	6.7 (0.17)	Kraft Paper	—	Rubber	—
	2517*	Excellent splicing, holding and bundling applications.	Medium Brown	6.5 (0.15)	Kraft Paper	—	Rubber	ASTM D 6123; D 6123M-97
	2525*	Premium splicing, bright color.	Orange	9.5 (0.24)	Flatback Paper	—	Rubber	—
	2526*	Excellent adhesion and strength for textile applications.	White	9.8 (0.24)	Flatback Paper	—	Rubber	—
	2693	Very aggressive holding; excellent for multi-bake paint cycles.	Tan	7.9 (0.20)	Crepe Paper	—	Synthetic Rubber	ASTM D 6123; D 6123M-97
	3051	Very low tack.	White	3.8 (0.10)	Flatback Paper	3.4 (0.09)	Acrylic	—
Polyester	396	Adhesion to low energy surfaces.	Transparent	4.1 (0.10)	Polyester	1.7 (0.04)	Rubber	—
	685	Transparent film with a green adhesive coated on the edges of tape only.	Transparent/ Green	1.7 (0.04)	Polyester	1.0 (0.02)	Rubber	—
	850	Polyester film tape with acrylic adhesive. Used for splicing, holding, decorating, color-coding and sealing.	Transparent, Red, Black, White, Silver	1.9 (0.05)	Polyester	0.9 (0.02)	Acrylic	—
	851	Performance silicone plating.	Green	3.6 (0.09)	Polyester	0.9 (0.02)	Synthetic Rubber	L-T-100
	853	Transparent polyester film tape with solvent-resistant adhesive. Used for butt splicing and tabbing applications.	Transparent	2.2 (0.06)	Polyester	1.1 (0.03)	Acrylic	L-T-100 F.A.R. 25.853(a)
	856	Economy edge and hole reinforcing.	Transparent	2.0 (0.05)	Polyester	1.0 (0.02)	Acrylic	—
	1279	Plating tape.	Orange	4.1 (0.10)	Polyester	0.9 (0.02)	Synthetic Rubber	—
	1280	Performance silicone plating.	Red	3.6 (0.09)	Polyester	0.9 (0.02)	Synthetic Rubber	—
	3305	De-taping applications, clean room.	Transparent	2.7 (0.07)	Polyester	1.6 (0.04)	Rubber	—
	5557	Water-contact indicator.	White	10.2 (0.26)	Polyester	—	Paper/ Acrylic	UL-969
	5558	Ultra thin water-contact indicator.	White	6.0 (0.15)	Polyester	—	Paper/ Acrylic	—

\*Scotch brand.

\*\*Tartan brand.

**Note:** This technical information and data should be considered representative or typical only and should not be used for specification purposes.

# 3M™ Single Coated Tapes (cont.)

Material (alphabetical order)	Product	Typical Performance Characteristics / Application Ideas	Color	Total Caliper mils (mm)	Backing		Adhesive Type	Specs
					Material	Caliper mils (mm)		
Polyester (cont.)	8401	Splicing many release coated paper.	Translucent Cream	1.9 (0.05)	Polyester	1.0 (0.03)	Silicone/Rubber Blend	—
	8402	Splicing tape. Adheres well to silicone.	Translucent Green	1.9 (0.05)	Polyester	0.9 (0.02)	Silicone	—
	8403/8403L	Splicing tape. Adheres well to silicone. 8403L is a lined version of 8403.	Translucent Green	2.4 (0.06)	Polyester	1.4 (0.04)	Silicone	—
	8411	Edge and hole reinforcing.	Transparent	1.5 (0.04)	Polyester	1.0 (0.02)	Acrylic	—
	8412	Heavy-duty edge and hole reinforcing.	Transparent	6.3 (0.16)	Polyester	4.7 (0.12)	Acrylic	—
	8421	Photo film splicing.	White	2.5 (0.06)	Polyester	1.4 (0.04)	Rubber	—
	8422	Photo film splicing.	Black	2.5 (0.06)	Polyester	1.4 (0.04)	Rubber	—
	8429	Photo film splicing.	Yellow	3.2 (0.08)	Polyester	2.0 (0.05)	Rubber	—
	8437	Low emissivity, reflective tape.	Silver	2.1 (0.05)	Polyester	0.9 (0.02)	Acrylic	—
	8901	High temperature coating.	Blue	2.4 (0.06)	Polyester	0.9 (0.02)	Silicone	—
	8902	High temperature coating.	Blue	3.5 (0.08)	Polyester	2.0 (0.05)	Silicone	—
	8905	High temperature coating.	Blue	6.5 (0.17)	Polyester	5.0 (0.12)	Silicone	—
	8911	High temperature label protection.	Transparent	2.3 (0.05)	Polyester	0.9 (0.02)	Silicone	—
	8991/8991L	Thin tapes, powder coat masking, high temperature applications. 8991L is lined version.	Blue	2.4 (0.06)	Polyester	1.0 (0.03)	Silicone	—
	8992/8992L	Powder coat and anodized masking, high temperature applications. 8992L is lined version.	Green	3.2 (0.08)	Polyester	2.0 (0.05)	Silicone	—
Polypropylene	218/218L	Polypropylene plastic film tape with rubber adhesive. A high performance film backed tape with low profile and high adhesion to achieve excellent paint line and for other masking and holding applications. 218L is lined version.	Green	5.0 (0.13)	Polypropylene	—	Rubber	—
	265	In-mold composite masking where sharp, clean, gel-coat color separation lines are desired.	Green	5.1 (0.13)	Polypropylene	—	Rubber/Silicone	—
	8087	Construction seaming tape.	Red	3.0 (0.08)	Biaxially Oriented Polypropylene Film	1.5 (0.04)	Acrylic	—
PTFE — Slick Surface	547	Pipe thread sealant.	White	3.0 (0.08)	PTFE	3.0 (0.08)	none	—
	5151/5151L/5151PL	A woven glass cloth impregnated with PTFE tape which provides a high temperature release surface for protection and insulation. 5151L is a lined version. 5151PL is a thicker, premium liner.	Light Brown	5.3 (0.13)	Glass Cloth Impregnated w/PTFE	3.0 (0.08)	Silicone	—
	5153/5153L	Thicker version of 5151. 5153L is a lined version.	Light Brown	8.0 (0.20)	Glass Cloth Impregnated w/PTFE	5.8 (0.15)	Silicone	—
	5180	Skived PTFE film tape used for roller wrapping and other slick surface applications.	Gray	3.5 (0.09)	PTFE	2.0 (0.05)	Silicone	—
	5181	Thicker version of 5180.	Gray	6.5 (0.17)	PTFE	5.0 (0.13)	Silicone	—

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## 3M™ Single Coated Tapes (cont.)

Material (alphabetical order)	Product	Typical Performance Characteristics / Application Ideas	Color	Total Caliper mils (mm)	Backing		Adhesive Type	Specs
					Material	Caliper mils (mm)		
PTFE — Slick Surface (cont.)	5451	A woven glass cloth impregnated with PTFE tape which provides a high temperature release surface for protection and insulation.	Brown	5.6 (0.14)	Glass Cloth Impregnated w/PTFE	3.2 (0.08)	Silicone	—
	5453	Thicker version of 5451.	Brown	8.2 (0.21)	Glass Cloth Impregnated w/PTFE	6.0 (0.15)	Silicone	—
	5480	Skived PTFE film tape used for roller wrapping and other slick surface applications.	Gray	3.7 (0.09)	PTFE	2.0 (0.05)	Silicone	—
	5481	Heavy-duty skived PTFE film tape used for roller wrapping and other slick surface applications.	Gray	6.8 (0.17)	PTFE	5.0 (0.13)	Silicone	—
	5490	PTFE Film tape with silicone adhesive used in many slick surface applications. Lay-flat backing.	Gray	3.7 (0.09)	PTFE	2.0 (0.05)	Silicone	—
	5491	Thicker version of 5490.	Gray	6.7 (0.17)	PTFE	5.0 (0.13)	Silicone	—
	5498	Extruded PTFE film tape with rubber silicone-free adhesive.	Brown	4.0 (0.10)	PTFE	2.0 (0.05)	Rubber	—
Polyethylene- Ultra High Molecular Weight (UHMW-PE) — Slick Surface	5421	General purpose tape to protect plastic and metal chutes, guide rails and containers from wear.	Transparent	6.7 (0.17)	UHMW-PE	5.0 (0.13)	Rubber	—
	5423	Excellent abrasion resistance and low coefficient of friction makes this an effective solution for noise and vibration problems.	Transparent	11.7 (0.30)	UHMW-PE	10.0 (0.25)	Rubber	—
	5425	Solvent resistant adhesive with low coefficient of friction and abrasion resistance.	Transparent	5.0 (0.13)	UHMW-PE	3.0 (0.08)	Acrylic	—
	5430	Transparent UHMW-PE film tape with high tack acrylic adhesive.	Transparent	7.0 (0.18)	UHMW-PE	5.0 (0.13)	Acrylic	—
	9324	Black version of 5430.	Black	6.5 (0.17)	UHMW-PE	5.0 (0.13)	Acrylic	—
	9325	Thin version of 5430.	Transparent	5.0 (0.13)	UHMW-PE	3.0 (0.08)	Acrylic	—
Vinyl	470	Conformable and abrasion resistant for masking various surfaces during electroplating and anodizing.	Tan	7.1 (0.18)	Vinyl	6.3 (0.16)	Rubber	—
	471	Vinyl plastic tape ideal for color-coding, abrasion protection, decoration, sealing, patching, splicing, wrapping, and general purpose. Available in 9 colors and transparent.	Yellow, White, Red, Black, Brown, Green, Orange, Purple, Blue, Transparent	5.2 (0.13)	Vinyl	4.1 (0.10)	Rubber	MIL-STD 2041D (SH)
	471+	Superior conformability, sharp paint lines, clean removal.	Indigo	5.3 (0.13)	Vinyl	4.1 (0.10)	Rubber	—
	472	Abrasion resistant, high temperature resistant.	Black	10.4 (0.26)	Vinyl	9.0 (0.23)	Rubber	—
	477	Abrasion resistant.	Transparent	7.2 (0.18)	Vinyl	6.0 (0.15)	Rubber	—
	484	Lower adhesion than 470.	Tan	6.7 (0.17)	Vinyl	5.6 (0.14)	Rubber	—
	764	A general purpose vinyl tape for use in non-critical applications such as color-coding, bundling and safety marking.	Yellow, Red, White, Black, Blue, Green, Orange, Gray, Purple, Brown, Transparent	5.0 (0.13)	Vinyl	4.1 (0.10)	Rubber	—
	766	A general purpose hazard marking vinyl tape for use in non-critical applications.	Black & Yellow Stripes	5.0 (0.13)	Vinyl	4.1 (0.10)	Rubber	—
	767	A general purpose hazard marking vinyl tape for use in non-critical applications.	Red & White Stripes	5.0 (0.13)	Vinyl	4.1 (0.10)	Rubber	—
	4712	Linered version of 471 for die-cutting applications.	Brown, White, Blue, Green, Yellow, Orange, Red, Black, Purple, Transparent	5.2 (0.13)	Vinyl	4.1 (0.10)	Rubber	MIL-STD 2041D (SH)

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## 3M™ Single Coated Tapes (cont.)

Material (alphabetical order)	Product	Typical Performance Characteristics/ Application Ideas	Color	Total Caliper mils (mm)	Backing		Adhesive Type	Specs
					Material	Caliper mils (mm)		
Vinyl (cont.)	4731	Electroplating. Flame retardant and weather resistant.	Blue, Gray, Orange, Purple, White, Yellow	7.0 (0.18)	Vinyl	5.8 (0.15)	Rubber	—
	4735	Highly conformable, high temperature vinyl fine line tape for fascia panels, two-tone and other multiple color applications where critical paint break lines are required.	Orange	5.4 (0.14)	Vinyl	—	Rubber	—
	4737S	Highly visible backing version of 4737T.	Solid Blue	5.4 (0.14)	Vinyl	—	Rubber	—
	4737T	Conformable, high temperature vinyl fine line tape for fascia panels, two-tone and other multiple color applications where critical paint break lines are required.	Translucent Blue	5.4 (0.14)	Vinyl	—	Rubber	—
	4737TL	Lined version of 4737T.	Blue	5.4 (0.14)	Vinyl	—	Rubber	—
	5700	Critical applications. Adhesive side printing. For lane and safety marking.	Black & White Stripes	5.5 (0.14)	Vinyl	4.2 (0.11)	Rubber	—
	5702	Critical applications. Adhesive side printing. For lane and safety marking.	Black & Yellow Stripes	5.5 (0.14)	Vinyl	4.2 (0.11)	Rubber	—
Miscellaneous Film Tapes	215	Medium temperature. Fine line masking tape. Excellent conformability.	Blue	4.8 (0.12)	Copolymer Plastic Film	—	Rubber	—
	480	Good chemical and solvent resistance, conformable, abrasion resistant.	Transparent	5.1 (0.13)	Polyethylene	4.0 (0.10)	Acrylic	—
	481	Preservation sealing tape. Clean removal up to 2 years.	Black	9.8 (0.24)	Polyethylene	7.7 (0.20)	Rubber	MIL-T-22085 Amend 3, Type IV
	4811	Preservation sealing tape. Clean removal up to 1 year.	White	9.5 (0.24)	Polyethylene	7.5 (0.18)	Rubber	—
	483	Conformability, UV resistance, and clean removal for sealing end cap on metal pipes stored outdoors.	Black, Blue, Green, Red, White, Yellow, Transparent	5.0 (0.13)	Polyethylene	3.9 (0.10)	Rubber	MIL-STD 2041D (SH)
	616	Lithographers tape.	Ruby Red	2.4 (0.06)	UPVC	1.6 (0.04)	Rubber	—
	695	Polyethylene film with a rubber-strip coated along edges of tape only and tack-free center. Riveters tape.	Yellow	3.0 (0.08)	Polyethylene	2.0 (0.05)	Acrylic*	—
	838	Weather-resistant film.	White	3.4 (0.09)	PVF	2.1 (0.05)	Acrylic	MIL-T-22085 Amend 3, Type IV; F.A.R. 25.853(a).
	855	Composite bonding tape.	White	3.2 (0.08)	Nylon	2.0 (0.05)	Rubber	—
	5401	High coefficient of friction for traction.	Tan	9.3 (0.24)	Fiberglass Reinforced Silicone	8.0 (0.20)	Silicone	—
	5414	Water-soluble tape.	Transparent	2.5 (0.06)	PVA	1.3 (0.03)	Synthetic	—
	5461	High friction roller tape.	White	9.1 (0.23)	Silicone Rubber	7.8 (0.19)	Rubber	—
	8067	Window and door flashing tape.	Tan	10.0 (0.25)	Multilayer Elastomeric Film	5.0 (0.13)	Acrylic	ICC AC 148, AAMA 711
	8777	Air and water tight sealing tape.	Tan	10.0 (0.25)	Multilayer Elastomeric Film	5.0 (0.13)	Acrylic	—
	8555	Thicker version of 855, composite bonding tape.	White	6.0 (0.15)	Nylon	5.0 (0.13)	Rubber	—

\*Strip coated along edges of tape only.

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# 3M™ Single Coated Foam Tapes

Product Number	Color	Description	Adhesive	Approximate Thickness in. (mm)	Density lb/cu ft (kg/cu m)	Tensile Strength psi (kPa)	Compression Deflection 25% psi (kPa)	Compression Set % Loss	Temperature Tolerance	
									Short-Term	Long-Term
<b>Urethane</b>										
4104*	Natural White	Firm, rigid, open cell urethane foam for cushioning. Allows air or gas vapors to pass through. Not recommended for outdoor use.	350 Acrylic	0.250 (6)	12 (192)	115 (795)	4 (27.6)	8	350°F (176°C)	200°F (93°C)
4108	Natural White		350 Acrylic	0.125 (3)	16 (256)	130 (895)	6 (82.8)	8		
4116	Natural White		350 Acrylic	0.062 (1.5)	18 (288)	115 (795)	12 (82.8)	12		
4314	Charcoal Gray	Soft conformable, low density foam can help seal out air, dust and light when compressed 50%. Used to help damp sound and absorb vibration in electronics.	430 Acrylic	0.250 (6)	2 (32)	25 (170)	0.3 (2.1)	5	250°F (121°C)	150°F (66°C)
4317*	Charcoal Gray		430 Acrylic	0.375 (9.5)	2 (32)	25 (170)	0.3 (2.1)	5		
4318	Charcoal Gray		430 Acrylic	0.125 (3)	2 (32)	25 (170)	0.3 (2.1)	5		
<b>Vinyl</b>										
4504*	Black	Durable, flexible, closed cell vinyl foams with excellent aging characteristics. Weather resistant. Can help to seal out dust, light and moisture when placed under 30% compression. Liner over PSA.	430 Acrylic	0.250 (6)	20 (320)	90 (620)	4 (27.6)	15	250°F (121°C)	150°F (66°C)
4508*	Black		430 Acrylic	0.125 (3)	20 (320)	100 (690)	4 (27.6)	15		
4516*	Black		430 Acrylic	0.062 (1.5)	25 (400)	130 (895)	4 (27.6)	15		
4714*	Black		430 Acrylic	0.250 (6)	14 (225)	75 (515)	2 (13.8)	5		
4718*	Black		430 Acrylic	0.125 (3)	20 (320)	100 (690)	4 (27.6)	15		
4726*	Black		430 Acrylic	0.062 (1.5)	20 (320)	130 (895)	3 (20.7)	15		

\*Meets requirements of UL 94HBF.

# 3M™ Single Coated Foil/Foam Sheets

Product Master	Description	Sheets Per Case	Sheet Size (in.)
4014	250.0 Mil Aluminum/ Urethane Foam	50	6 x 48
		25	12 x 48
		15	18 x 48

# 3M™ Extreme Sealing Tapes

Product	Color	Backing/ Adhesive	Tape Thickness mils (mm)	Tensile Strength lb/in (N/cm)	90° Peel Adhesion Strength* lb/in (N/cm)						Application Ideas
					Alumi-num	Stainless Steel	Glass	Truck Paint	PVC	ABS	
4411G	Grey	Ionomer Film/ Pressure Sensitive Acrylic	40 (1)	13 (23)	15 (26)	16 (28)	15 (26)	15 (26)	15 (26)	16 (28)	Seals RV trailers and roofs. Seals metal enclosures and awnings. Seals trailer home roofs and metal storage buildings. Seals vent stacks and windows. Seals gutters and downspouts. Seals skylights. Seals outdoor signs/displays. Leak patching and repairs.
4411N	Neutral/Translucent		40 (1)		15 (26)	15 (26)	15 (26)	14 (25)	16 (28)	16 (28)	
4411B	Black		40 (1)		19 (33)	17 (30)	19 (33)	17 (30)	19 (33)	18 (32)	
4412N	Neutral/Translucent		80 (2)		18 (32)	18 (32)	19 (33)	19 (33)	19 (33)	19 (33)	

†Adhesion promoters were used on peel Adhesion test substrates.

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# 3M™ Repulpable Tapes

To achieve true quality, a tape must meet all your needs. Outstanding strength is not enough. The tape must be easy to use, easy to choose, readily available and fully repulpable. We've built our reputation as an industry leader by being responsive to the increasingly complex needs of paper producers. Today, our customer base consists of clients who demand no less of their product than we demand of ours.

Product	Color	Comments	Tape Thickness mils (mm)	Tape Structure		Liner		Heat Resistance* °F (°C)	FDA Compliant†
				Backing/ Carrier	Adhesive	Type	Thickness mils (mm)		
<b>Permanent Double Coated</b>									
405	Lt. Green	Excellent for raw and starch-treated papers.	3.0 (0.08)	Tissue Carrier	Repulpable	UPVC	1.7 (0.04)	400 (200)	—
900	Blue	Recommended for light weight coated papers.	2.5 (0.06)	Tissue Carrier	Repulpable	Paper	3.2 (0.08)	400 (200)	Yes
900B	Blue	Recommended for supercalendared papers.	2.5 (0.06)	Tissue Carrier	Repulpable	Paper	3.2 (0.08)	400 (200)	Yes
<b>Permanent Single Coated</b>									
901	Lt. Green	Excellent for raw and starch-treated papers.	4.0 (0.10)	Paper	Repulpable	UPVC	1.7 (0.04)	400 (200)	—
910	Blue	Recommended for coated and uncoated papers and paperboard.	4.0 (0.10)	Paper	Repulpable	—	none	400 (200)	Yes
914	Blue	Recommended for high speeds, digital business forms, perforated splicing tape.	4.0 (0.10)	Paper	Repulpable	—	none	400 (200)	Yes
9103	Blue	Printable, coatable backing.	4.5 (0.11)	Paper	Repulpable	Paper	2.9 (0.07)	400 (200)	Yes
9114	Blue	The easiest way to make a butt splice. Printable.	4.5 (0.11)	Paper	Repulpable	Paper	2.9 (0.07)	400 (200)	Yes
9960	Blue	Thinnest butt splicing tape for light weight uncoated and coated and supercalendared papers.	2.2 (0.06)	Paper	Repulpable	Paper	2.9 (0.07)	350 (180)	Yes
9969	Blue/White	Very thin butt splicing/cover tape for uncoated, newsprint and most coated papers.	2.2 (0.06)	Paper	Repulpable	Paper	2.9 (0.07)	350 (180)	Yes
<b>Adhesive Transfer Tape</b>									
R3037	Blue	Thinnest, fiber reinforced adhesive transfer tape.	2.0 (0.05)	None	Repulpable	Paper	3.3 (0.08)	250 (120)	Yes
<b>Temporary Double Coated</b>									
906	Blue/White	Flying splice at the Off-Machine Coater (OMC).	3.0 (0.08)	Tissue Carrier	Repulpable	Paper	3.2 (0.08)	400 (200)	Yes
9038	Blue/White	General purpose plus flying splice for the commercial printers, and corrugators.	3.5 (0.09)	Tissue Carrier	Repulpable	Paper	3.2 (0.08)	350 (180)	Yes
9069	Blue	Excellent for newsprint or directory stock.	3.5 (0.09)	Tissue Carrier	Repulpable	Paper	3.2 (0.08)	400 (200)	—
9977	Blue	High strength tissue for flying splices where extra strength is needed.	4.0 (0.10)	Tissue Carrier	Repulpable	Paper	3.2 (0.08)	400 (200)	—
R3227	Blue/White	General purpose temporary splicing.	3.5 (0.09)	Tissue Carrier	Repulpable	Paper	3.2 (0.08)	400 (200)	Yes
R3257	White	Thin tissue, very high tack.	4.1 (0.11)	Tissue Carrier	Repulpable	Paper	3.2 (0.08)	400 (200)	Yes
R3287	White	Heavy tissue, very high tack.	5.5 (0.14)	Tissue Carrier	Repulpable	Paper	3.2 (0.08)	400 (200)	Yes
<b>Temporary Single Coated</b>									
R3127	Blue/White/	General purpose, excellent holding power.	4.5 (0.11)	Paper	Repulpable	—	none	400 (200)	Yes
R3187	Kraft	General purpose, strong repulpable backing.	7.5 (0.19)	Paper	Repulpable	—	none	400 (200)	Yes
R3177	Blue/White/ Red	Heavy duty, extensible repulpable backing.	7.0 (0.16)	Paper	Repulpable	—	none	400 (200)	Yes
<b>Splittable Flying Splice (SFS)</b>									
R3345	Blue	Thin SFS tape for flying splices through supercalendering operations, and permanent butt splices for light weight coated papers.	4.8 (0.12)	Paper	Repulpable	Paper	2.9 (0.07)	400 (200)	—
R3375	Blue	Strong SFS tape for flying splices on heavy papers and high tension web processing through supercalendering operations.	6.5 (0.16)	Paper	Repulpable	Paper	2.9 (0.07)	400 (200)	—
R3379	Blue	Repulpable SFS tape used for high speed splicing conditions when high tack is required and to compensate for roll profile issues.	7.5 (0.18)	Paper	Repulpable	Paper	2.9 (0.07)	400 (200)	—
R5348	Blue	Use with light- to medium-weight papers running through medium-temperature ovens.	5.0 (0.11)	Paper	Repulpable	Paper	2.9 (0.07)	350 (180)	—
R7359	Blue	Use with light- to heavy-weight papers running at high speeds and high temperatures.	6.6 (0.17)	Paper	Repulpable	Paper	2.9 (0.07)	400 (200)	—
R7369	Blue	Use with light- to heavy-weight paper on wide web rolls to help compensate for roll profile variations running at high speeds and high temperatures.	7.4 (0.19)	Paper	Repulpable	Paper	2.9 (0.07)	400 (200)	—
9990N	Blue	Splittable flying splice (SFS) system with metalized layer for auto-sensing splice detection applications.	5.5 (0.14)	Aluminized Paper**	Repulpable	Paper	2.2 (.05)	350 (180)	—
R9993	Blue	All in one tabbing and splicing tape for heatset printing applications.	5.0 (0.11)	Paper	Repulpable	Paper	2.9 (0.07)	400 (200)	—
R9996	Blue	Thinnest SFS tape for splicing applications in papermills and paper converting coating operations.	4.8 (0.12)	Paper	Repulpable	Paper	2.9 (0.07)	400 (200)	—
R9999	Blue	Repulpable SFS tape for heavyweight papers in manual and automatic splicing equipment, with moderate speed.	6.7 (0.17)	Paper	Repulpable	Paper	2.9 (0.07)	400 (200)	—

†All components of the adhesive and backing meet the requirements of indirect food additive regulations as described under 21 CFR 176.170 (Components of paper and paperboard in contact with aqueous and fatty food) and 21 CFR 176.180 (Components of paper and paperboard in contact with dry foods)

\*As tested in laboratory. Results may vary depending on machine and web tensions, nature of paper surface, application pressure, etc. which are outside of 3M's control.  
\*\*Non-repulpable, screenable aluminized sensor strip.

**Note:** This technical information and data should be considered representative or typical only and should not be used for specification purposes.

# 3M™ Protective Tapes

## Nominal Results

Product	Tape Structure (Backing/Adhesive)	Total Thickness mils (mm)	Adhesion to Steel oz./in. width	Tack Level	Elongation at Break (%)	Application Ideas
<b>Based on ASTM Test Method:</b>		<b>D-3652</b>	<b>D-3330</b>		<b>D-3759</b>	
<b>Co-Extruded "A" Tapes</b>						
25A825	Co-Extruded/Acrylic	2.5 (0.06)	6	Medium	600	Semi-gloss painted metals and plastic surfaces. Automotive moldings.
25A826	Co-Extruded/Acrylic	2.5 (0.06)	7	Medium	600	Embossed, painted metal building panels. Molded fiberglass.
25A829	Co-Extruded/Acrylic	2.5 (0.06)	11	High	600	Satin or bronzed painted aluminum and brushed finished steel and aluminum, textured plastics.
25A87	Co-Extruded/Acrylic	2.5 (0.06)	13	High	600	Brushed aluminum and stainless. Hand applied to cultured marble (typically dusty surface).
25A88	Co-Extruded/Acrylic	2.5 (0.06)	15	High	600	Matte high-pressure laminates. For matte finished automotive plastic parts.
25A89	Co-Extruded/Acrylic	2.5 (0.06)	15	High	600	For non-UV applications requiring high elongation and excellent abrasion resistance compared to a traditional polyethylene film.
2A804	Co-Extruded/Acrylic	2 (0.05)	2	Very Low	600	Effective in many outdoor applications for up to 3 days.
2A825	Co-Extruded/Acrylic	2 (0.05)	7	Medium	600	Painted building panels. Automotive moldings and urethane fascias.
2A826	Co-Extruded/Acrylic	2 (0.05)	8	Medium	600	Painted, embossed, metal building panels, canopies and molded fiberglass.
2A829	Co-Extruded/Acrylic	2 (0.05)	12	Medium	600	Brushed aluminum. Textured, plastic automotive moldings. Offers excellent protection for mill finished aluminum and steel surfaces.
2A87	Co-Extruded/Acrylic	2 (0.05)	14	High	600	Matte decorative and vinyl laminates.
2A88	Co-Extruded/Acrylic	2 (0.05)	15	High	600	Matte decorative and vinyl laminates. Matte, plastic screen-printed nameplates.
2A89	Co-Extruded/Acrylic	2 (0.05)	15	High	600	Matte decorative and vinyl laminates; brushed and anodized aluminum.
5A829	Co-Extruded/Acrylic	5 (0.13)	10	High	600	Offers superior protection for mill finished aluminum and steel surfaces.
<b>Carpet Tapes</b>						
2E79	Polyethylene/Acrylic	2 (0.05)	20	High	600	Automotive carpeted areas, fabric seals and headliners.
2E93/EZ	Polyethylene/Acrylic	2 (0.05)	25	Very High	600	Automotive carpets, fabric seals and headliners.
2E95/EZ	Polyethylene/Acrylic	2 (0.05)	35	Very High	600	Automotive carpets, fabric seals and headliners.
2E97	Polyethylene/Acrylic	2 (0.05)	35	Very High	600	For automotive and industrial carpets and fabrics only.
2E98	Polyethylene/Acrylic	2 (0.05)	45	Very High	600	For marine carpet only.
4193/EZ	Polyethylene/Acrylic	4 (0.10)	25	Very High	600	Residential carpet tape.
5193EZ	Polyethylene/Acrylic	5 (0.13)	30	Very High	600	Residential carpet tape.
4195/EZ	Polyethylene/Acrylic	4 (0.10)	30	Very High	600	Higher adhesion for treated carpet.
4F94	Polyethylene/Acrylic	4 (0.10)	20	Very High	600	Flame retardant carpet tape.
<b>Co-Extruded Tapes</b>						
15CV804	Polyethylene/Acrylic	1.5 (0.04)	2	—	420	LCD screens, glass, polycarbonate, high gloss laminate.
15CV825	Polyethylene/Acrylic	1.5 (0.04)	7	Medium	420	Smooth semi-gloss cultured marble, high pressure laminate.
15CV826	Polyethylene/Acrylic	1.5 (0.04)	8	Medium	420	Smooth, satin gloss cultured marble, high pressure laminate.
<b>Self Sealing Tapes</b>						
3130	Polyethylene/Rubber	3 (0.08)	14*	—	450	Cohesive film used to package small machine parts, hand tools and literature.
4130	Polyethylene/Rubber	4 (0.10)	12*	—	450	

\*Value measured as a cohesive bond strength in units.

Note: This technical information and data should be considered representative or typical only and should not be used for specification purposes.

## 3M™ Protective Tapes (cont.)

### Nominal Results

Product	Tape Structure (Backing/Adhesive)	Total Thickness mils (mm)	Adhesion to Steel oz./in. width	Tack Level	Elongation at Break (%)	Application Ideas
<b>Based on ASTM Test Method:</b>		<b>D-3652</b>	<b>D-3330</b>		<b>D-3759</b>	
<b>Laser Tapes</b>						
4H81CPK	Polyolefin/Acrylic	4 (0.10)	12	Medium	270	Designed to be machine laminated using nip roll pressure. For best performance, apply 72 hours before laser cutting.
4H81WPK	Polyolefin/Acrylic	4 (0.10)	12	Medium	270	
4H85CPB	Polyolefin/Acrylic	4 (0.10)	17	High	270	Unique film construction offering extra protection during processing and allowing easy removal.
4H85WPB	Polyolefin/Acrylic	4 (0.10)	17	High	270	
<b>Polyester Tapes</b>						
1614	Polyester/Acrylic	1.3 (0.03)	1	Very Low	88	Low tack adhesive removes cleanly after exposures of up to 300°F (150°C).
1675	Polyester/Acrylic	1.3 (0.03)	2	Low	88	Low tack adhesive removes cleanly after exposures of up to 350°F (171°C).
<b>Transit Films</b>						
24S56W	Polypropylene/Acrylic	3 (0.08)	9	Medium	700	White tape for painted metals, plastic surfaces and automotive clearcoat paint finishes.
44S56W	Polypropylene/Acrylic	4 (0.10)	9	Medium	800	
64S58W	Polypropylene/Acrylic	6 (0.15)	9	Medium	630	Use on base, clearcoat and high gloss painted surfaces. Ideal for mutilation protection.
<b>UV Tapes</b>						
25M25X	Polypropylene/Acrylic	2.5 (0.06)	6	Medium	600	Black/White tape does not lift and removes cleanly after sunlight exposure.
25M26X	Polypropylene/Acrylic	2.5 (0.06)	8	Medium	600	
25X126	Polypropylene/Acrylic	2.5 (0.06)	6	Medium	850	Can withstand up to 30 days of outdoor exposure in applications oriented at 90 degrees to sunlight.**
2AU23B/UV	Co-extruded A	2 (0.05)	3	Low	600	For glass and window frames with a high-gloss surface, high-gloss painted metals and plastics.
2AU26B/UV	Co-extruded A	2 (0.05)	7	Medium	600	For flat finished vinyl and aluminum window frames, flat finished painted metals and plastics.
31U23/UV	Polyethylene/Acrylic	3 (0.08)	3	Low	450	For glass and window frames with a high-gloss surface, high-gloss painted metals and plastics.
31U26/UV	Polyethylene/Acrylic	3 (0.08)	7	Medium	450	For flat finished vinyl and aluminum window frames, flat finished painted metals and plastics.
31U82P	Polyethylene/Acrylic	2.8 (0.07)	12.5	Medium	450	Protects a variety of automotive wheels.
31U84P	Polyethylene/Acrylic	3.2 (0.08)	15.5	Medium/High	450	Protects a variety of automotive wheels.
3W25X	Co-Extruded Polyethylene/Acrylic	3 (0.08)	5	Medium	450	Black/White tape does not lift and removes cleanly after exposure to sunlight. Excellent UV resistance for up to 9 months.**
3W26X	Co-Extruded Polyethylene/Acrylic	3 (0.08)	6	Medium	450	
3W29X	Co-Extruded Polyethylene/Acrylic	3 (0.08)	7	Medium	450	
3W55X	Co-Extruded Polyethylene/Acrylic	3 (0.08)	5	Medium	450	

\*Value measured as a cohesive bond strength in units.

\*\*UV performance was generated from actual exposure in South Eastern USA on selected painted metal surfaces.

**Note:** This technical information and data should be considered representative or typical only and should not be used for specification purposes.

# 3M™ Protective Tapes (cont.)

## Nominal Results

Product	Tape Structure (Backing/Adhesive)	Total Thickness mils (mm)	Adhesion to Steel oz./in. width	Tack Level	Elongation at Break (%)	Application Ideas
<b>Based on ASTM Test Method:</b>		<b>D-3652</b>	<b>D-3330</b>		<b>D-3759</b>	
<b>Polyethylene Tapes</b>						
21804	Polyethylene/Acrylic	2 (0.05)	1	Very Low	450	Glass, CRT screens, LED and LCD screens.
21825	Polyethylene/Acrylic	2 (0.05)	5	Medium	450	Painted, embossed, architectural building panels. Semi-gloss laminates and acrylic sheets.
21826	Polyethylene/Acrylic	2 (0.05)	7	Medium	450	Slightly textured plastics, steel garage doors, metal extrusions and painted building panels.
2187	Polyethylene/Acrylic	2 (0.05)	14	Medium	450	For textured plastics and metals.
3179	Polyethylene/Acrylic	3 (0.08)	20	Very High	450	High-tack adhesive will adhere to most matte textured materials to help reduce rework.
31804	Polyethylene/Acrylic	3 (0.08)	1	Very Low	450	High-gloss coated metals. CRT and LCD screens.
31825	Polyethylene/Acrylic	3 (0.08)	5	Medium	450	Cut-to-length metal sheets in fabrication, shipping and storage. Semi-gloss, painted metals and plastic surfaces.
31826	Polyethylene/Acrylic	3 (0.08)	7	Medium	450	Embossed, painted, metal building panels. Mill-finished aluminum and stainless sheets or coils in fabrication and shipping.
31829	Polyethylene/Acrylic	3 (0.08)	11	Medium-High	450	Painted metal, gloss finish building panels.
3187	Polyethylene/Acrylic	3 (0.08)	11	High	450	Brushed aluminum and stainless. Hand applied to cultured marble (typically dusty surface).
3188	Polyethylene/Acrylic	3 (0.08)	13	High	450	Matte, high-pressure laminates. Matte plastics.
4167	Polyethylene/Acrylic	4 (0.10)	18	High	450	Textured decorative laminates and vinyl. Woodgrain laminates, matte plastics.
4179	Polyethylene/Acrylic	4 (0.10)	20	High	450	Dissimilar metals. Automotive kick plates.
41825	Polyethylene/Acrylic	4 (0.10)	5	Medium	450	Polished #3 and #4 finished stainless coils or sheets.
41826	Polyethylene/Acrylic	4 (0.10)	7	Medium	450	Molded fiberglass or acrylic tubs and spas. Automotive applications such as bumpers, fascias, body side molding paint protection, tail lights or window glass.
4187	Polyethylene/Acrylic	4 (0.10)	13	High	450	Cultured marble and molded fiberglass. Woodgrain vinyl decorative laminates.
4188	Polyethylene/Acrylic	4 (0.10)	15	High	450	Brushed anodized aluminum. Matte plastics or high-pressure laminates.
51825	Polyethylene/Acrylic	5 (0.13)	3	Low	450	Painted metal, gloss finish building panels. Coated metal automotive trim.
51826	Polyethylene/Acrylic	5 (0.13)	5	Medium	450	Mill finish aluminum and stainless coils and sheets. Molded fiberglass, polyester tubs and showers.
5187	Polyethylene/Acrylic	5 (0.13)	10	Medium	450	Cultured marble, textured plastics, matte painted metals.
5188	Polyethylene/Acrylic	5 (0.13)	15	High	450	Cultured marble, textured plastics, matte painted metals.
8179	Polyethylene/Acrylic	8 (0.21)	15	High	450	Dissimilar metals.
<b>Other Protective Tapes</b>						
335/Pink	Polyester/Rubber	1.5 (0.04)	13	Very Low	115	Low tack protective tape.
336/Clear	Polyester/Rubber	1.5 (0.04)	13	Very Low	115	Transparent, low tack protective tape. Good attachment to smooth surfaces.
346/Tan	Flat Paper Stock/Rubber	17 (0.42)	22	Very High	4	Heavy-duty protective tape.
9343/Black	Non-Woven/Acrylic	19.5 (0.50)	27	Very High	400	Conformable for irregular shaped parts.

Note: This technical information and data should be considered representative or typical only and should not be used for specification purposes.

# 3M™ Polyurethane Protective Tapes (PPT) — Long-Term Protection

## Nominal Results

Product	Tape Structure (Backing/Adhesive)	Color	Total Thickness mils (mm)	Adhesion to Steel oz./in. width	Tensile Strength lbs./in. (N/100 mm)	Elongation at Break (%)	Maximum Service Temp °F (°C)	Comments
Based on ASTM Test Method:			D-3652	D-3330	D-3759			
<b>Indoor Type</b>								
8547	Polyurethane/Acrylic	Transparent	13 (0.33)	14 (15)	75 (1313)	500	275 (135)	Flame resistant/low tack (passes NFPA 701).
8560	Polyurethane/Rubber	Transparent	14 (0.35)	18 (19.7)	76 (1313)	500	275 (135)	Indoor grade with quick grab adhesive.
8561	Polyurethane/Acrylic	Transparent	14 (0.35)	62 (67)	77 (1313)	500	275 (135)	Indoor grade.
8616	Polyurethane/Acrylic	Transparent	12 (0.30)	82 (90)	32 (560)	500	200 (93)	Excellent bond to plasticized vinyls.
8617	Polyurethane/Rubber	Transparent	12 (0.30)	105 (110)	32 (560)	500	150 (65)	Used as a patch on canvas, rubber, leather, and as a fabric joining tape.
8686	Polyurethane/Flame Ret.	Transparent	6 (0.15)	23 (25) Aluminum	32 (560)	500	150 (65)	Meets F.A.R. 25.853(a). Low tack adhesive.
<b>Outdoor Type</b>								
8663	Polyurethane/Acrylic	Transparent	18 (0.46)	100 (110)	117 (2049)	500	275 (135)	Excellent as a moisture barrier.
8671	Polyurethane/Acrylic	Transparent	14 (0.35)	86 (94)	80 (1400)	500	275 (135)	Durable erosion protection with paper liner.
8672	Polyurethane/Acrylic	Transparent	8 (0.25)	79 (83)	40 (700)	500	275 (135)	Thin durable erosion protection.
8673	Polyurethane/Acrylic	Transparent	14 (0.35)	86 (94)	80 (1400)	500	275 (135)	Durable erosion protection with best UV stability. RESTRICTED AVAILABILITY OVER 12" WIDE.
8674	Polyurethane/Acrylic	Transparent	8 (0.20)	60 (66) Aluminum	48 (842)	500	200 (93)	Durable erosion protection with best UV stability. Dual liner. RESTRICTED AVAILABILITY OVER 12" WIDE.
8681HS	Polyurethane/Acrylic	Matte Clear Military Gray	14 (0.35)	95 (104)	87 (1524)	500	275 (135)	Durable erosion protection with high shear adhesive.

**Note:** This technical information and data should be considered representative or typical only and should not be used for specification purposes.



# 3M™ EMI Shielding and Electrical Tapes

Backing Material	Product	Typical Performance Characteristics	Total Thickness (mils)	Adhesive Type	Master Size	Specs
Aluminum Foil	1120	For EMI shielding, static charge draining, grounding. Good for cable wrap. Easily die-cut.	4.0	Acrylic Conductive	27" x 36 yd	UL
	1170	For EMI shielding, static charge draining, grounding. Easily die-cut.	3.2	Acrylic Conductive	23" x 18 yd	UL
	1267	For EMI shielding, static charge draining, grounding. Solderable and easily die-cut.	5.0	Acrylic Non-conductive	23" x 18 yd	UL
Aluminum Foil/ Polyester Film	AL-36FR	Foil backing laminated with polyester film. Good resistance to oxidation, solvents and oils. Easily die-cut.	2.4	Acrylic Conductive	19.68" x 54.5 yd	UL
	AL-36NC	Same as AL-36FR.	2.2	Acrylic Non-conductive	19.68" x 54.5 yd	—
Antistatic Films	40	Antistatic tape generates less than 50 volts on unwind.	2.2	Acrylic	48" x 100 yd	—
	40PR	General use utility tape for electronic components and assemblies, 1-mil clear polyester film backing with preprinted static symbol.	2.2	Antistatic Polymer Conductive	24" x 100 yd	—
Copper Foil	1125	For EMI shielding on a wide range of electronic applications. Easily die-cut.	3.5	Acrylic Non-conductive	24" x 36 yd	UL
	1126	For EMI shielding, static charge draining when grounded. Easily die-cut.	3.5	Acrylic Conductive	24" x 36 yd	MIL
	1181	For EMI shielding, static charge draining, grounding. Easily die-cut.	2.6	Acrylic Conductive	23" x 18 yd	UL
	1182	Typically used to bond two surfaces, both physically and electrically. Also can provide EMI shielding, static charge draining, grounding. Easily die-cut.	3.5	Acrylic Conductive (both sides)	23" x 18 yd	UL
	1183	Oxidation resistant for long-term EMI shielding, static charge draining, grounding. Solderable and easily die-cut.	2.6	Acrylic Conductive	23" x 18 yd	UL
	1194	For EMI shielding, static charge draining, grounding. Easily die-cut.	2.6	Acrylic Non-conductive	23" x 36 yd	UL
	1245	For EMI shielding, static charge draining, grounding, solderable and easily die-cut.	4.0	Acrylic Non-conductive	23" x 18 yd	UL
	1345	Embossed tin-plated copper foil. Oxidation resistant for long-term EMI shielding, static charge draining, grounding.	4.0	Acrylic Non-conductive	23" x 18 yd	UL
Epoxy Film	1	Excellent handling properties, high dielectric strength, solvent and flagging resistant; for use as an outer wrap on wrap and fill capacitors, coil cover, interlayer insulation and wire harness. Printable.	3.5	Acrylic	23.75" x 100 yd	UL
	10	Thermosetting, flame retardant, no liner. Tough, conformable, resistant to solder damage, puncture resistant, good electrical properties, good handling properties. For use as coil cover, anchor, harnessing, banding and as core, layer and crossover insulation.	5.0	Rubber	15.5" x 100 yd	UL
	20	Reinforced, white acrylic adhesive, flame retardant, no liner, printable.	5.0	Acrylic	15.5" x 100 yd	UL
Glass Cloth	27	Rubber adhesive, thermosetting, printable, no liner. Edge-tear resistant, conformable, abrasion resistant.	7.0	Rubber	24.5" x 100 yd	UL
	69	Silicone adhesive, thermosetting, printable, no liner. Edge-tear resistant, conformable, high temp flame-retardant adhesive.	7.0	Silicone	24.5" x 100 yd	UL
	79	Edge-tear resistant, conformable, solvent-resistant. For use as coil cover, anchor, and as core, layer and crossover insulation. Printable.	7.0	Acrylic	24.5" x 100 yd	—
Metallized Cloth	2191FR	Lightweight, conformable, oxidation-resistant and high strength for EMI shielding and grounding. Easily die-cut.	5.5	Acrylic Conductive	19.68" x 21.8 yd	UL
	CN-3190	Thicker version of 2191FR.	7.0	Acrylic Conductive	41.3" x 54.5 yd	—
	X-7001	Typically used to bond two surfaces both physically and electrically. Can also provide EMI shielding, static charge draining and grounding.	4.3	Acrylic Conductive	10.24" x 10.9 yd	—

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# 3M™ EMI Shielding and Electrical Tapes (cont.)

Backing Material	Product	Typical Performance Characteristics	Total Thickness (mils)	Adhesive Type	Master Size	Specs
Polyester Film	5	Clear, acrylic adhesive, no liner. Solvent-resistant for use in coil and capacitor holding applications.	2.5	Acrylic	24" x 100 yd	UL
	44	Reinforced mat, rubber adhesive. Thermosetting, no liner.	5.5	Rubber	23.5" x 100 yd	UL
	54	Rubber adhesive, thermosetting, no liner. Used in fine wire coils where magnet wire serves to color code.	2.5	Rubber	22.5" x 100 yd	UL
	55	Thermosetting, no liner. Edge-tear, puncture and abrasion resistant for use as coil cover, lead pad and core, layer and crossover insulation.	7.5	Rubber	23.5" x 100 yd	UL
	56	Thermosetting, no liner. For use as layer insulation and coil cover in 130°F applications.	2.3	Rubber	15.5" x 100 yd	UL
	57	Thermosetting, no liner. Use as a coil cover, layer insulation and capacitor wrap where higher electrical strength is desirable.	3.3	Rubber	24" x 100 yd	UL
	58	Use as a coil cover, layer insulation and capacitor wrap where higher electrical strength is desirable.	3.3	Rubber	15.5" x 100 yd	UL
	74	Conformable. Provides good electrical strength for coil applications where space is at a premium.	0.8	Rubber	15.5" x 100 yd	UL
	75	Thermosetting, lined. For use in bonding applications requiring a positive insulation barrier.	3.8	Rubber	15.5" x 100 yd	UL
	1318-1	1 mil film; excellent flagging and solvent resistance. For use as an outer wrap on capacitors and coils; printable. Available in yellow, white and black.	2.5	Acrylic	24" x 100 yd	UL
	1318-2	Same as 1318-1 but with 2 mil film.	3.3	Acrylic	24" x 100 yd	UL
	1350F-1	1 mil film with flame-retardant adhesive. Excellent flagging and solvent resistance. For use as an outer wrap on capacitors and coils; printable. Available in yellow, white and black.	2.5	Acrylic	24" x 100 yd	UL
	1350F-2	Same as 1350-1 but with 2 mil film.	3.3	Acrylic	24" x 100 yd	UL
	1350T-1	1.5 mil, triple-layer, polyester film with flame-retardant acrylic adhesive. Excellent flagging and solvent resistance, with good wet grab and smooth, even unwind for use on automated equipment.	3.0	Acrylic	24" x 100 yd	UL
	1351-1	1 mil film with flame-retardant acrylic adhesive. Excellent flagging and solvent resistance. For use as inner layer and outer wrap insulation on coils. Smooth, even unwind for use on automatic equipment. Available in yellow and white.	2.5	Acrylic	24" x 100 yd	UL
	1351-2	Same as 1351-1 but with 2 mil film.	3.0	Acrylic	24" x 100 yd	UL
1351T-1	Same as 1350T-1 but available in yellow and white.	3.0	Acrylic	24" x 100 yd	UL	
Polyester Film/ Filament Reinforced	46	Good tensile strength and edge-tear resistance. For use in end-turn taping.	7.0	Rubber	23" x 100 yd	UL
	1046	Scrim filament reinforcement with good tensile strength, edge-tear resistance, and designed for end turn taping.	7.0	Rubber	23" x 60 yd	UL
	1076	Scrim filament reinforcement, solvent-resistant, high shear strength adhesive. Good tensile strength for holding in oil-filled transformer applications.	10.0	Acrylic	23" x 60 yd	UL
	1039	Scrim filament reinforcement, solvent-resistant, high shear strength adhesive. Good tensile strength and edge-tear resistance. For holding applications.	7.0	Acrylic	23" x 60 yd	—
	1339	Solvent-resistant, high shear strength adhesive. Good tensile strength and edge-tear resistance. For holding applications.	6.5	Acrylic	23" x 100 yd	UL

Note: This technical information and data should be considered representative or typical only and should not be used for specification purposes.

## 3M™ EMI Shielding and Electrical Tapes (cont.)

Backing Material	Product	Typical Performance Characteristics	Total Thickness (mils)	Adhesive Type	Master Size	Specs
Paper	12	For banding coils and for cover on bobbin-wound coils.	5.5	Rubber	23.25" x 100 yd	—
	16	Conformable. For use as coil cover on bobbin-wound coils.	9.0	Rubber	23.25" x 100 yd	—
PTFE Film	60	Thermosetting, no liner. Use on high temperature coils, capacitors and wire harnesses.	4.0	Silicone	13.5" x 100 yd	UL
	61	Thicker version of 60.	7.0	Silicone	13.5" x 100 yd	UL
	62	Thermosetting, printable. Better bonding of resins and varnishes.	4.0	Silicone	13.5" x 100 yd	UL
	63	Solvent-resistant adhesive for use where chemical properties are more important than temperature resistance. No liner.	3.5	Acrylic	13.5" x 100 yd	UL
Vinyl	22	Heavy-duty insulation designed for general purpose use where greater mechanical strength and abrasion resistance are required.	10.0	Rubber	—	UL
	33	Provides moisture-tight electrical and mechanical protection; good resistance to abrasion, moisture, alkalis, acids and varying weather conditions (including ultraviolet exposure).	7.0	Rubber	—	UL
	33+	All-weather vinyl insulating tape. Conformable for cold weather applications. Excellent resistance to abrasion, moisture, alkalis, acids, UV rays and weather. Thicker for quicker buildup.	7.0	Rubber	—	UL
	35	Color-coding tape available in nine fade-resistant colors. Abrasion and weather resistant. For use in phase identification, color-coding leads and piping systems, and for marking safety areas. Resistant to moisture, alkalis, acids and copper corrosion.	7.0	Rubber	—	UL
	88	All-weather vinyl insulating tape. Conformable for cold weather applications. Excellent resistance to abrasion, moisture, alkalis, acids, and copper corrosion.	7.0	Rubber	—	UL
	1710	Good quality, economical general purpose insulating tape. Good resistance to abrasion, moisture, alkalis, acid, copper corrosion and varying weather conditions (including ultraviolet).	7.0	Rubber	—	UL
Magnetic/ Polymer Film	1380	Excellent high magnetic shielding at low frequency. Soft magnetic sheet sandwiched between layers of film. Thin, flexible, lightweight and easily die-cut.	11.8	Rubber	460mm x 610mm	—

**Note:** This technical information and data should be considered representative or typical only and should not be used for specification purposes.



## Reclosable Fasteners

# Close It Right — Again and Again

When your customers' products require multiple openings and closings, 3M reclosable fasteners offer solutions that improve product appearance and performance, while saving production time.

3M's line of easy-to-apply fasteners offers a clean, discreet hold for aesthetic improvements, lightweight alternatives to metal fasteners, a variety of strengths, the ability to join dissimilar materials without corrosion and contamination, vibration absorption and security and durability for repeated opening and closings.





# 3M™ Hook and Loop Reclosable Fasteners

## Hooks on one side, loops on the other for secure, repeated closures

- Reliable PSA hold on contact with a variety of materials
- Low profile options, as much as 75% thinner than standard product
- Up to 5,000 closures for standard Hook and Loop

■	Best Suggested Product
●	Performance Dependent on Selected Attachment Method
▲	Primer Recommended
□	Back-to-back fastener which can wrap around any type of surface or substrate

Product	Type	Adhesive	Closure Life	Product Material	Liner Description	Engaged Thickness	Temperature Resistance °F (°C)	Substrates					Use	Markets				
								Metals (Al & SS)	Glass	Plastics (Acrylic, PC, ABS)	Powder Coated Paints	Low Surface Energy (PP, PE)		Indoor/Outdoor	Aerospace & Rail	Furniture & Upholstery	General Industrial	Marine & Specialty Vehicle
<b>Best</b>																		
SJ3526N	Hook	High Performance Rubber	5,000	Nylon	White, 3 mil (0.08mm) Polyethylene film 3M Red Print	0.14 in. (3.6mm)	120 (49)	■		■	■	■	Indoor	■	■	■		
SJ3527N	Loop																	
SJ3572	Hook	High Performance Acrylic	5,000	Nylon	Clear, 4 mil (0.10mm) Polypropylene film Embossed 3M logo	0.14 in. (3.6mm)	200 (93)	■	■	■	▲	▲	Indoor/Outdoor	■	■	■		
SJ3571	Loop																	
SJ3576	Hook		1,000	Polyester					■	■	■	▲	▲	Indoor/Outdoor	■	■	■	
SJ3577	Loop																	
<b>Better</b>																		
SJ3522	Hook	Plasticizer Resistant Acrylic	5,000	Nylon	Clear, 3.5 mil (0.08mm) Polyolefin film, No print	0.14 in. (3.6mm)	158 (70)	■		■			Indoor/Outdoor	■	■	■		
SJ3523	Loop																	
SJ3530	Hook	High Tack Rubber	5,000	Nylon	Yellow, 3 mil (mm) Polyethylene film No Print	0.14 in. (3.6mm)	90 (32)	■		■	■	■	Indoor	■	■	■		
SJ3531	Loop																	
<b>General Purpose</b>																		
SJ30H	Hook	Rubber	5,000	Nylon	White, 3 mil (0.08mm) Polyethylene film No Print	0.14 in. (3.6mm)	100 (38)	■		■	■	■	Indoor		■	■		
SJ30L	Loop																	
SJ60H	Hook	Acrylic	5,000	Nylon	Clear, 4mil (0.10mm) Polypropylene film Embossed 3M logo	0.125 in. (3.2mm)	180 (82)	■		■			Indoor/Outdoor		■	■		
SJ60L	Loop																	
SJ3401	Loop	None	5,000	Nylon	None	0.12 in. (3.0mm)	200 (93)	●	●	●	●	●	Indoor/Outdoor	●	●	●		
SJ3402	Hook																	
SJ3476	Hook		1,000	Polyester			0.13 in. (3.3mm)		●	●	●	●	●	Indoor/Outdoor	●	●	●	
SJ3477	Loop																	
<b>Low Profile/Thin</b>																		
SJ3506	Hook	Acrylic	25	Polypropylene	Brown #83 Polykraft Green Print	0.034 in. (0.84mm)	158 (70)	■	■	■	▲	▲	Indoor/Outdoor		■	■		
SJ3507	Loop			Polyester														
SJ3000	Back-to-back hook and loop	None	10	Polypropylene/Nylon	None	0.053 in. (1.3mm)	200 (93)	□	□	□	□	□	Indoor	□	□	□		
<b>Flame Resistant</b>																		
SJ3519FR	Hook	Flame Resistant	5,000	FR Nylon	White, 3 mil (0.08mm) Polyethylene film 3M Red Print	0.14 in. (3.6mm)	158 (70)	■		■	■	■	Indoor	■	■	■		
SJ3518FR	Loop																	
SJ3586FR	Hook		1,000	FR Polyester			0.17 in. (4.3mm)		■		■	■	■	Indoor	■	■	■	
SJ3587FR	Loop																	
SJ3419FR	Hook	None	5,000	FR Nylon	None	0.12 in. (3.0mm)	200 (93)	●	●	●	●	●	Indoor/Outdoor	●	●	●		
SJ3418FR	Loop																	
SJ3486FR	Hook		1,000	FR Polyester			0.13 in. (3.3mm)		●	●	●	●	●	Indoor/Outdoor	●	●	●	
SJ3487FR	Loop																	

Note: The technical information and data on these pages should be considered representative or typical only and should not be used for specification purposes.

# 3M™ Dual Lock™ Reclosable Fasteners

## Holding power to replace screws, bolts and rivets

Durable enough to last through repeated opening and closing. Unique, interlocking mushroom-shaped heads snap shut and stay locked.

- Durable—up to 1,000 openings and closings before losing 50% of original tensile strength
- Helps reduce vibration
- Temperature, moisture and UV resistant
- Strong, pressure-sensitive adhesive bonds on contact
- Mushroom-shaped heads have **5X the tensile strength** of hook-and-loop products

■	Best Suggested Product
●	Performance Dependent on Selected Attachment Method
▲	Primer Recommended

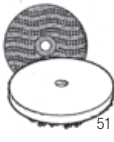
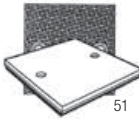


Product	Stem Density (per sq/in)	Adhesive	Color	3M Liner	Engaged Thickness	Temperature Resistance °F (°C)	Substrates					Indoor/Outdoor	Markets										
							Metals (Al & SS)	Glass	Plastics (Acrylic, PC, ABS)	Powder Coated Paints	Low Surface Energy (PP, PE)		Aerospace & Rail	Appliance & Electronics	Design & Construction	Furniture & Upholstery	General Industrial	Marine & Specialty Vehicle	POP, Display & Signage				
SJ3540	250	Rubber	Black	White, 5 mil (0.13mm) Polyolefin	0.23 in (5.7mm)	120 (49)	■		■	■	■	Indoor											
SJ3541	400																						
SJ3542	170																						
SJ3550	250	White Acrylic	Black	Clear, 4 mil (0.10mm) Polyolefin	0.23 in (5.7mm)	200 (93)	■	■	■	▲	▲	Indoor/Outdoor	■	■	■	■	■	■	■	■			
SJ3551	400																						
SJ3552	170																						
SJ3558	250	White Acrylic	Clear*	Clear, 4 mil (0.10mm) Polyolefin	0.23 in (5.7mm)	200 (93)	■	■	■	▲	▲	Indoor/Outdoor		■	■	■	■	■	■	■			
SJ3560	250	Clear Acrylic	Clear	Clear, 4 mil (0.10mm) Polyolefin	0.23 in (5.7mm)	220 (104)	■	■	■	▲	▲	Indoor/Outdoor		■	■	■	■	■	■	■			
SJ3561	400																						
SJ3562	170																						
SJ3550CF	250	Clear Acrylic	Black	Clear, 4 mil (0.10mm) Polyolefin	0.23 in (5.7mm)	220 (104)	■	■	■	▲	▲	Indoor/Outdoor		■	■	■	■	■	■	■			
SJ3551CF	400																						
SJ3552CF	170																						
SJ3870	250	Modified Acrylic	Black	Red, 4.5 mil (0.11mm) Polyolefin	0.24 in (6.1mm)	140 (60)	■		■	■	▲	Indoor/Outdoor											
SJ3871	400																						
SJ3872	170																						
SJ3782	250	Low Surface Energy Acrylic	Black	Brown, 83# Polykraft	0.16 in (4.1mm)	120 (49)	■		■	■	■	Indoor/Outdoor		■		■	■	■	■	■			
SJ3440	250	None	Black	No Liner	0.15 in (3.86mm)	220 (104)	●	●	●	●	●	Indoor/Outdoor		●	●	●	●	●	●	●			
SJ3441	400																						
SJ3442	170																						
SJ3443	400	Non-woven backing with no adhesive	Black	No Liner	0.28 in (7.1mm)	220 (104)	●	●	●	●	●	Indoor/Outdoor		●	●	●	●	●	●	●			
SJ3444	170																						
SJ3445	250																						
SJ3460	250	None	Clear	No Liner	0.15 in (3.86mm)	220 (104)	●	●	●	●	●	Indoor/Outdoor		●	●	●	●	●	●	●			
SJ3463	400	Piece Part Circle†	Black	No Liner	0.20 in** (5.1mm)	220 (104)	■		■	■	■	Indoor/Outdoor		■	■	■	■	■	■	■			
SJ3481	400	Rigid Strip†	Black	No Liner	0.20 in** (5.1mm)	220 (104)	●	●	●	●	●	Indoor/Outdoor		●	●	●	●	●	●	●			
SJ4570	Low Profile/Thin	Low Surface Energy Acrylic	Clear	Brown, 83# Polykraft	0.098 in (2.489mm)	158 (70)	■		■	■	■	Indoor/Outdoor		■	■	■	■	■	■				
SJ4575			Black																				
SJ4580		Clear Acrylic	Clear	Red, 4.5 mil (0.11mm) Polyolefin	0.12 in (3.0mm)	200 (93)	■	■	■	▲	▲	Indoor/Outdoor		■	■	■	■	■	■	■			

\*Clear fastener utilizes a white adhesive giving the product a white appearance \*\*Single thickness; not engaged †No adhesive

Note: The technical information and data on these pages should be considered representative or typical only and should not be used for specification purposes.



# 3M™ Dual Lock™ — Piece Parts

Product Number	Product Type <sup>1</sup>	Dimensions <sup>2</sup> L x W or Dia. inch (mm)	Functional Size/Area in. sq. (cm sq)	Engaged Thickness <sup>3</sup> inch (mm)	Counterbored Hole Dia. inch (mm)	Through Hole Dia.	Spacing Between Holes (on centers) inch (mm)	Comments		
<b>Circle with a Counterbored Center Hole</b>										
	SJ3251	250	1-1/8 (28.5)	0.88 (5.68)	0.323 (8.20)	0.38 (9.5)	0.19 (4.9)	Attach using screws, rivets, etc. Circular profile reduces chance for edge lift.		
	SJ3755	250		0.91 (5.87)	0.323 (8.20)	0.31 (7.9)	0.16 (4.1)			
	SJ3762	400		0.91 (5.87)	0.288 (7.31)	0.31 (7.9)	0.16 (4.1)			
	SJ3263	250	13/16 (20.6)	0.44 (2.84)	0.288 (7.31)	0.31 (7.9)	0.16 (4.1)			
	SJ3763	400								
	SJ3235	400	13/16 (20.6)	0.42 (2.71)	0.288 (7.31)	0.35 (9.0)	0.16 (4.1)			
	SJ3465	400	9/16 (14.3)	0.17 (1.10)	0.288 (7.31)	0.31 (7.9)	0.16 (4.1)			
<b>Circle with No Hole</b>										
SJ3238	250	1-1/8 (28.6)	0.99 (6.39)	0.323 (8.20)	—	—	—	—		
<b>Rectangle with Two Counterbored Holes</b>										
	SJ3252	400	1.5 x 1.5 (38.1 x 38.1)	2.08 (13.4)	0.288 (7.31)	0.33 (8.3)	0.16 (4.2)	1 (25.4)	—	
	SJ3261			2.11 (13.6)	0.288 (7.31)	0.29 (7.5)	0.14 (3.6)	1 (25.4)	15 mils (0.4mm) thicker than SJ3767.	
	SJ3767				0.273 (6.93)	0.29 (7.5)	0.14 (3.6)	1 (25.4)	15 mils (0.4mm) thinner than SJ3261.	
<b>Rectangle with No Holes</b>										
	SJ3204	250	1 x 1 (25.4 x 25.4)	1.0 (6.45)	0.288 (7.31)	—	—	—	—	
	SJ3481	400	48 x 1 or 48 x 2 (1.22 x 25.4 or 1.22 x 50.8)	Dependent on final length	0.288 (7.31)	—	—	—	Excellent for custom cutting rectangular pieces. See SJ3766, SJ3768 or SJ3799 for ultrasonic attachment version.	
<b>Rectangular Slide-in (2 edges cut down forming a flange) for Mounting into a Bracket</b>										
	SJ3736	170	1 x 1.22 (25.4 x 30.7)	1.0 (6.45)	0.288 (7.31)	—	0.079 (2.0)	0.049 (1.25)	Allows quick and easy installation or replacement.	
	SJ3717	400				—	0.079 (2.0)	0.049 (1.25)		
	SJ3227	250	5/8 x 1 (16 x 25.4)	0.48 (3.10)		—	0.098 (2.5)	0.079 (2.0)		
	SJ3700	170	25/32 x 25/32 (20 x 20)	0.43 (2.77)		—	0.098 (2.5)	0.079 (2.0)		
	SJ3228	400	25/32 x 25/32 (20 x 20)	0.43 (2.77)		—	0.098 (2.5)	0.079 (2.0)		
	SJ3229	250	1 x 1 (25.4 x 25.4)	0.76 (4.90)		—	0.098 (2.5)	0.079 (2.0)		
	SJ3750	400	(32 x 50)	1.95 (12.58)		0.303 (7.70)	—	0.079 (2.0)		0.049 (1.25)
	SJ3248	250	1 x 1.1 (25.4 x 28)	0.79 (5.10)		0.298 (7.57)	—	0.137 (3.5)		0.52 (1.32)
	SJ3249	400	1 x 1.1 (25.4 x 28)	0.79 (2.77)		0.298 (7.57)	—	0.137 (3.5)		0.52 (1.32)

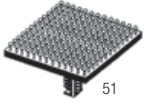
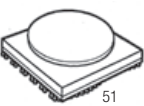
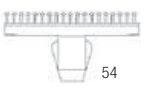
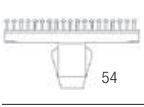
- 1 – Type 400 is not recommended to be engaged to other type 400 fasteners. As well, type 170 should not be engaged with type 170. Engagement strength is dependent upon the area engaged and number of stems engaged.
- 2 – The actual 3M™ Dual Lock™ area available for (dis)engagement may be less than the part dimension. This should be taken into consideration when designing how much 3M™ Dual Lock™ will be required for a specific application.
- 3 – Engaged thickness is for the shown product engaged to 3M™ Dual Lock™ Reclosable Fasteners SJ3781 (a type 250 Dual Lock™ with an acrylic adhesive backcoating). You can mix products with different backcoatings (standard pressure sensitive adhesives or via our 3M™ Dual Lock Mix and Match Program) to obtain a greater variety of engaged thicknesses. Any of these 3M™ Dual Lock™ Reclosable Fasteners can be engaged with 3M™ Scotchmate™ Reclosable Fasteners, providing a quick grab closure with high strength and limited life.

## Notes:

- Suggest 4 square inches of fastener per pound of load as a starting point for evaluation of long term performance. Suggest Type 250 engaged to Type 250 as a starting point for evaluations. Tensile strength increases approximately in the following order: 170/250 < 250/250 ≤ 170/400 < 250/400.
- The information provided is considered representative only for use in narrowing the possibilities of 3M™ Dual Lock™ piece parts to be considered for further evaluation, and should not be used for specification purposes.
- User is responsible for determining whether the 3M product is fit for the desired end use. Refer to specific product technical data sheets for more detailed product performance information.
- All 3M™ Dual Lock™ Piece parts are comprised completely of black polypropylene.

This technical information and data should be considered representative or typical only and should not be used for specification purposes.

# 3M™ Dual Lock™ — Piece Parts with Functional Bases

Product Number	Product Type <sup>1</sup>	Dimensions <sup>2</sup> L x W or Dia. (mm)	Functional Size/Area in. sq. (cm sq)	Engaged Thickness <sup>3</sup> inch (mm)	Comments	
<b>Pine Tree Shaped Push-in Stem (for insertion into wood and similar substrates over a range of thicknesses)</b>						
	SJ3209	250	26 x 26	1.04 (6.7)	0.293 (7.44)	12mm (0.49") long base stem, designed to fit a 7.9mm to 8.4mm diameter hole.
	SJ3749	400				
	SJ3222	250	26 x 26	1.04 (6.7)	0.293 (7.44)	12mm (0.49") long base stem, designed to fit a 7mm to 7.5mm diameter hole.
	SJ3224	400				
	SJ3848	250	26 x 26	1.04 (6.7)	0.293 (7.44)	16.5mm long base stem, designed to fit a 7.9mm to 8.4mm diameter hole.
	SJ3748	400				
	SJ3266	170	26 x 26	1.04 (6.7)	0.293 (7.44)	12.74mm long base stem, designed to fit an 8.20mm to 8.50mm diameter hole.
	SJ3267	250				
	SJ3268	400				
	SJ3272	170				
	SJ3273	250				
	SJ3274	400	26 x 26	1.04 (6.7)	0.293 (7.44)	White version of SJ3266.
		White version of SJ3267.				
		White version of SJ3268.				
<b>Single Round Cone-shaped Base (for sliding into a key hole slot)</b>						
	SJ3743	170	20 x 20	0.62 (4.0)	0.293 (7.44)	Fits key hole slot 3.1mm to 3.25mm thick panel that is 18mm in diameter. The shaft (stem of the cone) is 3.25mm tall and 4mm wide.
	SJ3705	250				
	SJ3221	250	20 x 20	0.62 (4.0)	0.272 (6.91)	Fits key hole slot in a 2.65mm thick panel that is 18mm in diameter. The shaft (stem of the cone) is 2.65mm tall and 4mm wide.
	SJ3731	400				
	SJ3277	170	26 x 26	1.04 (6.7)	0.293 (7.44)	Fits key hole slot in a 3mm thick panel that is 14mm in diameter. The shaft (stem of the cone) is 3mm tall and 4mm wide.
	SJ3278	250				
	SJ3279	400				
<b>Snap-in Base for 6.5mm x 10mm Rectangular Hole</b>						
	SJ3704	250	26 x 26	1.04 (6.7)	0.293 (7.44)	Fits a 1.30mm to 1.59mm thick panel.
	SJ3713	400				
	SJ3825	170	26 x 26	1.04 (6.7)	0.283 (7.19)	Fits a 0.71mm to 0.91mm thick panel.
	SJ3826	250				
	SJ3827	400				
<b>Snap-in Base for a Slotted Hole in a 0.70mm to 1.20mm Thick Panel</b>						
	SJ3804	170	26 x 26	1.04 (6.7)	0.293 (7.44)	Fits a 0.70mm to 1.00mm thick sheet metal. 5.35 ± 0.05mm x 21.25 + .00/- .15mm slot.
	SJ3805	250				Fits a 1.00mm to 1.20mm thick sheet metal. 6.00 ± 0.05mm x 21.25 + .00/- .15mm slot.
	SJ3806	400				

- 1 – Type 400 is not recommended to be engaged to other type 400 fasteners. As well, type 170 should not be engaged with type 170. Engagement strength is dependent upon the area engaged and number of stems engaged.
- 2 – The actual 3M™ Dual Lock™ area available for (dis)engagement may be less than the part dimension. This should be taken into consideration when designing how much 3M™ Dual Lock™ will be required for a specific application.
- 3 – Engaged thickness is for the shown product engaged to 3M™ Dual Lock™ Reclosable Fasteners SJ3781 (a type 250 Dual Lock™ with an acrylic adhesive backcoating). You can mix products with different backcoatings (standard pressure sensitive adhesives or via our 3M™ Dual Lock Mix and Match Program) to obtain a greater variety of engaged thicknesses. Any of these 3M™ Dual Lock™ Reclosable Fasteners can be engaged with 3M™ Scotchmate™ Reclosable Fasteners, providing a quick grab closure with high strength and limited life.

**Notes:**

- Suggest 4 square inches of fastener per pound of load as a starting point for evaluation of long term performance. Suggest Type 250 engaged to Type 250 as a starting point for evaluations. Tensile strength increases approximately in the following order: 170/250 < 250/250 ≤ 170/400 < 250/400.
- The information provided is considered representative only for use in narrowing the possibilities of 3M™ Dual Lock™ piece parts to be considered for further evaluation, and should not be used for specification purposes.
- User is responsible for determining whether the 3M product is fit for the desired end use. Refer to specific product technical data sheets for more detailed product performance information.
- All 3M™ Dual Lock™ Piece parts are comprised completely of black polypropylene.

This technical information and data should be considered representative or typical only and should not be used for specification purposes.



## Specialty Products

# Protection Against Noise, Scratches, Vibration, Slips and Falls

Life is full of risks, but you can offer your customers protection against some of them. 3M specialty products feature pressure-sensitive adhesives for long-lasting and fast-bonding protection where and when you need it.

## 3M™ Bumpon™ Protective Products — Resilient Rollstock Products

Product	Color	Tape Construction		Product Hardness ASTM D-2240	Adhesive		Liner		Adhesion to Steel oz./0.5 in.	Comments
		Backing Facestock	Caliper mils** (mm)		Type	Thickness mils (mm)	Type	Thickness mils (mm)		
<b>5200 Series*</b>										
SJ5208	Light Brown	Polyurethane Foam	125 (3.2)	25 Shore A	Synthetic Rubber (R-25)	2.0 (0.05)	PET Film Liner	4.0 (0.1)	55	UL 94HB recognized.
SJ5216	Light Brown	Polyurethane Foam	62 (1.6)	25 Shore A	Synthetic Rubber (R-25)	2.0 (0.05)	PET Film Liner	4.0 (0.1)	55	UL 94HB recognized.
<b>5600 Series*</b>										
SJ5616	Clear	Clear Polyurethane	62 (1.6)	70 Shore A	Acrylic (A-20)	1.0 (0.03)	PET Film Liner	4.0 (0.1)	25	Clear rollstock, great where invisible die-cuts are needed.
SJ5632	Clear	Clear Polyurethane	31 (0.8)	70 Shore A	Acrylic (A-20)	1.0 (0.03)	PET Film Liner	4.0 (0.1)	25	Clear rollstock, great where invisible die-cuts are needed.
<b>5800 Series*</b>										
SJ5808	Black, Brown	Polyurethane	125 (3.2)	70 Shore A	Natural Rubber (R-30)	3.6 (0.09)	PET Film Liner	4.0 (0.1)	22	UL 94HB recognized.
SJ5816	Black, Brown	Polyurethane	62 (1.6)	70 Shore A	Natural Rubber (R-30)	3.6 (0.09)	PET Film Liner	4.0 (0.1)	22	UL 94HB recognized.
SJ5832	Black, Brown	Polyurethane	31 (0.8)	70 Shore A	Natural Rubber (R-30)	3.6 (0.09)	PET Film Liner	4.0 (0.1)	22	UL 94HB recognized.
<b>5900 Series*</b>										
SJ5904	Black	Polyurethane Foam	250 (6.4)	36 Shore A	Acrylic (A-20)	4.8 (0.12)	PET Film Liner	4.0 (0.1)	25	UL 94HB recognized.
SJ5908	Black	Polyurethane Foam	125 (3.2)	36 Shore A	Acrylic (A-20)	4.8 (0.12)	PET Film Liner	4.0 (0.1)	25	UL 94HB recognized.
SJ5916	Black	Polyurethane Foam	62 (1.6)	36 Shore A	Acrylic (A-20)	4.8 (0.12)	PET Film Liner	4.0 (0.1)	25	—
<b>6000 Series*</b>										
SJ6005	Black, White	Polyurethane	197 (5.0)	70 Shore A	Acrylic (A-20)	4.8 (0.12)	PET Film Liner	4.0 (0.1)	25	UL 94HB recognized.
SJ6008	Black, Brown	Polyurethane	125 (3.2)	70 Shore A	Acrylic (A-20)	4.8 (0.12)	PET Film Liner	4.0 (0.1)	25	UL 94HB recognized.
SJ6016	Black, Brown	Polyurethane	62 (1.6)	70 Shore A	Acrylic (A-20)	4.8 (0.12)	PET Film Liner	4.0 (0.1)	25	UL 94HB recognized.
SJ6032	Black, Brown	Polyurethane	31 (0.8)	70 Shore A	Acrylic (A-20)	4.8 (0.12)	PET Film Liner	4.0 (0.1)	25	UL 94HB recognized.
<b>6200 Series*</b>										
SJ6208	Black	Polyurethane	125 (3.2)	70 Shore A	Synthetic Rubber (R-25)	2.0 (0.05)	PET Film Liner	4.0 (0.1)	55	Fast bonding, permanent adhesion. UL 94HB recognized.
SJ6216	Black	Polyurethane	62 (1.6)	70 Shore A	Synthetic Rubber (R-25)	2.0 (0.05)	PET Film Liner	4.0 (0.1)	55	Fast bonding, permanent adhesion. UL 94HB recognized.
SJ6232	Black	Polyurethane	31 (0.8)	70 Shore A	Synthetic Rubber (R-25)	2.0 (0.05)	PET Film Liner	4.0 (0.1)	55	Fast bonding, permanent adhesion. UL 94HB recognized.

\*Service Temperature Range: -30°F (-34°C) to 150°F (66°C) and up to 225°F (107°C) intermittent exposure.

\*\*1 mil = .001 inches

**Note:** This technical information and data should be considered representative or typical only and should not be used for specification purposes.

# 3M™ Bumpon™ Protective Products — Resilient Rollstock

Resilient Rollstock Features	5800 Series	5600/5900/6000 Series	6200 Series
<b>Adhesive</b>	Natural Rubber (R-30)	Acrylic (A-20)	Synthetic Rubber (R-25)
<b>Adhesion (Peel)</b> Low Surface Energy High Surface Energy	Good Good	Poor Good	Excellent Excellent
<b>Static Shear</b> 75°F 120°F 158°F	Excellent Fair Poor	Excellent Excellent Excellent	Excellent Good Fair
<b>Initial Adhesion</b> Low Surface Energy High Surface Energy	Good Good	Poor Fair	Excellent Excellent
<b>Adhesion Buildup</b>	Some	Gradual	Some
<b>Solvent Resistance</b>	Good	Excellent	Good
<b>Age Life</b>	Good	Excellent	Good

Product	Tape Construction		Color	Comments	Adhesive		Liner		Product Hardness oz./0.5 inch ASTM-D 2240	Adhesion to Steel oz./0.5 in.	Master Size	Specs
	Caliper (Mils)	Backing Facestock			Type	Thickness (Mils)	Type	Thickness (Mils)				
<b>5600 Series — Acrylic</b>												
SJ5632	31	Polyurethane	Clear	“Clear” Rollstock great where “invisible” die cuts are needed.	Acrylic A-20	1	PET Liner	4	70 Shore A	25	9" x 72 yd 9" x 36 yd	UL
SJ5616	62											
SJ5608	125											
<b>5800 Series — Natural Rubber</b>												
SJ5832	31	Polyurethane	Black, Brown, White	UL 94HB recognized.	Natural Rubber R-30	2	PET Liner	4	70 Shore A	22	13.5" x 72 yd 13.5" x 36 yd	UL
SJ5816	62											
SJ5808	125											
<b>5900 Series — Acrylic</b>												
SJ5916	62	Polyurethane Foam	Black	UL 94HB recognized, except for SJ5916.	Acrylic A-20	2	PET Liner	4	36 Shore A	25	13.5" x 36 yd 13.5" x 18 yd	UL
SJ5908	125											
SJ5904	250											
<b>6000 Series — Acrylic</b>												
SJ6032	31	Polyurethane	Black, White	UL 94HB recognized.	Acrylic A-20	2	PET Liner	4	70 Shore A	25	13.5" x 72 yd 13.5" x 36 yd	UL
SJ6016	62											
SJ6008	125											
SJ6004	198											
<b>6200 Series — Synthetic Rubber</b>												
SJ6232	31	Polyurethane	Black, White, Gray	Fast bonding, permanent adhesion. UL 94HB recognized.	Synthetic Rubber R-25	2	PET Liner	4	70 Shore A	55	9" x 72 yd 9" x 36 yd	UL
SJ6216	62											
SJ6208	125											

Note: This technical information and data should be considered representative or typical only and should not be used for specification purposes.



## 3M™ Bumpon™ Protective Products — Molded Products

Product	Color	Adhesive <sup>1</sup>	Shape	Width in. (mm)	Height in. (mm)	Hardness (Shore A)	Comments
<b>Quiet Clear</b>							
SJ6506	Clear	R-25	Hemisphere	0.375 (9.5)	0.150 (3.8)	55	Clear, sound damping properties.
SJ6512	Clear	R-25	Cylindrical	0.500 (12.7)	0.140 (3.5)	55	
SJ6553	Clear	R-25	Hexagonal Cone	0.433 (11.0)	0.120 (3.1)	55	
SJ6561	Clear	R-25	Hexagonal Hemisphere	0.433 (11.0)	0.150 (3.8)	55	
<b>Cylindrical</b>							
SJ5001	Black	R-30	Cylindrical	0.500 (12.7)	0.145 (3.6)	70	Concave top; Good load bearing capacity.
SJ5012	White, Gray, Brown, Black	R-30	Cylindrical	0.500 (12.7)	0.140 (3.6)	70	Versatile foot style for use on high-energy surfaces.
SJ5076	Black	R-30	Cylindrical	0.315 (8.0)	0.110 (2.8)	70	Flat top, nonskid for appliances and electronics.
SJ5312	Transparent	A-20	Cylindrical	0.500 (12.7)	0.140 (3.6)	75	Universal color matching. Nonslip. Ideal for picture framing.
SJ5744	Black	R-30	Cylindrical	0.750 (19.1)	0.160 (4.1)	70	Excellent load bearing capacity.
SJ6112	Black	A-25	Cylindrical	0.500 (12.7)	0.140 (3.6)	70	Versatile foot style, best for low-energy materials.
<b>Hemisphere</b>							
SJ5003	White, Gray, Brown, Black	R-30	Hemisphere	0.440 (11.2)	0.200 (5.1)	70	Good energy absorption on impact.
SJ5009	White, Gray, Brown, Black	R-30	Hemisphere	0.880 (22.4)	0.400 (10.2)	70	Protects wall from door knob.
SJ5017	White, Gray, Brown, Black	R-30	Hemisphere	0.750 (19.1)	0.380 (9.7)	70	Recessed center, like screw-in bumper.
SJ5027	Black, Gray, Brown	R-30	Hemisphere	0.630 (16.0)	0.312 (7.9)	70	Cushions heavier items like glass or liftgate.
SJ5302	Transparent	A-20	Hemisphere	0.312 (7.9)	0.085 (2.2)	75	For feet on small electronics.
SJ5306	Transparent	A-20	Hemisphere	0.375 (9.5)	0.150 (3.8)	75	Smaller, energy absorbing with small contact point.
SJ5382	Transparent	A-20	Hemisphere	0.250 (6.4)	0.075 (1.9)	75	Smaller contact point for energy absorption.
SJ5532	White, Black	R-30	Hemisphere	1.880 (47.8)	0.660 (16.8)	70	Large, ideal for door stops.
<b>Hexagon</b>							
SJ5077	Black	R-30	Hexagonal Width Flat Top	0.750 (19.1)	0.160 (4.1)	70	Smallest hemisphere for appliances and electronics feet use.
SJ5201	Light Brown	R-25	Hexagon Die-Cut	0.433 (11.0)	0.125 (3.2)	25	Unique with round flat top.
SJ5202	Light Brown	R-25	Hexagon Die-Cut	0.433 (11.0)	0.063 (1.6)	25	Soft foam with quick stick R-25 adhesive for cabinets.
<b>Square</b>							
SJ5007	White, Black	R-30	Tapered Square	0.413 (10.4)	0.098 (2.5)	70	Nested on pad for fast removal.
SJ5008	White, Gray, Brown, Black, Transparent	R-30	Tapered Square	0.500 (12.7)	0.125 (3.1)	70	Popular, thin nonskid for appliances or electronics.
SJ5018	White, Gray, Brown, Black	R-30	Tapered Square	0.500 (12.7)	0.230 (5.8)	70	Larger height, smaller top surface for heat dissipation.
SJ5023	White, Gray, Brown, Black	R-30	Tapered Square	0.812 (20.6)	0.300 (7.6)	70	For larger appliances and electronics.
SJ5514	White, Gray, Brown, Black	R-30	Tapered Square	0.812 (20.6)	0.520 (13.2)	70	Larger, high profile for heat dissipation.
SJ5705	Black	R-30	Tapered Square	1.280 (32.4)	0.250 (6.4)	70	Larger, low profile for heavier appliances.
<b>Printed Circuit Board Spacers</b>							
SJ61A1	Black	R-25	Cylindrical	0.312 (7.9)	0.200 (5.1)	70	Shape for PCB spacer applications.
SJ61A3	Black	R-25	Cylindrical	0.375 (9.5)	0.250 (6.35)	70	
SJ61A4	Black	R-25	Cylindrical	0.375 (9.5)	0.311 (7.9)	70	
SJ61A8	Black	R-25	Cylindrical	0.375 (9.5)	0.135 (3.4)	70	
<b>Top-Hat</b>							
SJ6115	Black	R-25	Cylindrical	0.625 (15.9)	0.187 (4.75)	70	Flat top use for recesses.
SJ6125	Black	R-25	Hemisphere	0.625 (15.9)	0.250 (6.35)	70	Resists shear and removal.
<b>Easy Slide</b>							
SJ6344	Black	R-25	Cylindrical	0.750 (19.0)	0.160 (4.0)	80	Use for low friction.

<sup>1</sup> – A-20: Acrylic High strength adhesion to high energy surface.

R-25: Synthetic Rubber Ideal for low surface energy substrates.

R-30: Natural Rubber Excellent adhesion to a wide variety of surfaces.

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## 3M™ Viscoelastic Damping Polymers

### Vibration and Shock Solutions

3M™ Viscoelastic Damping Polymers have been proven to reduce vibration in automobiles, disk drives and aircraft. Through continuous improvement, 3M can now offer you a choice of standard damping polymers or ultra-pure damping polymers to expand application possibilities to include the following:

Cover constrained layer dampers; multi-layer laminates using metal or polymeric films; free layer dampers; suspension dampers; isolators; panel, pipe, and wing dampers; and more.

### Market Application Ideas

- Automotive including body panels and under the hood
- Aerospace including space craft and commercial aircraft
- Electronics including disk drives
- Sporting goods including golf clubs and tennis racquets
- Appliances including washing machines

### Performance Versatility

- Choice of enhanced acrylic polymer for improved vibration damping or ultra-pure polymer for improved vibration damping, plus low out gassing and ionics
- Choice of good to excellent thermal stability for long term applications at moderate temperatures, or short term high temperature exposure
- Damping in temperatures ranging from as low as 0°C (32°F) to as high as 105°C (221°F)
- Select Loss Factor and Storage Modulus values to meet requirements

### Construction Availability

Polymer	Thickness	Liner	Typical Performance Characteristics
<b>Standard Viscoelastic Damping Polymer</b>			
110	2 and 5 mil	Paper	Good damping performance at higher temperature: 40–105°C (104–221°F). Heat and pressure needed for bonding.
112	1, 2 and 5 mil	Paper	Good damping performance at 0–65°C (32–142°F). Pressure only for adequate bonding at room temperature (21°C/70°F) for many applications.
130	2 and 5 mil	Polyester	Good damping performance at moderate temperature range of 20–90°C (68–194°F). Pressure only for adequate bonding at room temperature (21°C/70°F) for some applications.
<b>Ultra-Pure Viscoelastic Damping Polymer</b>			
242	1 and 2 mil	Polyester	Good damping performance at 0–65°C (32–142°F). Low outgassing by GC/MS (Modified ASTM 4526). Low ionics.

## 3M™ Safety-Walk™ Slip Resistant Materials

Product	Product Characteristics	Type	Adhesive	Color	Master Roll Size
220	Non-mineral fine texture, for barefoot traffic.	Fine Resilient	Acrylate	Clear	48" x 120 ft
280	Non-mineral fine texture, for barefoot traffic.	Fine Resilient	Acrylate	White	48" x 120 ft
310	Non-mineral, medium texture, for barefoot or light traffic.	Medium Resilient	Synthetic Rubber	Black	48" x 120 ft
370	Non-mineral, medium texture, for barefoot or light traffic.	Medium Resilient	Synthetic Rubber	Gray	48" x 120 ft
510	Mineral coated, foil backing for conformability.	Conformable	Synthetic Rubber	Black	48" x 120 ft
530	Mineral coated, foil backing for conformability.	Conformable	Synthetic Rubber	Yellow	48" x 120 ft
610	Mineral coated, heavy texture for light to heavy traffic.	General Purpose	Synthetic Rubber	Black	48" x 120 ft
620	Mineral coated, heavy texture for light to heavy traffic.	General Purpose	Synthetic Rubber	Clear	48" x 120 ft
660	Mineral coated, heavy texture for light to heavy traffic.	General Purpose	Synthetic Rubber	Brown	48" x 120 ft
710	Mineral coated, coarse texture for extreme traffic.	Course	Synthetic Rubber	Black	48" x 120 ft
2141	<b>Primer</b> prepares rough or porous surfaces for proper adhesion.	—	—	—	—
5569	<b>Edge Sealing Compound</b> to provide extra protection from liquids.	—	—	—	—
903	<b>Rubber Hand Roller</b> to help provide a firm bond.	—	—	—	—

Custom adhesives available on 300, 500, 600 series products.  
Custom colors available on 300 series products.

**Note:** This technical information and data should be considered representative or typical only and should not be used for specification purposes.

# 3M™ Premium Polyurethane Foam Tapes

Product	Color	Adhesive	Approximate Thickness in. (mm)	Roll Size	Density lb/cu ft (kg/cu m)	Tensile Strength (psi (kPa))	Tensile Elongation % min.	Tear Strength min. pli (kN/m)	Compression Deflection @23°C, psi (kPa)	Temperature Tolerance	
										Short-Term	Long-Term
<b>Medium Density Series</b>											
12026	Black	With* or without**	1/16 (1.6)	54" x 300 ft	15 (239)	50 (345)	90	4.0 (0.7)	305–6.5 (24–45)	250°F (121°C)	150°F (66°C)
12032	Black		3/32 (2.4)	54" x 225 ft							
12028	Black		1/8 (3.2)	54" x 160 ft							
12036	Black		3/16 (4.8)	54" x 100 ft							
12034	Black		1/4 (6.4)	54" x 80 ft							
12038	Black		3/8 (9.5)	54" x 60 ft							
12030	Black		1/2 (12.7)	54" x 40 ft							
<b>High Density Series</b>											
12046	Black	With* or without**	1/16 (1.6)	54" x 300 ft	20 (320)	75 (517)	100	7.0 (1.2)	8–12 (55–83)	250°F (121°C)	150°F (66°C)
12062	Black		3/32 (2.4)	54" x 225 ft							
12048	Black		1/8 (3.2)	54" x 160 ft							
12056	Black		3/16 (4.8)	54" x 100 ft							
12054	Black		1/4 (6.4)	54" x 80 ft							
12049	Black		3/8 (9.5)	54" x 60 ft							
12050	Black		1/2 (12.7)	54" x 40 ft							

\*Adhesive Selection

\*\*Non Adhesive foams are UL 94HBF, File E61941 Recognized Components.

Product	Adhesive Family	Adhesive Thickness (mils)	Carrier	Liner	Liner Thickness (mils)
6035PC	300MP	5.0	None	58# PCK	4.2
9772WL	300MP	2.0	None	96# PCK	7.0
9775WL	300MP	5.0	None	96# PCK	7.0
9832	300MP	4.8	PET	58# PCK	4.2
97053	Special	3.0	Scrim	50# DK	3.2

## Automotive Specifications for Non-adhesive Foams

Manufacturer	Specification #	Medium Density Foams Type/Class	High Density Foams Type/Class
Chrysler®	MS-AY549	A2	A1
Ford®	WSS-M2D496	A4	A5
GM®	6098M	Type 1	Type 2
GMW	14196	Type 2	Type 3

## Automotive Specifications for Adhesive Foam Combinations

Manufacturer	Specification #	Foam Series	Adhesive #
Chrysler®	MS-AY 522	Medium and high density foam series laminated to the adjacent 3M Adhesive Tapes.	6035PC
Ford®	WSA-M11P19		9832
GM®	3622		97053

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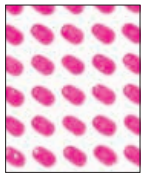
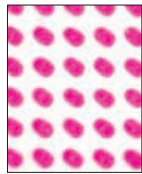



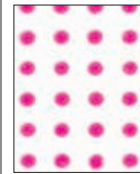


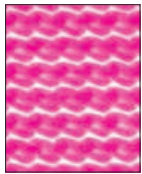
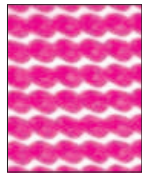

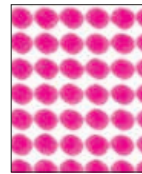
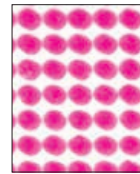
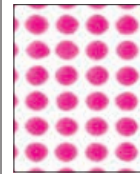
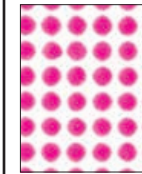











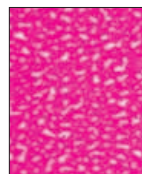
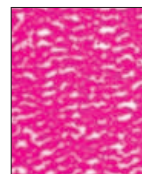
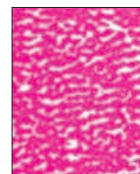
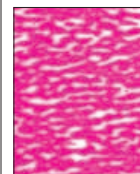
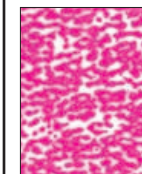
## Flexographic Mounting Systems

# Ensure Superior Print Quality

For halftone work where dot gain is a concern, softer tapes optimize reproduction. When solids and dots share the plate, a combination tape can properly balance the result. When your customer wants solid ink and crisp lines, you'll want firm, high density mounting tape.

3M offers a wide selection of adhesives, foams and thickness for the superior print quality your customers demand.

# 3M™ Flexographic Mounting Systems

3M™ Combination Printing Tapes							3M™ Process Printing Tapes
18 Series: Firm	17 Series: Medium Firm	15 Series: Medium	10 Series: Standard	13 Series: Medium Soft	19 Series: Light Medium	12 Series: Light	11 Series: Process
<b>10% Highlight</b>							
							
57	58	59	60	61	62	63	64
<b>40% Midtone</b>							
							
65	66	67	68	69	70	71	72
<b>Reverse</b>							
							
73	74	75	76	77	78	79	80
<b>100% Solid</b>							
							
81	82	83	84	85	86	87	88
Quality results when plate contains mostly solids in a combination of solid and halftone images.	Quality results when plate contains slightly more solids in a combination of solid and halftone images.	Quality results for high speed printing with fine type reverses and expanded color gamut.	Quality results when solid and halftone areas are equally important.	Quality results for high speed printing of combination work when halftone areas exceed solid.	Soft support improves tone reproduction when process and halftone images predominate.	Low density maximizes dot reproduction high quality process work and screen printing.	Low density maximizes dot reproduction for high quality process work and screen printing.
E1815, E1815H, 1815M E1820, E1820H, 1820M E1840H, E1860H	E1715, E1715H E1720, E1720H, 1720M	E1515, E1515H E1520, E1520H	E1015, E1015H, 1015, 1015M E1020, E1020H, 1020, 1020M, 1020R E1040, E1040H, 1040 E1060, E1060H, 1060	E1315, E1315H E1320, E1320H	E1915, E1915H, 1915M, E1915S, E1915HS E1920, E1920H, 1920M, E1920S, E1920HS, 1920S,	E1215, E1215H E1220, E1220H	E1115, E1115H, 1115 E1120, E1120H, 1120

E – Air Release Medium Plate Side Adhesion    EH – Air Release High Plate Side Adhesion    S – High Sleeve Side Adhesion for Urethane Sleeves    M – Modified Plate Side Adhesion  
DL – Double Liner    R – Rubber Plates    K – High sleeve side adhesion for composite sleeves

Additional calipers available for specialized applications.

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# 3M™ Flexographic Mounting Systems (cont.)

Product Number	Application Thickness in. (mm)	Manufactured Target Thickness in. (mm)	Description	Plates	Cylinders	Color	Features		
<b>3M™ Flexomount™ Solid Plate Mounting Tapes</b>									
Solid Printing Tapes	411DL	0.015 (0.38)	0.015 (0.38)	Gray double coated tape with a soft rubber adhesive on each side of a vinyl carrier. Available in single and double liner.	P/R	SS/S/K	Gray	Gray vinyl tapes with high adhesion. Helps reduce edge lifting. Helps minimize pin holing on solid work.	
	412DL	0.020 (0.51)	0.020 (0.51)		P/R	SS/S/K	Gray		
	447DL	0.010 (0.25)	0.010 (0.25)		P/R	SS/S/K	Gray		
	413DL	0.015 (0.38)	0.015 (0.38)	Black double coated tape with a firm rubber adhesive on each side of a vinyl carrier. Available only in double liner.	P/R	SS/S/K	Black	Black vinyl — lower adhesion. Higher temperature and solvent resistance. Helps minimize pin holing on solids.	
	414DL	0.020 (0.51)	0.020 (0.51)		P/R	SS/S/K	Black		
<b>18 Series 3M™ Cushion-Mount™ Plus Firm Combination Plate Mounting Tapes</b>									
Combination Printing Tapes	E1815H, E1815, 1815M	0.015 (0.38)	0.017 (0.43)	Differential acrylate adhesive system on each side of a foam carrier, protected by a release liner on one side.	P	SS/S/K	Blue	Better solid ink density than the standard combination printing tapes. Clean removal from plate and print cylinder.	
	E1820H, E1820, 1820M	0.020 (0.51)	0.022 (0.56)		P	SS/S/K	Blue		
	E1840H, E1860H	0.040 (1.02) 0.060 (1.52)	0.042 (1.07) 0.062 (1.57)		P	SS/S/K	Blue		
	<b>17 Series 3M™ Cushion-Mount™ Plus Medium Firm Combination Plate Mounting Tapes</b>								
	Combination Printing Tapes	E1715H, E1715	0.015 (0.38)	0.017 (0.43)	Differential acrylate adhesive system on each side of a foam carrier, protected by a release liner on one side.	P	SS/S/K	Teal	Quality results when plate contains slightly more solids in a combination of solid and halftone images.
E1720H, E1720, 1720M		0.020 (0.51)	0.022 (0.56)						
<b>15 Series 3M™ Cushion-Mount™ Plus Medium Combination Plate Mounting Tapes</b>									
Combination Printing Tapes		E1515H, E1515	0.015 (0.38)	0.017 (0.43)	Differential acrylate adhesive system on each side of a foam carrier, protected by a release liner on one side.	P	SS/S/K	Purple	High quality, medium combination print.
		E1520H, E1520	0.020 (0.51)	0.022 (0.56)		P	SS/S/K	Purple	
<b>10 Series 3M™ Cushion-Mount™ Plus Standard Combination Plate Mounting Tapes</b>									
Combination Printing Tapes	E1015H, E1015, 1015M	0.015 (0.38)	0.017 (0.43)	Differential acrylate adhesive system on each side of a foam carrier, protected by a release liner on one side.	P	SS/S/K	White	Most versatile 3M™ Cushion-Mount™ Plus Tapes. Effectively prints most types of flexographic printing.	
	E1020H, E1020, 1020M, 1020R	0.020 (0.51)	0.022 (0.56)		P	SS/S/K	White		
	E1040, 1040, E1040H	0.040 (1.02)	0.042 (1.07)		P/R	SS/S/K	White		
	E1060, 1060, E1060H	0.060 (1.52)	0.062 (1.57)		P	SS/S/K	White		
					P	SS/S/K	White		
<b>13 Series 3M™ Cushion-Mount™ Plus Medium Soft Combination Plate Mounting Tapes</b>									
Combination Printing Tapes	E1315H, E1315	0.015 (0.38)	0.017 (0.43)	Differential acrylate adhesive system.	P	SS/S/K	Yellow	High quality, medium-soft combination print.	
	E1320H, E1320	0.020 (0.51)	0.020 (0.51)		P	SS/S/K	Yellow		
<b>19 Series 3M™ Cushion-Mount™ Plus Light Medium Combination Plate Mounting Tapes</b>									
Combination Printing Tapes	E1915H, E1915, E1915HS, 1915M, E1915S	0.015 (0.38)	0.017 (0.43)	Differential acrylate adhesive system on each side of a foam carrier, protected by a release liner on one side.	P	SS/S	Pink	Soft support improves tone reduction when process and halftone images predominate.	
	E1920H, E1920, 1920M	0.020 (0.51)	0.022 (0.56)		P	SS/S	Pink		
	E1920S, 1920S, E1920HS	0.020 (0.51)	0.022 (0.56)		P	S/K	Pink		
<b>12 Series 3M™ Cushion-Mount™ Plus Light Combination Plate Mounting Tapes</b>									
Combination Printing Tapes	E1215H, E1215	0.015 (0.38)	0.017 (0.43)	Differential acrylate adhesive system on each side of a foam carrier, protected by a release liner on one side.	P	SS/S	Orange	—	
	E1220H, E1220	0.020 (0.51)	0.022 (0.56)		P	SS/S	Orange		
<b>11 Series 3M™ Cushion-Mount™ Plus Process Plate Mounting Tapes</b>									
Process Printing	E1115H, E1115, 1115	0.015 (0.38)	0.017 (0.43)	Differential acrylate adhesive system on each side of a foam carrier, protected by a release liner on one side.	P	SS/S	Tan	Better tone reproduction than the standard combination printing tapes. Clean removal from plate and print cylinder.	
	E1120H, E1120, 1120	0.020 (0.51)	0.022 (0.56)		P	SS/S	Tan		

E – Air Release Liner    M – Modified Plate Side Adhesion    DL – Double Liner    S – Urethane Sleeve    K – High sleeve side adhesion for composite sleeves  
 SS – Stainless Steel Cylinder    R – Rubber Plates    P – Photopolymeric Plates    EH – High Plate Side Adhesion

Note: This technical information and data should be considered representative or typical only and should not be used for specification purposes.

## E-Series Tapes with Easy Mount Adhesive

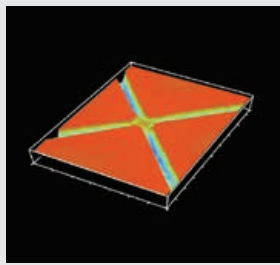
### On Easy with Reduced Air Entrapment

Unlike flat or pebbled liners, E-Series liners are cross-hatched on both sides with unique microchannels that allow air to flow throughout the adhesive. Improved airflow virtually eliminates air bubble problems for easier application. Air releases from between the tape and plate, and between the tape and cylinder or sleeve for virtually bubble-free mounting. Setup is faster with smoother surfaces for cleaner print quality and higher productivity.

## EH-Series Adhesive to Hold the Edge on Small Diameter Cylinders

3M EH-Series Tapes combine the air-release of 3M E-Series Tapes with higher plate side adhesion to resist edge lifting on cylinder diameters as small as 2 inches.

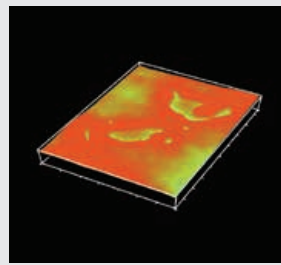
### Microscopic View of Adhesive Surface Measured with Interferometer



Easy Mount Adhesive

#### Stays On With Reduced Edge-Lifting

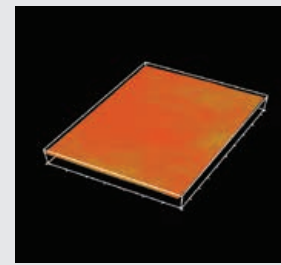
Exclusive 3M plate-side adhesive maintains tight contact between tape and plate to dramatically reduce edge lifting. Saves the prep time, downtime, and labor of sealing plate edges.



Pebbled Liner

#### Peels Off Easily to Reduce Plate Damage

E-series tapes grip tightly but peel off so easily you can virtually eliminate plate back treatment. You're less likely to damage plates, so you can save time, labor and money.



Flat Liner

#### Bubble-Free Print Quality

Prevent blemishes in screen and process printing, and help assure proper registration.

## 3M™ Thin Tapes

When cushioning is unnecessary, these tapes can mount both rubber and photopolymer plates. Some are also repositionable.

Product Number	Tape Thickness Inch (mm)	Description	Compressible Sleeves	Corrugated	Rotary Letterpress	Make Ready	Features
415	0.004 (0.10)	Double coated tape with a medium-firm acrylic adhesive on each side of a polyester carrier.		■	■		Good adhesion to a wide range of surfaces. Can be used for Cameron Press applications.
442KW	0.004 (0.10)	Double coated tape with a firm rubber adhesive on each side of a polyester carrier.		■	■		Plate mounting applications requiring a thin tape to bond rubber or photopolymer plates to metal cylinders.
443	0.005 (0.13)	Double coated tape with a soft rubber adhesive on each side of a polyester carrier.		■	■		Mounting applications requiring a thin tape to bond polyester, fiberglass and other surfaces.
465	0.002 (0.05)	Acrylic adhesive transfer tape.		■		■	Small area plate build-up or make-ready. Also used to mount primed rubber plates.
927	0.002 (0.05)	Acrylic adhesive transfer tape.		■		■	Corrugated plate mounting applications where repositionability and removability are not required.
950	0.005 (0.13)	Acrylic adhesive transfer tape.		■			
2205	0.005 (0.13)	Double coated film tape with differential acrylic adhesive with a polyester film carrier on a kraft paper liner.	■	■			For the corrugated printing industry to hold flexographic print plates to PVC saddles/carriers. Removes cleanly.
2205FL	0.005 (0.13)	Double coated film tape with differential acrylic adhesive with a polyester film carrier on a film liner.	■	■			Adhesives designed specifically for corrugated flexo mounting. Removes cleanly and easy to reposition.
9500PC	0.005 (0.13)	High performance acrylic adhesive on each side of a polyester carrier.	■		■		Thin tape plate mounting applications requiring higher performance than 442KW Tape.

All tapes listed on this chart have been used successfully on non-compressible sleeves.

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# 3M™ Flexographic Mounting Aids

Product	Description
3M™ Cylinder Mount Build-Up Tape 1640	For use with any 3M flexographic tape to add 0.040 in. thickness.
3M™ Primer 94	Helps hold the leading and trailing edges of the plate to prevent edge lifting.
3M™ Scotch-Weld™ Adhesives 3762LM, 3776LM or 3792LM	Use with 3M™ Polygun™ LT Applicator to seal plate edges against ink and solvent penetration that causes edge lifting.
3M™ Aluminum Foil Tape 425	
3M™ Vinyl Tape 471	Seals plate edges against ink and solvent penetration that can cause edge lifting.
3M™ Polyester Film Tape 850	
Scotch® Magic Tape 810	Secures proofing paper to a proofer/mounter with good adhesion but simple removal from the proofing cylinder.

# 3M™ Non-Repulpable Splicing Tapes

Go To Products	Product Description	Tape Thickness mil (mm)	Carrier Thickness mil (mm)	Carrier Type	Color	Adhesion oz/in (N/25 mm)	High Temp (Short-term) °F (°C)	Go-To Application*	
								Zero Speed	Flying Speed
<b>Based on ASTM Test Method:</b>		<b>D-3652</b>	<b>D-3652</b>			<b>D-3330</b>			
<b>Adhesive Transfer Tapes</b>									
465	High tack. Excellent adhesion to most paper stocks. Flexible to -60°F (-51°C).	2.0 (0.05)	—	No Carrier	Clear	25 (6.8)	250 (121)		
9498/9464	Low temperature splicing.	2.0 (0.05)	—	No Carrier	Clear/Red	20 (6.0)	250 (121)	■	
9499/9497	High temperature splicing.	2.0 (0.05)	—	No Carrier	Clear/Red	45 (12.5)	350 (177)	■	
<b>Double Coated Tapes</b>									
415/9420	High tack adhesion to paper and many other surfaces.	4.0 (0.10)	0.5 (0.01)	Polyester	Clear/Red	25 (6.8)	180 (82)		
469	High temperature, high tack.	5.5 (0.14)	1.0 (0.02)	Tissue	Red	60 (16.7)	350 (177)		■
9086	Easy tearing, easy handling. Thick high tack adhesive, very conformable.	7.5 (0.19)	1.5 (0.03)	Non Woven Tissue	Clear	146 (40.0)	250 (121)		
9088	High temperature resistance. High tack and shear strength.	8.3 (0.20)	0.5 (0.01)	Polyester	Clear	137 (37.5)	300 (150)		
9576	Medium tack for general splicing and roll closing.	4.0 (0.10)	1.0 (0.02)	Polypropylene	Red/Black/Yellow	30 (13.5)	165 (75)		
9737/9737R	Thin PET carrier. Aggressive and versatile tape for many surfaces.	3.5 (0.09)	0.5 (0.01)	Polyester	Clear/Red	60 (16.7)	300 (150)	■	■
9738/9738R	Non-woven tissue carrier. Aggressive and versatile tape for many surfaces.	4.3 (0.11)	1.3 (0.03)	Non Woven Tissue	Clear/Red	60 (16.7)	300 (150)	■	■
9740	High temperature with extremely wide range. High peel, tack, and shear properties. Performance grade splicing for corrugators.	3.5 (0.09)	0.5 (0.01)	Polyester	Clear	70 (21.2)	425 (218)		■
9741/9741R	Thick tape adheres to a wide variety of substrates. Super aggressive for low surface energy substrates.	6.5 (0.17)	0.5 (0.01)	Polyester	Clear/Red	120 (34.0)	200 (93)		

\*All tapes in this chart can be considered for zero speed or flying speed splices.

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