



Science.
Applied to Life.™

3M Personal Safety
3M™ Protective Apparel

The suit that
leaves you
free to focus
on the job.

Introduction

At 3M we have a select and high quality range of products which help protect against many hazards.

The range of 3M™ Protective Apparel includes a variety of features, from fabrics with specialized treatments for enhanced wear and added protection, to breathable back panels for increased comfort.

Our specialists can work closely with you, to help you identify hazards and support you in protecting your workers against them.



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Selection

There are many tests and standards that apply to 3M™ Protective Coveralls and selection can be a daunting task. The following section outlines the different options available to help you select the right product for your employees.

Protection Types

Depending on the materials and construction, protective coveralls can be designed for either hazardous applications (certified to CE Category III) or non-hazardous applications. Products for hazardous applications can be tested and certified to any of six different “Type” standards, providing guidance on suitability of use.

Category	Symbol	Protection Type	Standard	3M Product Code
CE Category III 		Type 1 Gas Protection		N/A
		Type 2 Non-Gas Protection		N/A
		Type 3 Liquid Jet Protection	EN 14605 (EN ISO 17491-3)	4570
		Type 4 Liquid Spray Protection	EN 14605 (EN ISO17491-3)	4570, 4565
		Type 5 Particle Protection	EN ISO 13982-1	4570, 4565, 4545, 4540+, 4535, 4530, 4520, 4515, 4510
		Type 6 Limited Liquid Splash Protection	EN 13034 (EN ISO 17491-4)	

HIGH

↑

PROTECTION

↓


LOW

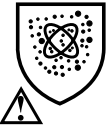






Additional Standards


Some 3M protective coveralls and their materials are approved to additional standards* for specialized applications.


 Protection against nuclear particles (EN 1073-2)



 Protection against nuclear particles (EN 1073-2) with exception of EN863 puncture resistance

 Total Inward Leakage Class 1

 Total Inward Leakage Class 2

 Anti-static coating (EN 1149-5)

 Refer to User Instructions for further information on anti-static compliance

Tests for Protection against micro-organisms	4510	4545	4565	4570
 Protection against micro-organisms (EN 14126)				
 Protection against micro-organisms (EN 14126) with exception of ISO 16604 (see table below)				
ASTM 1671 bloodborne pathogen penetration resistance	—	—	—	Pass
ASTM 1670 synthetic blood penetration resistance	—	—	—	Pass
ISO 16603 assesses resistances to penetration under pressure by synthetic blood (visual assessment)	Class 4 of 6	Class 4 of 6	Class 6 of 6*	Class 6 of 6*
ISO 16604 models resistance to viral penetration under pressure (biological assay)	Unclassified	Unclassified	Unclassified	Class 6 of 6*
ISO 22610 assesses resistances to wet bacterial penetration during mechanical contact	Class 6 of 6*	Class 6 of 6*	Class 6 of 6*	Class 6 of 6*
ISO 22611 determines resistance to penetration by aerosols containing bacteria	Class 3 of 3*	Class 3 of 3*	Class 3 of 3*	Class 3 of 3*
ISO 22612 assesses resistance to dry microbial penetration using talc contaminated with spores	Class 3 of 3*	Class 3 of 3*	Class 3 of 3*	Class 3 of 3*

Please refer to product user instructions and packaging for more information. An "" denotes highest level of performance according to test method.

Product features

3M protective coveralls can offer a variety of benefits depending on your needs. The illustration below highlights some of the features available.



Sizes
M – 4XL

3-Panel hood
Provides improved fit and comfort

Whole suit tested
Simulated workplace conditions that test coverall performance as designed and constructed, not just fabric tests.

Breathable back panels
For comfort in hot environments.

Two-way zip
Sealable storm flap for protection from contaminants

Elastic waist
Helps increase comfort and mobility

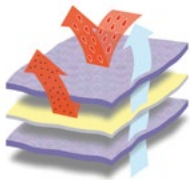
Knitted cuffs
For increased wearer comfort

Anatomical design and fit
For optimal wear, coverage and comfort

Extra material in arms and legs
Helps increase freedom of movement

Materials

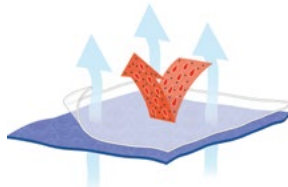
The following is a guide that offers a comparison between the materials used in the 3M™ Protective Coverall range.



SMS

Spunbound Meltblown Spunbound are robust breathable fabrics, designed to offer a good barrier against hazardous particles and limited liquid splashes.

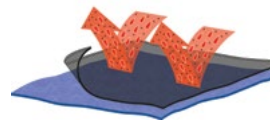
Protective Coveralls 4515, 4520, 4530 and back panels of Protective Coveralls 4535 and 4540+



Microporous PE Laminate

Polypropylene PE laminate is designed to offer a good barrier against hazardous particles and limited liquid splashes, while the micropores allow for some breathability.

Protective Coveralls 4510 and 4545. Also white material of Protective Coveralls 4535 and 4540+



Non-microporous PE Laminate

Designed to offer a very good barrier against hazardous particles and certain liquid splashes and sprays.

Protective Coverall 4565



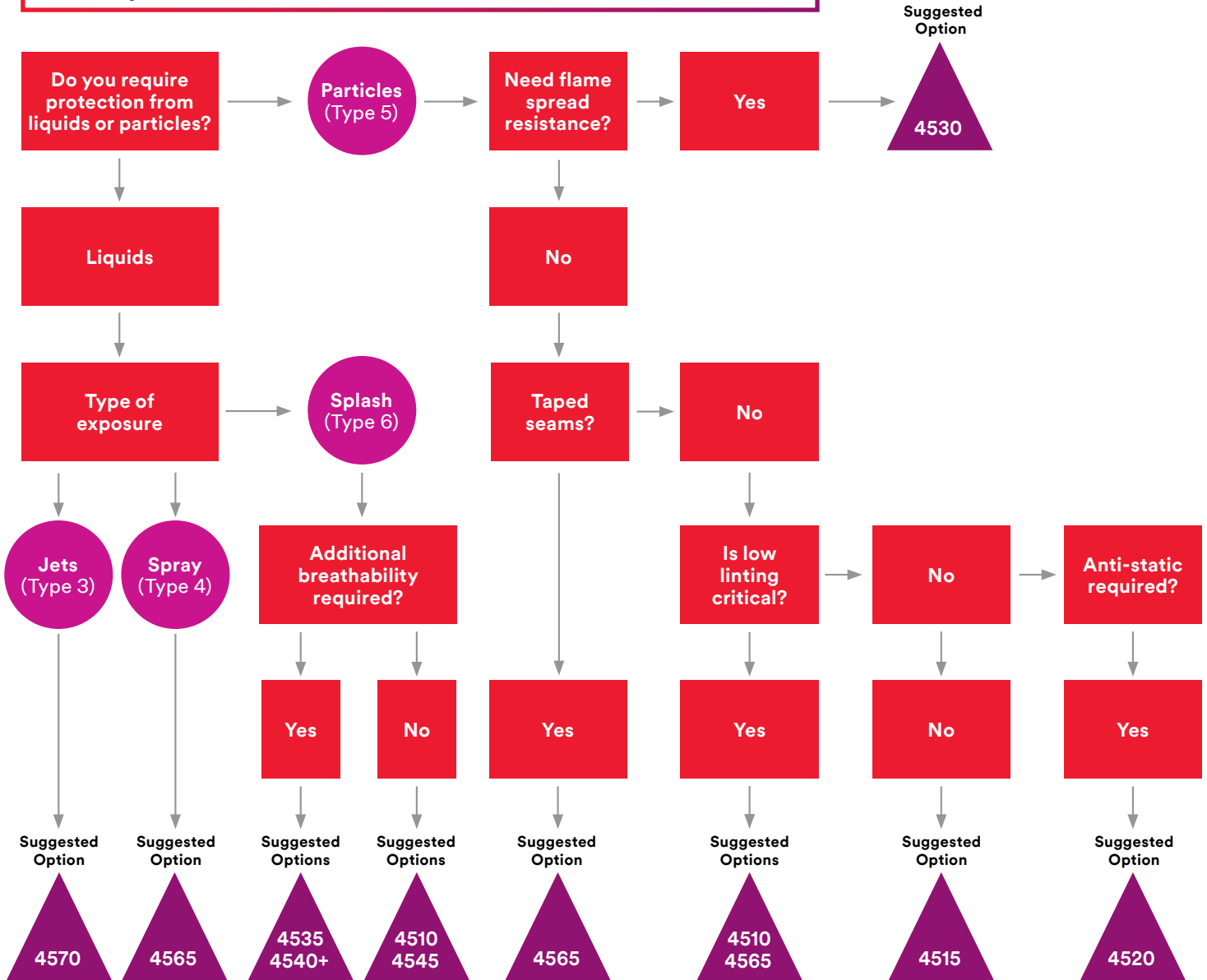
Multi-Layer Non-Microporous PE Laminate

Designed to offer an excellent barrier against hazardous particles and certain liquid splashes, sprays and jets.

Protective Coverall 4570

Selection flow chart

WARNING: This product selector is intended to provide guidance on key features of the 3M product range. Product selection should always be made after a risk assessment by a competent person with knowledge of the actual working conditions and limitations of the PPE.



*The fabric complies with ISO 14116:2008 for limited flamespread index 1 (must be worn over and index 2 or 3 garment and must not be worn next to skin).

WARNING: Cuffs and zipper are not flame resistant. Cuffs must be worn under gloves.

Review Product Selection Guide

Important Notice

This guide is only an outline. It should not be used as the only means for selecting protective clothing. Before using any protective clothing, the wearer must read and understand the user instructions for each product. Specific country legislation must be observed. If in doubt, contact a safety professional. Selection of the most appropriate PPE will depend on the particular situation and should only be made by a competent person knowledgeable of the actual working conditions and the limitations of PPE.

Final determination as to the suitability of these products for a particular situation is the employer's responsibility. This information is subject to revision at any time. Always read and follow all User Instructions supplied with your 3M™ Protective Coveralls in order to ensure correct operation. If you have questions contact 3M Technical Service. **LIMITATION OF LIABILITY:** Except as provided above, 3M shall not be liable or responsible for any loss or damage, whether direct, indirect, incidental, special or consequential arising out of the sale, use or misuse of 3M PSD products, or the user's inability to use such products. **THESE REMEDIES SET FORTH HEREIN ARE EXCLUSIVE.**

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3M™ Protective Coveralls



3M™ Protective Coverall 4510

Designed to offer cost effective protection against hazardous dusts and limited liquid splashes.

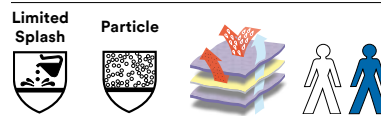
- ▶ Elasticized hood, ankles, cuffs and waist
- ▶ 2 way zip with storm flap
- ▶ Ultra low linting
- ▶ Collared and hooded available
- ▶ Anti-static



3M™ Protective Coverall 4515

Made from lightweight and extremely breathable material and is designed to offer protection against hazardous dusts and limited liquid splashes.

- ▶ Elasticized hood, cuffs, ankles and waist
- ▶ 2 way zip with storm flap
- ▶ Low linting



3M™ Protective Coverall 4520

Made from lightweight and extremely breathable material and is designed to offer protection against hazardous dusts and limited liquid splashes.

- ▶ Elasticized hood, ankles and waist
- ▶ 2 way zip with sealable tab on storm flap
- ▶ 3-panel hood
- ▶ Knitted cuffs
- ▶ Low linting
- ▶ Collared and hooded available ▶ Anti-static



3M™ Protective Coverall 4530

Made from extremely lightweight and breathable material and is designed to offer protection against hazardous dusts and limited liquid splashes. The fabric complies with ISO 14116:2008 for limited flamespread index 1 (must be worn over an index 2 or 3 garment and must not be worn next to skin).

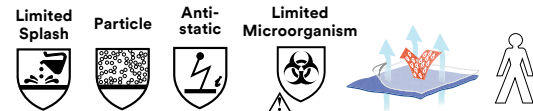
- ▶ Elasticized hood, ankles and waist
- ▶ 2 way zip with fully sealable storm flap
- ▶ 3-panel hood
- ▶ Knitted cuffs
- ▶ Low linting
- ▶ Anti-static
- ▶ Collared and hooded available



3M™ Protective Coverall 4545

Made from soft, lightweight, yet durable fabric which provides a good barrier to hazardous particles and limited liquid splash. Supplied in vacuum packaging.

- ▶ Elasticized hood, ankles, and waist
- ▶ 2 way zip with fully sealable storm flap
- ▶ 3-panel hood
- ▶ Knitted cuffs
- ▶ Ultra low linting
- ▶ Anti-static



3M™ Protective Coverall 4535

Provides a superb balance of comfort and protection. The microporous PE laminate at the front of the garment is designed to offer a good barrier to limited liquid splash, while the large SMMMS breathable back panel helps increase wearer comfort.

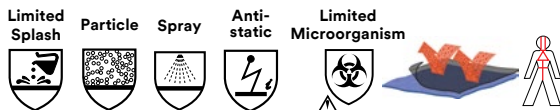
- ▶ Elasticized hood, ankles and waist
- ▶ 2 way zip with storm flap
- ▶ Knitted cuff
- ▶ Low linting
- ▶ Anti-static



3M™ Protective Coverall 4565

Made from a soft lightweight fabric with taped seams, providing a very good barrier to hazardous particles and limited liquid splash and spray.

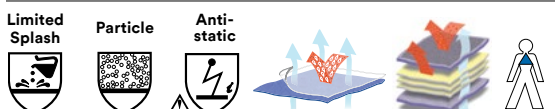
- ▶ Elasticized hood, ankles and waist
- ▶ 2 way zip with fully sealable storm flap
- ▶ 3-panel hood
- ▶ Knitted cuffs
- ▶ Ultra low linting
- ▶ Anti-static



3M™ Protective Coverall 4540+

A highly versatile protective coverall, which is mostly made from a unique microporous PE laminate, designed to be softer and drape better over the body. It is designed to offer a good barrier to particles and limited liquid splash but it also features a breathable SMMMS back panel.

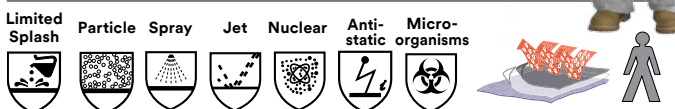
- ▶ Elasticized hood, ankles and waist
- ▶ 2 way zip with fully sealable storm flap
- ▶ 3-panel hood
- ▶ Knitted cuffs
- ▶ Low linting
- ▶ Collared and hooded available
- ▶ Anti-static



3M™ Protective Coverall 4570

Designed to offer a barrier to hazardous particles and certain liquid splashes, sprays and jets.

- ▶ Elasticized hood and ankles
- ▶ Double front closing system with large ring zip pull for easy wear
- ▶ 3-panel hood
- ▶ Elasticized cuffs with thumb loops
- ▶ Ultra low linting
- ▶ Anti-static



* † ‡ △, see page 5 for details.

Accessories



Lab Coats

3M™ Lab Coat 4440

- ▶ Made from the same microporous PE laminate material as the 3M™ Protective Coverall 4535
- ▶ Knitted cuffs
- ▶ Offers a barrier against non-hazardous particles and light liquid splashes
- ▶ Zip fastener
- ▶ Anti-static treatment

Overboot Covers



3M™ Overboot 450

Reduced Slip Sole

- ▶ Made from the same microporous PE laminate material as the protective coverall 4535
- ▶ Elastic at the calf
- ▶ Universal size with ties to help provide a good fit
- ▶ Laminated material ties to minimize particle shed and contamination in particle restricted environments such as clean rooms
- ▶ Overboot 450 features a reduced slip sole
- ▶ Anti-static



3M™ Overboot 440

Standard Sole

Overshoe Covers



3M™ Overshoe 402

- ▶ Offers a general barrier to non-hazardous substances
- ▶ Reduced slip print on base
- ▶ Elastic at ankle



3M™ Overshoe 442

- ▶ Made from the same microporous PE laminate material as the protective coverall 4535
- ▶ Elastic at ankle
- ▶ Anti-static

Oversleeves



3M™ Oversleeve 444

- ▶ Made from the same laminated material as the 3M™ Protective Coverall 4510
- ▶ Offers a general barrier to non-hazardous substances
- ▶ 16 inch/40.5cm protection covering wrist to top of arm
- ▶ Elastic finish on top end

Head Protection



3M™ Overhood 446

- ▶ Made from the same laminated material as the protective coverall 4510
- ▶ Drapes over the shoulders offering excellent coverage



3M™ Hair Net 407

- ▶ Designed to help prevent hair from contaminating the working environment
- ▶ Universal size

Selection guide by application

● Suggested ○ Possible alternative

▶ Click on photos to view web content.



	4510	4515	4520	4530	4535	4540+	4545	4565	4570
Certification**	Limited Splash, Particle, Anti-static, Limited Micro-organism	Limited Splash, Particle	Limited Splash, Particle, Anti-static	Limited Splash, Particle, Anti-static	Limited Splash, Particle, Anti-static	Limited Splash, Particle, Anti-static	Limited Splash, Particle, Anti-static, Limited Micro-organism	Limited Splash, Particle, Spray, Anti-static, Limited Micro-organism	Limited Splash, Particle, Spray, Jet, Nuclear, Anti-static, Micro-organism
Material weight	1.38 oz/yd ² (47gsm)	1.47 oz/yd ² (50gsm)	1.26 oz/yd ² (43gsm)	1.59 oz/yd ² (54gsm)	1.62 oz/yd ² (55gsm)	1.44 oz/yd ² (49gsm)	1.44 oz/yd ² (49gsm)	1.44 oz/yd ² (49gsm)	2.71 oz/yd ² (92gsm)
Sizes	M-4XL	M-4XL	M-4XL	M - 4XL	M - 4XL	M-4XL	M-4XL	M-4XL	S - 4XL
Colors									

▶ Abatement/remediation

Exposure to radioactive particles	○	○	○	●	○	○	○	○	●
Mold remediation/ mold spores	○	●	●	○	○	○	○	○	○
Asbestos inspection, site preparation	○	●	●	○	○	○	○	○	
Asbestos removal	○	○	○	○	○	○	○	●	

▶ Agriculture

Fertilizer application (dry/granular)	○	●	○	○	○	○	○		
Animal waste (solid)		○	○						
Pesticide spraying ³					○			●	○

▶ Emergency response/biohazard

Bloodborne pathogens									●
Hazardous biological aerosol									●

▶ Pharmaceutical/clean room

Pharmaceutical processing	○		○	○	○	○	○	●	
Handling powders	○		○	○	○	○	○	●	
Clean rooms	○					○	●	●	

▶ Painting

Spray Painting	●			○	●	●	●	●	
Resin application	●			○	●	●	●	○	
Fiberglass application	●			○	●	●	●	○	

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** See pages 4-5 for additional overview and technical data sheets protectiveapparel for fuller specifications.

▶ Click on photos to view web content.



Product Guide
(continued)

	4510	4515	4520	4530	4535	4540+	4545	4565	4570
▶ Cleaning and maintenance									
Dirt		●	○	○					
Machine or vehicle maintenance	○	○	○	●	○	○	○		
Light duty building maintenance	○	○	○						
Grease (general)	○	○	○	○	○	○	○		
Light duty warehousing, janitorial		●							
▶ General industry									
Electronics/circuit board assembly ¹			●	●					
Fiberglass/cellulose insulation installation	○	●	●	○	○	○	○	○	
Food processing	○	○	○		○	○	○		
General powder handling	○	●	○	○	○	○	○		
Lime handling		●	○	○					
Woodworking			●	●					
Non-hazardous aerosols (sprays)	○	○	○	○	●	○	○	○	
Non-hazardous liquids	○	○	○	○	●	○	○	○	
Non-hazardous solids		●	○						
Coal dust	○	●	○	○	○	○	○	○	
▶ Oil & gas/chemical									
Maintenance (refinery)				●					
Tank cleaning								○	●
Chemical mixing and handling								○	●
▶ Metal work									
Metal grinding				●					
Welding in certain applications (worn over appropriate welding garment) ²				●					

Summary: Materials and design

	White	White, blue	White	Blue	White with blue full back	White with blue triangle	White	White with red taped seams	Grey
▶ Color options	White	White, blue	White	Blue	White with blue full back	White with blue triangle	White	White with red taped seams	Grey
▶ Suit material	PE laminate	SMS	SMMMS	SMMS	PE laminate + SMMMS	BICO PE laminate + SMMMS	BICO PE laminate	BICO PE laminate	Multi-layer PE laminate
▶ Fabric weight	47 gsm	50 gsm	43 gsm	54 gsm	55 gsm	49 gsm	49 gsm	49 gsm	92 gsm
▶ Coating	Anti-static	None	Anti-static	Anti-static, FR	Anti-static	Anti-static	Anti-static	Anti-static	Anti-static
▶ Storm flap	Basic flap	Storm flap with tabs	Storm flap with tabs	Sealable flap	Basic flap	Sealable flap	Sealable flap	Sealable flap	Double flap, double zip
▶ Cuffs	Elastic	Elastic	Knitted	Knitted	Knitted	Knitted	Knitted	Knitted	Elastic + thumb loops
▶ Reinforced gusset	No	No	No	Yes	Yes	Yes	Yes	No	No
▶ Hood design	2-panel	2-panel	3-panel	3-panel	2-panel	3-panel	3-panel	3-panel	3-panel
▶ Seams type	Stitched & partially bound	Stitched	Stitched	Stitched	Stitched & partially bound	Stitched & partially bound	Stitched & partially bound	Taped	Taped

¹ For applications conducted in a controlled environment refer to "Cleanroom Applications".

² Material will melt when contacting spatter and hot surfaces.

³ Refer to pesticide manufacturer's recommendations for appropriate level of liquid/particulate protection.

** See pages 4-5 for additional overview and technical data sheets protectiveapparel for fuller specifications.

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