

3M™ Reusable Respirators



Comfort, Trust,
Versatility

Respirators for Your Workplace





3M™ Ultimate FX Full Facepiece Reusable Respirator FF-400 Series

FF 401 (Small)
FF 402 (Medium)
FF 403 (Large)

Comfortable, durable protection for demanding, X-treme conditions

The lightweight Ultimate FX FF-400 was developed to provide maximum comfort and durability with unique features that make it the optimal choice for a variety of industrial applications:

Large Lens Featuring Scotchgard™ Protector

- Paint and stain-resistant lens—3M's exclusive Scotchgard™ coating causes some paints and stains to bead up on the surface so they can be wiped off easily
- Helps lens stay clearer during some spray applications
- Provides a wide field of view

Passive Speaking Diaphragm

- Optimally positioned for clearer and easier communications

Bonded Silicone Gaskets

- Eliminates loose gaskets that can be lost

Easy to Use

- Respirator attachments twist on and off easily for quick assembly and disassembly

Durable, Long-lasting Head Harness

- Features a six-strap configuration for a secure fit
- Harness straps pulled over one million times in development durability testing

Comfort Cradle

- Positions the respirator more comfortably on the head

Soft, Silicone Nose Cup and Faceseal

- Engineered for maximum durability, comfort and resilience
- Three sizes help the respirator fit a broad range of face shapes and sizes

Cool Flow™ Valve

- Allows for easier breathing
- Reduces heat and moisture buildup for cool, dry comfort

3M Reusable Respirators Technology Innovations Over the Years



3M offers the first reusable "Maintenance-Free" Half Facepiece Respirator

1977



3M designs and develops the "bayonet-style" cartridge connection

1989



3M develops first disc filters with loaded web filter media—the first non-woven, non-fiberglass filters

1992

3M manufactures a "swept-back" designed cartridge for its 5000 Series Facepiece for better peripheral vision and weight distribution



1987

3M develops and incorporates a new integral filter technology in its 4000 Series Facepiece, creating a lighter weight respirator



1991

3M launches its 6000 Series Full Facepiece Respirator offering best-in-class field of view and lightweight characteristics



1996

3M™ Full Facepiece Reusable Respirator 6000 Series

6700 (Small)
6800 (Medium)
6900 (Large)



Reliable, convenient, compatible protection

- Unique center adapter directs exhaled breath and moisture downward, and helps reduce debris from depositing in the valve. Smooth surface allows for quick and easy cleaning
- Large lens provides wide field of view and excellent visibility
- 3M™ Cool Flow™ Valve helps provide cool, dry comfort
- Meets requirements of ANSI Z87.1-2010 for high impact (Z87+)
- Lightweight, well-balanced design with silicone face seal for enhanced comfort and durability
- Available in air purifying respirator (APR), supplied air and powered air purifying respirator (PAPR) modes



3M™ Full Facepiece Reusable Respirator 7800S Series

7800S-S (Small)
7800S-M (Medium)
7800S-L (Large)

Designed for durability and protection

- Silicone facepiece enhances fit and improves durability
- Double-flange face seal and six adjustable straps help provide a secure fit
- Can be used with a passive or electronic clip-on welding lens
- Available in air purifying respirator (APR), supplied air and powered air purifying respirator (PAPR) modes
- FR-7800B (First Responder) version available
 - Butyl rubber seal to minimize permeation
 - CBRN approved with FR-15-CBRN



2002 3M develops first rectangular filter with unique seal-check capabilities



2007 3M develops first HF P100 nuisance OV filter. Offers lowest breathing resistance on the market



2010 3M develops first Full Facepiece Respirator with Scotchgard™ coating, overmolded gaskets, and comfort head cradle

2002

2002

2007

2009

2010

2013

2002 3M introduces Cool Flow™ Valve for reduced heat and moisture in the 7500 Half Facepiece Respirator



2009 3M develops easier breathing, longer lasting 2000 Series disc filters



2013 3M introduces the 6500 Half Facepiece Respirator, our lightest silicone half facepiece





3M™ Half Facepiece Reusable Respirator 7500 Series

7501 (Small)
7502 (Medium)
7503 (Large)

Easy breathing, comfort and durability

Soft Seal Design

- Advanced silicone material provides a softer feel on the face
- Unique adjustment design helps reduce tension and pressure points on the face for unsurpassed comfort

Adjustable Head Cradle

- Allows wearer to adjust for optimum fit and comfort

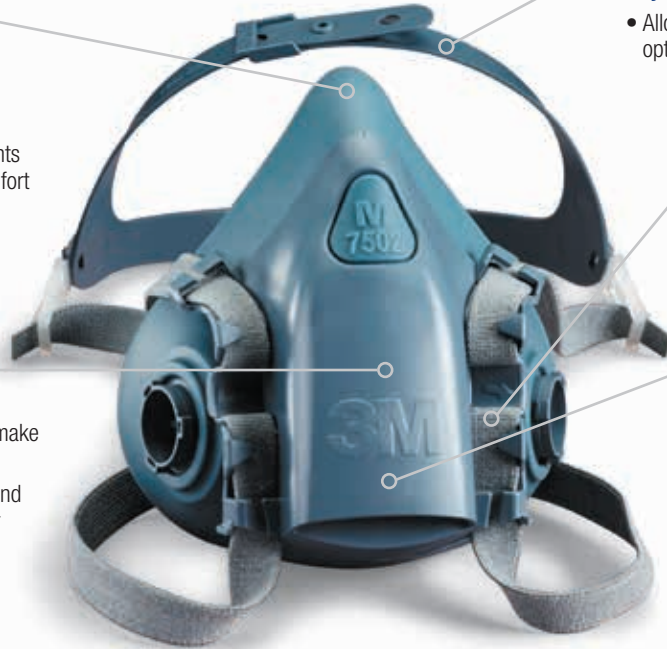
Dual-mode Head Harness

- Adjusts easily so user has the option of wearing respirator in either traditional or drop-down mode



Cool Flow™ Valve

- Valve design helps make breathing easier
- Helps reduce heat and moisture buildup for cool, dry comfort



Unique Exhalation Valve Cover

- Directs exhaled breath and moisture downward
- Smooth surface allows for quick and easy cleaning
- Helps reduce debris from depositing in valve area

3M™ Rugged Comfort Half Facepiece Reusable Respirator 6500 Series

6501 (Small)
6502 (Medium)
6503 (Large)

Rugged comfort, durability, and slim profile design

6501QL (Small)
6502QL (Medium)
6503QL (Large)



Adjustable Head Harness Assembly

- Optimum fit and comfort with three-size adjustable head cradle
- Long-lasting polyester/spandex straps

3M™ Bayonet Connection

- Compatible with all 3M™ bayonet-style cartridges and filters

Silicone Face Seal

- Provides comfort and stability with a soft but firm face seal
- Extended product life due to resilient silicone material
- Our lightest silicone facepiece
- Keeps its shape in high-heat environments

Quick Latch Drop-Down Mechanism*

- Easy on and off as you move in and out of contaminated areas
- No need to remove your hard hat or faceshield when lowering or raising your respirator

Valve Cover Design

- Directs exhaled breath and moisture downward
- Easy positive pressure seal check

Cool Flow™ Valve

- Enhanced comfort by reducing heat and moisture
- Easier breathing with unique valve design



*Available on models 6501QL, 6502QL and 6503QL.

3M™ Half Facepiece Reusable Respirator 6000 Series

Compatible, convenient respiratory protection

- Facepiece is made from soft, lightweight material
- Available with a standard or drop-down head harness option. Drop-down model allows wearers to lower the respirator without removing hard hat or faceshield
- Head harness assembly and spare parts are available



Standard

6100 (Small)
6200 (Medium)
6300 (Large)



Drop-down

6100DD (Small)
6200DD (Medium)
6300DD (Large)



3M™ Half Facepiece Disposable Respirator 5000 Series

Balanced design, disposable convenience

- Easy to use and convenient
- Pre-assembled with permanently attached cartridges; no maintenance necessary
- Facepiece is made from soft, lightweight material
- Ideally suited for:
 - Intermittent respirator use
 - Plant shutdowns and turnarounds
 - Dirty applications where respirators wear out or become difficult to clean in a short time



5101 Organic Vapor Respirator (Small)
5201 Organic Vapor Respirator (Medium)
5301 Organic Vapor Respirator (Large)

5103 Organic Vapor/Acid Gas Respirator (Small)
5203 Organic Vapor/Acid Gas Respirator (Medium)
5303 Organic Vapor/Acid Gas Respirator (Large)

51P71 P95 Paint Spray/Pesticide Assembly (Small)
52P71 P95 Paint Spray/Pesticide Assembly (Medium)
53P71 P95 Paint Spray/Pesticide Assembly (Large)



Identify the Hazards

Applications and Industries	Potential Hazards	Cartridge/Filter Options*
Spray Painting, Varnishing, Staining & Coating	Solvent-based	OV/P95
	Water-based Latex	Nuisance OV**/P95
Sanding & Grinding	Particulate	N95
Welding	Weld Fume	N95
	Stainless Steel & Galvanized	Nuisance OV**/P95
Abatement	Lead & Asbestos	P100
	Mold	N95 - P100/ Nuisance OV**
Cement Work	Silica/Dust	N95
Cleaning & Janitorial	Bleach	AG/P95
	Ammonia	AM/MA/P95
	General Cleaning Products	OV/P95
Agriculture	Pesticides & Insecticides	OV/AG/P95 - P100
Construction	Particulate	N95
Manufacturing	Solvents	OV
	Particulate	N95
Pharmaceutical Manufacturing	Particulate	N95/P100
Chemical Manufacturing	Sulfur Dioxide, Chlorine	AG/P95
	Ammonia	AM/MA/P95

*Respirator facepiece or system must be chosen based on the contaminant, airborne concentration and the necessary assigned protection factor.

**Nuisance level refers to concentrations below the Occupational Exposure Limit (OEL) or other applicable government regulations, whichever is lower.

This guide is only an outline. It should not be used as the only means for selecting a respirator. Details regarding performance and limitations are set out on the respirator package and *User Instructions*. Before using any of these respirators, the wearer must read and understand the User Instructions for each product.



Select the Right Respirator

	5000	6000 HF	6500	7500	6000 FF	FF-400	7800S
Enhanced Durability			○	○		○	○
Maintenance Free	○						
Enhanced Comfort			○	○	○	○	
Drop-down Feature		○*	○**	○			
3M™ Cool Flow™ Valve			○	○	○	○	
Compatible with 3M™ Supplied Air System		○	○	○	○	○	○
Compatible with 3M™ PAPR Systems					○	○	○
Eye Protection					○	○	○
Speaking Diaphragm						○	○
Accessories					○	○	○
Spare Parts		○	○	○	○	○	○
Six-point Head Harness						○	○
Silicone Face Seal			○	○	○	○	○
Compatible with Welding Shield		○	○				
Clip-on Welding Shield							○

*6000DD Version.

**6500QL Version.

Find a Combination that Works Best for You



6000 Series



6500 Series



7500 Series



6000 Series



Ultimate FX
FF-400



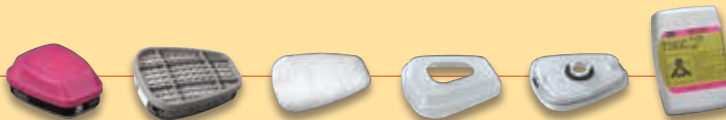
7800 Series



Particulate Protection



Gas and Vapor Protection



Combines Particulate
and Gas and Vapor
Protection



Dual Airline Supplied Air Respirator

For all 6000, 7000
and FF-400 Series
Respirators



Face-mounted PAPR[†]
(available for 6000 FF only)

Belt-mounted PAPR[†]

For 6000 and 7000*
Series Full Facepiece
Respirators

[†]Powered Air Purifying Respirator
^{*}Belt-mounted PAPR only

3M™ Particulate Filters and Gas/Vapor Cartridges

All 3M Particulate Filters and Gas/Vapor Cartridges can be used interchangeably with 3M™ Reusable Respirators 6000, 6500, 7000 and FF-400 Series.

3M™ Particulate Filters 2000 Series



- Lightweight and easy to breathe through
- Assortment of filters available for a wide range of applications
- Easier breathing through new 3-layer advanced Electret Filter Media in 2200 Series Filters

Part Number	Description
2071	Particulate Filter, P95
2076HF	Particulate Filter, Hydrogen Fluoride/P95, with Nuisance Level Acid Gas Relief*
2078	Particulate Filter, P95, with Nuisance Level Organic Vapor/Acid Gas Relief*
2091	Particulate Filter, P100
2096	Particulate Filter, P100, with Nuisance Level Acid Gas Relief*
2097	Particulate Filter, P100, with Nuisance Level Organic Vapor Relief*
2291	Advanced Particulate Filter, P100
2296	Advanced Particulate Filter, P100, with Nuisance Level Acid Gas Relief*
2297	Advanced Particulate Filter, P100, with Nuisance Level Organic Vapor Relief*

3M™ Particulate Filter 7093, P100

- Unique, spring-loaded filter cover design simplifies negative pressure user seal checks
- Swept-back design provides enhanced field of view and greater comfort
- 7093C offers a lightweight, low profile design that combines P100 filtration with carbon-loaded features found in heavier combination cartridge products



7093	Particulate Filter, P100
7093B	Particulate Filter, P100, Bulk
7093C	Cartridge/Filter, Hydrogen Fluoride, P100 with Nuisance Level Organic Vapor and Acid Gas Relief*

3M™ Gas/Vapor Cartridges 6000 Series



- Low-profile design helps maintain good field of vision
- Full range of cartridges to meet your needs

6001	Cartridge, Organic Vapor
6002	Cartridge, Acid Gas**
6003	Cartridge, Organic Vapor/Acid Gas**
6004	Cartridge, Ammonia/Methylamine
6005	Cartridge, Formaldehyde/Organic Vapor
6006	Cartridge, Multi Gas/Vapor**
6009	Cartridge, Mercury Vapor or Chlorine

3M™ Combination Cartridges/P100 Particulate Filters 6000 Series



- Particulate filter is permanently attached to cartridge for easy, one-step assembly
- Unique design for enhanced comfort and visibility

60921	Cartridge/Filter, Organic Vapor/P100
60922	Cartridge/Filter, Acid Gas/P100**
60923	Cartridge/Filter, Organic Vapor/Acid Gas/P100**
60924	Cartridge/Filter, Ammonia/Methylamine/P100
60925	Cartridge/Filter, Formaldehyde/Organic Vapor/P100
60926	Cartridge/Filter, Multi-Gas/Vapor/P100**
60928	Cartridge/Filter, Organic Vapor/Acid Gas/P100**†
60929	Cartridge/Filter, Mercury Vapor/Chlorine Gas/P100

* 3M recommended for relief against nuisance levels of organic vapors and acid gases. Nuisance level organic vapor and acid gas refers to concentrations not exceeding OSHA PEL or applicable government occupational exposure limits, whichever is lower. Do not use for respiratory protection against acid gases or organic vapors (except hydrogen fluoride).

** Reminder: These cartridges are approved for respiratory protection from hydrogen sulfide gas up to 10 times the permissible exposure limit (PEL) with half facepiece respirators and full facepiece respirators when qualitatively fit tested, or up to less than 300 parts per million (ppm) with full facepiece respirators when quantitatively fit tested or according to specific OSHA standards or applicable government regulations, whichever is lower. 300 ppm is the concentration considered Immediately Dangerous to Life or Health (IDLH) for hydrogen sulfide.

† As recommended by the California Department of Pesticide Regulation No. 01-009-Methyl Bromide Field Fumigation. 3M recommended for use against radioiodine and methylbromide. Note: not NIOSH approved for methylbromide or radioiodine.

Industrial Paint Hazards

Description

The prevalent use of paints and coatings across many industries and organizations presents a variety of workplace hazards. In many cases, selection and use of appropriate personal protective equipment (PPE) is necessary to help control exposures. Respiratory and skin contact hazards are common across most applications. Depending on the type of paint or coating and the specific use conditions, other hazards may be present. These can include fire and explosion hazards, electric shock, fall hazards, excessive noise and other. Prior to selecting PPE for any painting operation, a hazard assessment completed by a qualified health and safety professional is necessary to evaluate exposure risks potentially present.

Types of Paint

Industrial paints and coatings can be categorized under two types: those that are liquid, which include both water-based and solvent-based; and those that are solid, which include powder coatings. The hazards present can be uniquely different for each.

Water-based and solvent-based paints are distinguished by the amount and type of organic solvent (volatile organic compounds/VOC's) present. Water-based paints, often referred to as emulsion paints generally have a lower amount of VOC's. As their name would suggest, solvent-based paints, sometimes referred to as oil-based or alkyd paints contain a higher level of organic solvents. Common organic solvents include xylene, toluene, and ethyl acetate. In comparison to solvent-based paints, the lower amount of VOC's in water-based paints reduces exposure risk due to respiratory and skin contact hazards.

Industrial powder coatings are typically produced by blending together resins, curing agents, pigments and additives. The resulting mixture is milled into fine particles or powders. These powders are applied via a pressurized spray application system that includes electrostatic charging of the particles to efficiently transfer the powder coat to the workpiece. The process is completed by transporting the painted workpiece through a curing oven. The powder coating process often results in minimal or no VOC exposure to the operator.

Respiratory Hazards

The type of paint and application method determine the operator exposure risk to respiratory hazards. Water-based and solvent-based paints include some exposure to gases and vapors (VOC's), regardless of application method. In most cases, brushing or rolling the paint results in VOC exposure only. When the paint is applied by spray, such as a pressurized industrial sprayer or simple aerosol container, an additional aerosol (particle) exposure is created. This becomes important when selecting an air purifying respirator to control exposure, as a cartridge and filter capable of capturing both VOC's and aerosol may be needed. As previously described, powder-coat paints present aerosol exposure only, in most cases.

Respiratory hazard severity is often greater for solvent-based paints due to their composition. Exposure risk is increased while using solvent-based paints, due to use of reducing agents (organic solvents), and clean-up solvents, such as mineral spirits or turpentine. Water-based paints can usually be cleaned with a warm, soapy water solution minimizing additional VOC exposure.

Isocyanates

Isocyanates are a class of chemical compounds that are found in certain solvent-based paints. They react with other chemical compounds containing alcohol groups to produce polyurethane polymers. A chemical containing two isocyanate groups is called a diisocyanate. Common examples are toluene diisocyanate (TDI), hexamethylene diisocyanate (HDI), and methylene diphenylmethane diisocyanate (MDI). Isocyanates (and diisocyanates) are the raw materials that make-up all polyurethane products, including polyurethane paints.

Health effects of isocyanate exposure can include skin irritation, chest tightness and difficulty breathing. Isocyanates are known to have severe adverse effects to the respiratory tract in some individuals. It is estimated that 5% - 20% of workers can become sensitized to isocyanates. Sensitization is the body's allergy-like response to a substance that has been inhaled or touched by a susceptible individual. These sensitized individuals may react to isocyanate exposure, even at very low levels below the occupational exposure limit that may not affect others. When spraying polyurethane paints, the major hazard is breathing the aerosol droplet (mist) and absorbing the isocyanate and other components into the lungs.

Controlling Exposures to Respiratory Hazards

Exposure controls for paint operations typically start with local exhaust ventilation, such as a downdraft system. These systems are designed to remove airborne VOC's and aerosol away from the painter's breathing zone. Any local exhaust system must be designed properly and inspected and maintained to ensure they function correctly.

Respiratory protection is often used as a secondary control strategy with local exhaust ventilation. In certain cases where local exhaust ventilation or other administrative controls are not practical or feasible, respiratory protection may be the primary control strategy.

Respirator Selection for Painting

Respirator selection depends on the paint type (water-based, solvent-based, or powder coat), and specifically the paint contaminants and their airborne concentrations. Respiratory protection used for painting operations can include most respirator types. These include air purifying respirators using a cartridge or filter to remove contaminants from ambient air to supplied air systems, where breathable air is provided to the wearer from a remote source, such as industrial compressor or ambient pump.

The following is a general discussion of respirator types commonly used for painting operations:

- **Disposable respirators**, also referred to as filtering facepiece respirators, are designed primarily for aerosols (dust or spray mist). Disposable models are available with activated carbon manufactured into the facepiece, which is intended for nuisance level of organic vapors less than the occupational exposure limit, such as an OSHA PEL. Disposable respirators may be an option in powder coating and for certain water-based paints, such as latex coatings.
- **Reusable respirators**, also referred to as elastomeric respirators, which include tight fitting half facepiece and full facepiece models, may be configured with a gas and vapor cartridge (e.g., organic vapor) and 95 or 100 class particle filter (N95, R95, P95, P100, etc.) for both water-based and solvent-based paints. Due to reduced performance over time, a cartridge/filter change schedule must be implemented to determine end of service life based on the conditions of use. Elastomeric respirators are the most common type of respiratory protection used in painting applications.
- **Powered Air Purifying Respirators (PAPR)** also use a cartridge to filter contaminants from ambient air. PAPR's may be configured with tight fitting reusable respirators, and with loose fitting hoods and helmets. Like reusable respirators, a cartridge change schedule must also be determined for PAPR cartridges. In contrast to a tight-fitting respirator, fit testing is not required for any loose-fitting headgear. This allows use by wearers with limited amounts of facial hair. Depending on configuration, PAPR's offer a high level of respiratory protection with Assigned Protection Factors (APF) up to 1000. PAPR's are used in a wide range of painting applications.
- **Supplied Air Respirators (SAR)** may also be configured with either tight-fitting reusable respirator or loose-fitting headgear. SAR's include both continuous flow and pressure demand types. Although an SAR does not include a cartridge

or filter, breathable air must meet Grade D requirements specified by OSHA. Most supplied air respirators provide a similar level of respiratory protection as a PAPR. SAR's are primarily used for solvent-based paints.

The use of NIOSH-certified respirators in workplace environments must be accompanied by a full respiratory protection program as specified in OSHA 29 CFR 1910.134. Important components of a respiratory protection program include points such as written standard operating procedures, medical evaluation, fit testing (where applicable), user training, respirator cleaning and maintenance, and cartridge/filter change schedule for air purifying respirators.

When selecting a tight-fitting air purifying respirator, it is very important to read and follow the donning instructions carefully and to conduct a user seal check every time the respirator is put on.

Skin Hazards

Many paint components, including organic solvents and isocyanates, present skin contact hazards requiring PPE or other exposure controls. Organic solvents (VOC's) found in both water-based and solvent based paints are known to cause a variety of health effects due to direct skin contact. Many organic solvents cause defatting of the fats and oils of the skin causing it to become dry, scaly and irritated. Prolonged contact to certain organic solvents may result in allergic skin contact dermatitis. Other organic compounds may be absorbed through the skin causing long term systemic effects to the liver, kidneys and heart. An increased risk of skin exposure may occur during the painting process such as mixing and clean-up tasks where direct contact is more likely. Also, Skin contact due to the paint aerosol (mist or powder) is possible if the paint is sprayed.

Protection of the skin becomes more critical when spraying or using diisocyanate-based paints, such as polyurethanes. These products can cause irritation to both skin and eyes. Some studies suggest that direct skin contact can also cause respiratory sensitization as previously discussed. Refer to the Safety Data Sheet (SDS) for common health effects for the paint or coating used.

Controlling Skin and Eye Exposures

Controlling exposure to the skin and eyes is typically accomplished through a combination of PPE and safe work practices. PPE may include protective coveralls, faceshield and/or eye protection and chemical resistant gloves. Protective coveralls should provide resistance to liquid splashes and/or hazardous dusts depending on type of paint applied.

Protective eyewear should meet the requirements of the American National Standards Institute (ANSI) Standard Z87.1 for safety eyewear. As per Z87.1-2015 requirements, impact rated eyewear will be marked "+" or "Z87+". Protective eyewear will be marked "D3" when designed splash protection and D4 for dust protection. Safety glasses with a foam seal around the lens area forming a partial seal are also suitable for dusty environments, such as powder coating operations. Face shields are considered supplemental protection and should be used only in combination with approved safety glasses or goggles.

Protective glove selection may vary depending on the paint and use conditions. Nitrile and neoprene or common glove materials that may offer skin protection against paints.

Work practices are also important in minimizing skin and eye exposures. Substituting solvent-based paints for water-based paints usually results in lower VOC (organic solvent) content. Worker training, such as safe mixing, spraying and clean-up techniques, can also be effective.

Fire and Explosion Hazards

Solvent-based paints present the highest risk of ignition that could lead to fire and explosion. These hazards are present for solvent-based paints in both storage and use areas. Organic solvents are rated for flammability by their flashpoint, which is the minimum temperature at which a liquid gives off vapor to form an ignitable mixture. OSHA defines a flammable liquid to mean any liquid having a flashpoint below approximately 200 degrees F. Solvent-based paints generally have a lower flash point compared to water-based paints and therefore, present a higher fire risk.

Powder coatings, which consist of fine organic particles, can result in explosions under the right conditions of use. For both solvent-based paints and powder coatings, an explosion may occur when both the concentration of contaminant (solvent vapor or dust) in the air is between the Lower Explosive Limit (LEL) and the Upper Explosive Limit (UEL), and a source of ignition is present. Sources of ignition can include hot surfaces or flames, electrical discharges or sparks and electrostatic discharges.

To prevent fire and explosions in solvent-based paint and powder coating operations, equipment must be designed to isolate potential ignition sources. Consideration for intrinsic safety rating may be applicable to certain PPE, such as PAPR's, when used in these hazardous locations. Refer to the PAPR manufacturer to confirm equipment specifications meet the intrinsic safety requirements of the painting operation.

3M Online Respirator Medical Evaluation



On busy job sites, getting results – and getting them quickly – is vital. To save you time, money, and the hassle of coordinating clinic appointments, 3M facilitates a convenient, online method for employers to obtain medical evaluation of respirator wearers as required by the OSHA Respiratory Protection Standard (29 CFR 1910.134**). The Online Respirator Medical Evaluation has a web-based interactive questionnaire, which gives you immediate notification of the results.

Here are some of the benefits the Online Respirator Medical Evaluation Service offers:

Convenience

- Respirator medical evaluations for all brands and types of respirators
- Most employees do not need to leave the work site
- Questionnaires available in both English and Spanish
- Evaluations can be taken 24 hours/day, 7 days/week from any computer with internet access

Speed

- It takes most employees only 15 to 30 minutes to complete the questionnaire

Consistency

- All employees are evaluated using the same expanded OSHA Respirator Medical Evaluation Questionnaire

Quality

- The expanded OSHA Respirator Medical Evaluation Questionnaire incorporates work conditions and respirator types
- Board-certified occupational medicine physicians complete the reviews and, when necessary, make recommendations for medical follow-up.

3M Science.
Applied to Life.™

Sign up, take the questionnaire, and get instant results with the 3M Online Respirator Medical Evaluation Service.

The process is easy to use:

1

Create an account.

The employer follows a few simple steps including creating one or more Respirator Profiles describing the respirator type, the work being done, and the conditions under which the respirator(s) will be used. Employees can test against up to seven different respirator profiles for one low cost.



Answer the questionnaire.

Each employee logs on to a secure web site using a unique personal password. The employee then completes the online questionnaire and submits it for evaluation.

2

3

Get the results.

The employee receives immediate notification of his/her respirator use status. Within minutes after employees have completed the questionnaire, the employer can find out the respirator use status of those employees.



Receive notification.

Employees and the employer are notified within one (1) business day after completion of the questionnaire regarding status of any employees requiring further evaluation.

4

5

Data is stored securely.

All data is stored behind a firewall on a secure server. The employer does not have access to the employees' private health information.



Regulations Update

OH&ESD

#24 – Eye and Face Protection

Published: January, 2004

ANSI Z87.1-2003

The American National Standards Institute (ANSI) issued a new edition of ANSI Z87.1-2003 American National Standard Practice for Occupational and Educational Personal Eye and Face Protective Devices, replacing Z87.1-1989.

This summary of the eye and face protection standard was prepared by 3M OH&ESD and focuses primarily on specific changes to the standard. It does not represent an official, legal nor complete interpretation of the standard. If questions arise, the standard itself should be reviewed and relied on, rather than this summary.

Summary

This standard replaces the ANSI Z87.1-1989 that was incorporated, by reference, into the federal regulations. At this time, there is no indication whether the revised standard will be adopted by the Occupational Safety and Health Administration (OSHA), and no official reference has been published in the Federal Register. However, OSHA has typically allowed newer standards that are at least as protective as those referenced in the OSHA standard to be followed without the employer being cited.

The major changes to the eye and face protection standard include:

- Previous standard used terms “primary” and “secondary” eye protection. Current standard no longer uses these terms but does address which devices must be used in conjunction with safety spectacles or goggles.
- Respiratory protective equipment that offers eye and face protection has been added to the standard. These include tight-fitting full facepiece respirators and loose fitting respirators.
- Performance of products is now based on impact resistance levels and is classified as “Basic” or “High”:
 - Safety spectacles and goggles, welding shields and faceshields may meet either basic or high impact level.
 - Respirators that also provide eye protection, such as tight-fitting full facepieces, loose fitting facepieces and helmets, must meet high impact level.
- Marking requirements:
 - The basic impact level marking is “Z87”.
 - The high impact level marking is “Z87+”.
 - The manufacturer’s identifying mark or symbol plus the basic or high impact level marking must be included on the following devices:

- Spectacles must bear the appropriate marking on the front or one of the temples.
- Goggles with non-removable lenses must bear the appropriate marking on the lens housing or the lens.
- Faceshields must bear the marking “Z87” on the frame or crown, and the window of the faceshield must bear the appropriate marking.
- Lenses of affected respirators must also bear the marking “Z87+”.
- Frames of affected respirators must also bear the marking “Z87”.
- When faceshields and welding shields on respirators can be raised from the normal position, ANSI states the respirator must be used in conjunction with spectacles or goggles.

Safety Spectacles and Goggles

The complete line of 3M™ Protective Eyewear is classified as either safety spectacles or goggles, according to this new standard. The current line of 3M™ Protective Eyewear meets the new optical and physical requirements of the ANSI Z87.1-2003 Standard as High Impact Protectors/Lenses in all lenses and frame colors offered. Product bearing the new marking requirements will be phased-in as

Regulations Update #24 – Eye and Face Protection

the current inventory is exhausted. Spectacles will bear the appropriate marking “Z87+” on the front or on one of the temples. Goggles with non-removable lenses will bear the marking “Z87+” on the top of the lens housing.

Faceshields

Faceshields include protective devices designed to shield the wearer’s face, or portions thereof, in addition to the eyes, from certain hazards. The 3M™ Faceshield Kit 1631 meets the requirements of ANSI Z87.1-2003 for high impact. The 3M™ Faceshield Kit 1631 will bear the marking “Z87” on the frame or crown, and the window of the faceshield will bear the marking “Z87+”. Movable faceshields, including the 3M™ Faceshield Kit 1631, must be used in conjunction with safety spectacles or goggles where protective eyewear is required, according to ANSI Z87.1-2003.

Tight-Fitting Full Facepiece Respirators (with or without welding attachments)

The tight fitting full facepiece classification includes the 6000 and 7000 Series full facepiece respirators. These devices will meet the requirements of ANSI Z87.1-2003 for high impact. See the lists of products below for the status of the 6000 and 7000 Series full facepiece respirators. Full facepiece respirators must be tested as a complete goggle with a removable lens and will bear markings on the lens housing/frame “Z87.1-2003” and on the lens “Z87+ 2003”, and will include the manufacturer’s identifying mark or symbol.

Loose fitting respirators (with or without welding attachments)

For this update, loose fitting respirators include loose fitting facepieces (L-500 and L-700 Series, Air Crown, R-Series and AS-Series), and helmet style respirators (L-900 Series and Whitecap Helmets). These will meet the requirements of ANSI Z87.1-2003 high impact level. Because the faceshields and welding shields of certain 3M respirators can be raised from the normal position (i.e., down), ANSI states that safety spectacles or goggles must be worn in conjunction with these respirators. 3M recommends that safety spectacles or goggles be worn in conjunction with all loose fitting respirators.

Dates

As with any standard, there will be a time lag before products with the new markings appear in the marketplace. 3M will provide updated information on products as it becomes available.

The following summarizes the current situation for 3M products that provide eye and face protection.

3M Products that currently comply with the optical and physical requirements of ANSI Z87.1-2003 High Impact Level:

The appropriate markings will be added to the following products.

- 3M™ Protective Eyewear: all spectacles and goggles
- 3M™ Faceshield Kit 1631
- Whitecap™ Abrasive Blasting Helmet Assembly, W-8100 & W-8100B

- Whitecap™ General Purpose and Welding Helmets, W-8000 & W-8200 (W-8000 and W-8200 were discontinued and will not bear the markings)
- 6000 Full facepiece Respirator
- L-Series Headgear Models: L-501, L-503, L-505, L-701, L-703, L-705, L-901, L-905
(Note: If the High Temp Wide View Lens L-132 is used, the lens must bear the marking “Z87+” or be replaced. These new lenses are on the market.)

Per ANSI Z87.1-2003, the following 3M products must be used in conjunction with safety spectacles or goggles:

- L-Series Headgear
- AS and R-Series Headgear
- Air Crown

3M also recommends use of safety spectacles or goggles with all loose fitting respirators

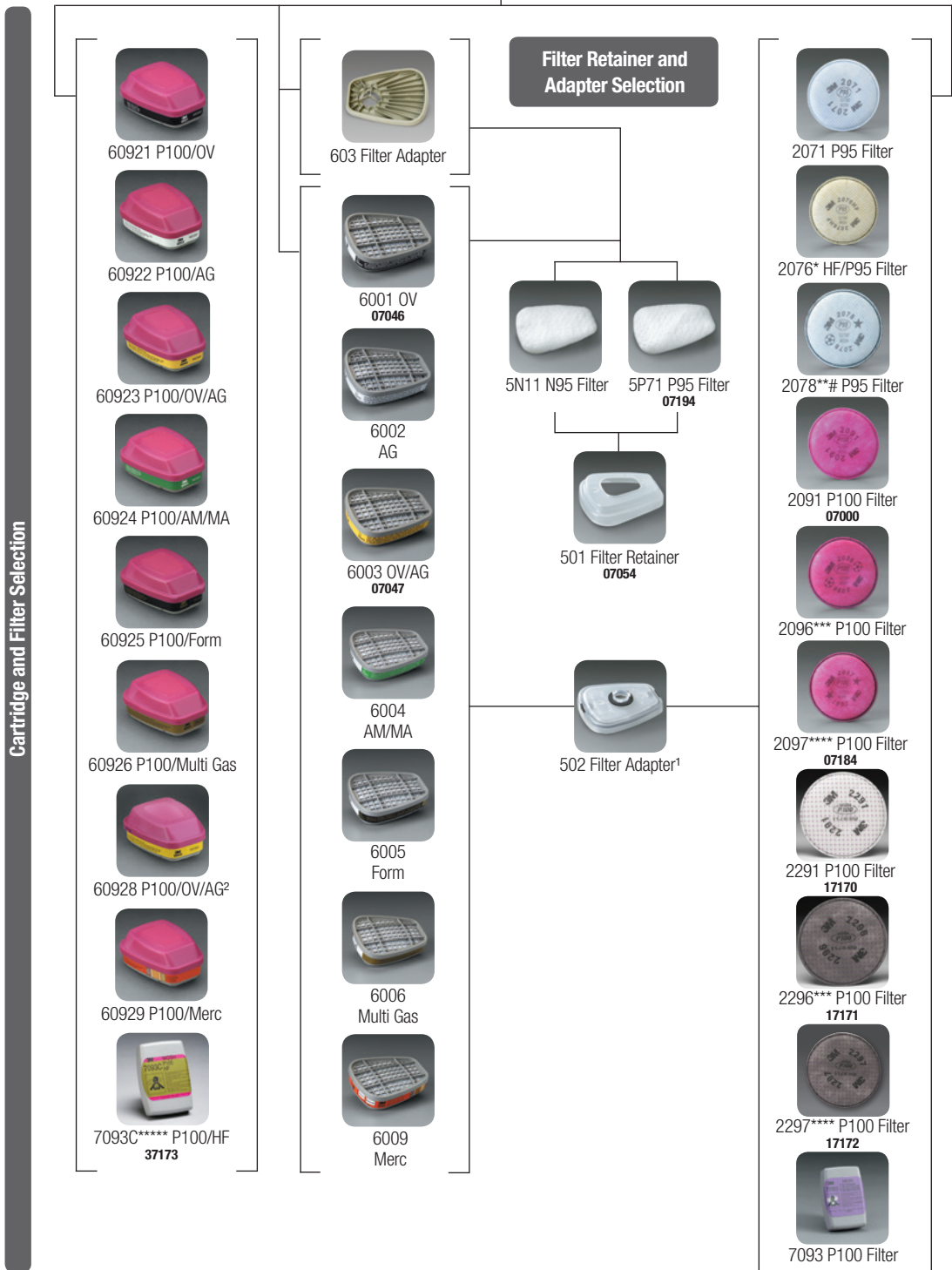
3M Products requiring modification to comply with ANSI Z87.1-2003 High Impact Level:

- AS and R-Series Headgear
- 7000 Series Full facepiece respirators
- L-132 High Temp Wide View Lens

3M™ Half and Full Facepiece Respirators 6000, 7000 and FF-400 Series – Product Matrix

3M Automotive Aftermarket Division (AAD) Product Numbers are listed in bold on select products. Other AAD packouts available.

Facepieces							
	6100 (S) 07024	6100DD (S)	7501 (S) 37081	6700 (S) 07138	6700DIN (S)	FF-401 (S) 89418	7800S-S
	6200 (M) 07025	6200DD (M)	7502 (M) 37082	6800 (M) 07139	6800DIN (M)	FF-402 (M) 89421	7800S-M
	6300 (L) 07026	6300DD (L)	7503 (L) 37083	6900 (L) 07140	6900DIN (L)	FF-403 (L) 89424	7800S-L





Product Information

Filter Adapter 603

The 3M™ Filter Adapter 603 is designed for use with 3M™ Particulate Filter 5N11 or 3M™ Particulate Filter 5P71 and 3M™ Filter Retainer 501.

Features

- Platform for 5N11 and 5P71 N95 and P95 prefilters.
- Enables these filters to be directly attached to all 3M™ Full or Half Facepiece 6000 and 7000 Series Respirators.

Benefits

- The filter adapter 603 may be used multiple times on all 3M full or half facepiece 6000 and 7000 series respirators.
- Provides cost-effective filtering solution when multiple filters are needed for elastomeric facepieces.
 - Break even analysis shows savings when used multiple times (based on suggested list per pair and similar replacement frequency)
 - 5N11 filters x 7 = 25.72 (integrating the 603 and 501 adapters)
 - 2071 disc filter x 7 = 26.18

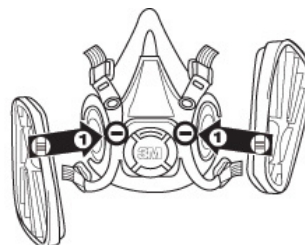
You save using the 603, 501, 5N11 when you use more than 7 pairs of the 5N11

Packaging and Ordering Information

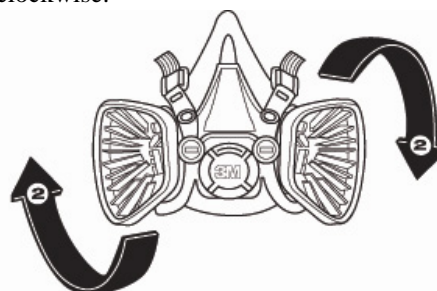
Part No.	Stock ID/UPC	Case Packaging
603	70-0707-5800-1 50051138 54376 6	2 adapters per box, 8 boxes per case

How to use the filter adapter 603

1. Align notch on edge of 603 adapter with facepiece mark, as shown, and push together.



2. Turn adapter ¼ turn clockwise to stop. To remove adapter, turn ¼ turn counter-clockwise.



3. Place filter into retainer (Part No. 501) with filter printing facing towards the 603 adapter. Snap together and ensure the filter seal is free from creases or gaps.

