



3M™ Protective Coverall 4565

Description

The 3M™ Protective Coverall 4565 is designed to help protect against hazardous dusts (Type 5), light liquid splashes (Type 6), and low pressure liquid sprays (Type 4).

The key features include:

- Constructed of a low-linting, non-woven, laminated material with anti-static coating on both sides
- Knit cuffs with elasticized waist and ankles for increased wearer comfort and freedom of movement
- Three panel hood design for compatibility with complementary PPE
- Two-way zipper with sealable storm flap
- Taped seams to help provide additional protection
- Offers protection from certain biological contaminants (tested according to EN 14126). Consult class results table.

Materials

- Suit: Polypropylene/Polyethylene Laminate Film, White
- Zipper: Nylon on Polyester Braid
- Elastic: Neoprene Rubber
- Cuffs: Polyester
- Thread: Polyester
- Seams: Polypropylene, Red
- Basis Weight: 49 grams/m²

This product does not contain components made from natural rubber latex.

Approvals

CE approved under PPE Directive (89/686/ECC), Category III.

Article 10 Certification: BTTG Testing & Certification Ltd. Notified Body Number: 0338. Article 11B Supervision: SGS United Kingdom, LTD.

Notified Body Number: 0120.

Comfort and Protection

	Liquid Protection	Type 4 (EN 14605) and Type 6 (EN 13034). Whole suit reduced spray test (EN ISO 17491-4)*
	Dust Protection	Type 5 (EN ISO 13982-1). Inward Leakage results: $L_{7mm,82/90} < 30\%$; $L_{3,8/10} < 15\%$.
	Anti-static	Anti-static coating on both sides (EN 1149-1:2006/ EN 1149-5:2008)**
	Nuclear	Radioactive particulates (EN 1073-2:2002), Class 2***. Does not offer protection against radiation.
	Biohazard	Tested according to ASTM F1670 and EN 14126:2003 (see class data in test table)

* In the whole suit test, liquid spray is applied to the subject for 1 minute. During this time the subject moves gently and is rotated through 360°. A total of 4.56 liters is sprayed from four nozzles. The clothing is allowed to drain for 2 minutes and then the absorbent coverall is inspected for stains which are compared to a calibration stain. Requirement: Passes when the stained area inside is 3 times smaller than the calibration stain area.

** All apparel must be grounded for anti-static treatment to be effective. Electrostatic propensity may decrease with wearing time and/or severe conditions.

*** Except puncture resistance.

Applications and Performance

Non-Hazardous Particulates	Yes	Gases and Vapors	No
Non-Hazardous Liquid Splash	Yes	Hazardous Liquid Splash	Contact 3M for chemical compatibility data
Non-Hazardous Liquid Spray	Yes	Hazardous Low Pressure Liquid Spray	Yes, if chemical is compatible with suit material*
Hazardous Dusts and Fibers	Yes	Organic Solvents	Contact 3M for chemical compatibility data
Liquid Continuous Contact/Immersion	No	Acids/Alkalis	Yes, if chemical is compatible with suit material*

* Contact 3M for additional chemical permeation, penetration and repellency data.

Typical Applications

Typical applications may include exposure to radioactive particles, exposure to non-infectious blood and bodily fluids, water reactive powder handling, tank cleaning and maintenance, pharmaceutical, cleanroom applications, and general industrial clean-up.

In all cases a risk assessment should be carried out. Users must be trained and have read all *User Instructions*. Use limitations and performance data should be considered to ascertain the protection required. If in doubt, contact a safety professional.

Performance

The table below shows the performance of this product when tested under laboratory conditions. Please note that the tests may not reflect the reality of use and do not account for factors such as excessive heat and mechanical wear.

Test	Standard	Result	Standard*	Class**/Result
Abrasion	ASTM D4157 Cycles to Rupture	850	EN 530	Class 1
Flex Cracking			ISO 7854	Class 1
Tear Resistance Trapezoidal	ASTM D5733 (warp direction/ fill direction)	16 lbf / 8 lbf	ISO 9073-4	Class 1
Tensile Strength	ASTM D751, Section 11, Procedure A (longitudinal/traverse)	15 lbs / 21 lbs	ISO 13934-1	Class 1
Puncture Resistance	ASTM D2582 (MD/CD)	46N / 26N	EN 863	Class 1
Bursting Resistance	ASTM D751, Section 18	86N	ISO 13938-1	Class 1
Resistance to Ignition	CPSC 16 CFR PT 1610	Class 1	EN 13274-4	Pass
Seam Strength	ASTM D751, Section 66 (Peak Load/Seam Strength)	10 lbf / 5 lbf/in	EN ISO 13935-2	Class 2
Hydrostatic Resistance	ASTM D751, Procedure B	>1479 mm		
Repellency to Liquids*** – 30% H ₂ SO ₄			EN ISO 6530	Class 3 of 3
Liquid Penetration Resistance*** – 30% H ₂ SO ₄			EN ISO 6530	Class 3 of 3
Repellency to Liquids*** – 10% NaOH			EN ISO 6530	Class 3 of 3
Liquid Penetration Resistance*** – 10% NaOH			EN ISO 6530	Class 3 of 3
Anti-static Coating on Both Sides			EN 1149- 1:2006/ EN 1149-5:2008	Pass
Radioactive Particulates			EN 1073-2	Class 2 of 3
Synthetic Blood Penetration Resistance	ASTM F1670	Pass	ISO 16603	Class 6
Blood-borne Pathogen Penetration Resistance			ISO 16604	Class 0
Contaminated Solid Particle Penetration Resistance			EN ISO 22612	Class 3 of 3
Contaminated Liquid Aerosol Penetration Resistance			EN ISO 22611	Class 3 of 3
Wet Bacteria Penetration Resistance			EN ISO 22610	Class 6

* The standards EN 13034:2005 and EN ISO 13982-1:2004, and EN 1073-2:2002 define performance classes.

** The maximum Class is 6 unless otherwise noted.

*** The European Standard EN ISO 6530 measures liquid penetration through a fabric and liquid repellency by a fabric. The test simulates exposure to small amounts of chemicals (10 ml) for 1 minute duration only. The penetration index refers to the percentage of the original quantity which penetrates the fabric within 1 minute (in a detector beaker) as a percentage of the original quantity.



Permeation Data per ASTM F739

Protective Coveralls		4565	
Fabric Type		Polypropylene, Polyethylene Laminate	
Chemical	CAS	Breakthrough time* (min)	Permeation Rate (ug/cm ² /min)
Acetone	67-64-1	Immediate	12
Acetonitrile	75-05-8	Immediate	17
Carbon Disulfide	75-15-0	Immediate	611
Dichloro-methane	75-09-2	Immediate	27
Diethylamine	109-89-7	Immediate	587
Dimethyl-formamide	68-12-2	Immediate	4
Ethyl Acetate	141-78-6	Immediate	304
n-Hexane	110-54-3	Immediate	34
Methanol	67-56-1	Immediate	2.2
Nitrobenzene	98-95-3	Immediate	13
Sodium hydroxide, 50%	1310-73-2	>480	ND
Sulphuric Acid, 93-98%	7664-93-9	412	3
Tetrachloro-ethylene	127-18-4	Immediate	866
Tetra-hydrofuran	109-99-9	Immediate	23
Toluene	108-88-3	Immediate	15

* Normalized breakthrough time. Defined by ASTM F739 as the time (in minutes) when the permeation rate reaches 0.1 ug/cm²/min. Breakthrough times of <10 minutes are listed as immediate. Data represent single samples.

** For additional chemical permeation and penetration data, please contact your local 3M Technical Service Representative.

Use Limitations

Do not use for:

- Contact with heavy oils, sparks or flames, or combustible liquids
- Exposure situations resulting in directional spray or liquid build-up on the suit
- Environments with high mechanical risks (abrasions, tears, cuts)
- Environments with exposure to hazardous substances beyond CE Type 4/5/6 certification
- Environments with conditions of excessive heat

For more information on 3M products and services please contact 3M.

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. Sections 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 user'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.

WARRANTY: 3M will replace or refund the purchase price of any Occupational Health and Environmental Safety Division (OH&ESD) product found to be defective in material, manufacture, or not in conformance with any express warranty. This warranty is exclusive and is in lieu of any implied warranty of merchantability or fitness for a particular purpose.

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 OH&ESD products, or the user's inability to use such products. THESE REMEDIES SET FORTH HEREIN ARE EXCLUSIVE.



Occupational Health and Environmental Safety Division

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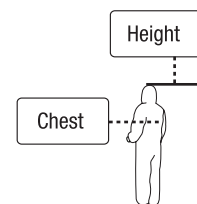
3M Canada Company OH&ESD

P.O. Box 5757
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Sizing

An appropriate size garment should be selected to allow sufficient movement for the task. Meets ANSI 101-1996 (R2008) sizing guidelines.

	Height		Chest	
M	66 – 69 in	167 – 176 cm	36 – 39 in	92 – 100 cm
L	69 – 71 in	174 – 181 cm	39 – 43 in	100 – 108 cm
XL	70 – 74 in	179 – 187 cm	43 – 45 in	108 – 115 cm
XXL	73 – 76 in	186 – 194 cm	45 – 49 in	115 – 124 cm
3XL	76 – 78 in	194 – 200 cm	49 – 52 in	124 – 132 cm
4XL	78 – 81 in	200 – 206 cm	52 – 55 in	132 – 140 cm



Storage and Disposal

- Store in dry, clean conditions in original packaging
- Store away from direct sunlight, sources of high temperature, and solvent vapors
- Store within the temperature range -20°C to +25°C (-4°F to +68°F) and with relative humidity below 80%
- Shelf life is three years from date of manufacture when stored as stated above
- Replace garments if damaged, heavily contaminated or in accordance with local work practice
- Handle and dispose of contaminated garments with care and in accordance with national regulations



Limited Use



Do not tumble dry



Do not wash



Do not dry-clean



Do not bleach



Flammable — keep away from sparks or flames



Do not iron

Product must never be altered or modified.

For More Information

Technical Assistance in U.S. 1-800-243-4630

3M.com/PPESafety

Technical Assistance in Canada 1-800-267-4414

3M.ca/PPESafety

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