

3M™ Protective Coverall 4535

Description

The 3M™ Protective Coverall 4535 is designed to help protect against hazardous dusts (Type 5) and certain light liquid splashes (Type 6).

The key features include:

- Constructed of quality laminated microporous material in the front body and arms with a large breathable back panel for increased comfort and to help reduce heat build up
- Good protection against dusts and certain light liquid splashes
- Knit cuffs and elastic waist and ankles for comfort and freedom of movement
- Two-way zipper with sealable storm flap
- Low linting

Materials

- Suit: Polypropylene & Polyethylene laminate (white)
- Back Panel: SMMMS Polypropylene (blue)
- Zipper: Metal/Nylon/Polyester Braid
- Cuffs: Polyester
- Thread: Polyester/Cotton

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 6 – (EN 13034 + A1:2009). Whole suit reduced spray test (EN ISO 17491-4)*
	Dust Protection	Type 5 – (EN ISO 13982-1). Inward Leakage results: $L_{\text{min},0.2/90} < 30\%$, $L_{\text{S},0/10} < 15\%$.
	Anti-static	Anti-static treatment** on both sides (EN 1149-5:2008)
	Nuclear	Radioactive particulates (EN 1073-2:2002) Class 1***. Does not offer protection against radiation.

* 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 1.88 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 smaller than 3 times the calibration stain area.

** All apparel must be suitably 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 Dusts	Yes	Hazardous Liquid Splash	Yes, if chemical is compatible with suit material*
Non-Hazardous Liquid Splash	Yes	Hazardous Liquid Spray	No
Hazardous Dusts and Fibers	Yes	Organic Solvents	No
Continuous Liquid Contact/Immersion	No	Acids/Alkalis	Yes, if chemical is compatible with suit material*
Gases and Vapors	No		

* Contact 3M for additional chemical penetration and penetration data. Note that breathable back panel has lower chemical resistance than the laminated white material.

Typical Applications

Typical applications may include: paint spraying, industrial clean-up and maintenance, industrial and chemical processing, asbestos inspection, building cleaning, insulation laying, pesticide handling/ agriculture (particulate aerosols only), powder coating and pharmaceutical manufacturing.

In all cases, the authority having jurisdiction needs to conduct a risk assessment. Always read product user information. 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 the tests may not reflect the reality of use and do not account for factors such as excessive heat and mechanical wear.

Test	Standard/Test Method	Result	Standard*	Class**/Result
Abrasion resistance (visual assessment)			EN 530:1994	Class 1
Flex cracking (visual assessment)			ISO 7854:1995	Class 5
Tear resistance	Tear Strength ASTM D5733 (warp/fill)	12.5 lbf/8.2 lbf	ISO 9073-4:1997	Class 1
Tensile Strength			EN ISO 13934-1:1999	Class 1
Puncture resistance	ASTM D2582 (MD/CD)	28.4 N/36.6 N	EN 863:1995	Class 1
Resistance to ignition	CPSA 16 CFR PT 1610	Class 1	EN 13274-4:2001	Pass
Bursting resistance	ASTM D751, Sec. 18	85.5 N	ISO 13938-2:1999	Class 1
Resistance to blocking			EN 25978:1990	No Blocking
Seam strength	ASTM D751, Sec. 66 (peak load/seam strength)	14 lbf/7 lbf/in.	EN ISO 13935-2:1999	Class 2
Repellency to liquids*** – 30% H ₂ SO ₄			EN ISO 6530:2005	Class 3 of 3
Liquid Penetration Resistance*** – 30% H ₂ SO ₄			EN ISO 6530:2005	Class 3 of 3
Repellency to liquids*** – 10% NaOH			EN ISO 6530:2005	Class 3 of 3
Liquid penetration resistance*** – 10% NaOH			EN ISO 6530:2005	Class 3 of 3
Anti-static coating on both sides			EN 1149-1:2006	Pass
Radioactive particulates (TL)			EN 1073-2:2002	Class 1 of 3

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

** The maximum Class is 6 unless otherwise noted.

*** 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 one minute duration only. The penetration index refers to the percentage of the original quantity which penetrates the fabric within 1 minute (in detector beaker) as a percentage of the original quantity.



Use Limitations

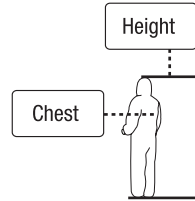
Do not use for:

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

Sizing

An appropriate size garment should be selected to allow for sufficient movement for the task.

	Height		Chest	
S	64 – 67 in	164 – 170 cm	33 – 36 in	84 – 92 cm
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%
- Expected shelf life is three years from date of manufacture when stored as stated
- Replace garments if damaged, heavily contaminated or in accordance with local work practice or regulations
- Handle and dispose of contaminated garments with care and in accordance with national regulations



Do not wash



Do not bleach



Do not iron



Do not tumble dry



Do not dry-clean



Single Use - do not re-use



Flammable — keep away from sparks or flames

Product must never be altered or modified.

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 apparel. Before using any protective apparel, 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.

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