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We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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4510 Technical Data Sheet



3M™ Protective Coverall 4510

Description

The 3M™ Protective Coverall 4510 is designed to help protect against certain light liquid splashes (Type 6) and hazardous dusts (Type 5).

The key features include:

- Constructed of quality laminated microporous material
- Elasticized waist, ankles, and wrists for convenience and freedom of movement
- Two-way zipper with storm flap
- Low-linting
- Anti-static coating on both sides

Materials

- Suit: Polypropylene/Polyethylene Laminate Film, White
- Zipper: Nylon on Polyester Braid
- Elastic: Neoprene Rubber
- Thread: Polyester
- Basis Weight: 47 grams/m²

This product does not contain components made from silicone or 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). Whole suit reduced spray test (EN ISO 17491-4-2008)*
	Dust Protection Type 5 (EN ISO 13982-1:2004). Inward Leakage results: $L_{jmn,82/90} < 30\%$; $L_{s,8/10} < 15\%$.
	Anti-static Anti-static coating on both sides (EN 1149-1:2006/ EN 1149-5:2008)**
	Nuclear Radioactive particulates (EN 1073-2:2002), Class 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 Particulates	Yes	Hazardous Liquid Splash	No*
Non-Hazardous Liquid Splash	Yes	Hazardous Liquid Spray	No
Hazardous Dusts and Fibers	Yes	Organic Solvents	No
Liquid Continuous Contact/Immersion	No	Acids/Alkalies	Yes, if chemical is compatible with suit material*
Gases and Vapors	No		

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

Typical Applications

Typical applications may include asbestos inspection, coal dust in power plants, metal polishing, light-duty building cleaning, machine or vehicle maintenance, paint spraying, pharmaceutical, general industrial clean-up, insulation installation, general powder handling and food processing.

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	1000	EN 530	Class 1
Flex Cracking			ISO 7854	Class 5
Tear Resistance Trapezoidal	ASTM D5733 (warp direction/fill direction)	11 lbf / 5 lbf	ISO 9073-4	Class 1
Tensile Strength	ASTM D751, Section 11, Procedure A (longitude/traverse)	12 lbs / 20 lbf	ISO 13934-1	Class 1
Puncture Resistance	ASTM D2582 (MD/CD)	36N / 25N	EN 863	Class 1
Bursting Resistance	ASTM D751, Section 18	80N	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)	8 lbf / 4 lbf/in	EN ISO 13935-2	Class 1
Hydrostatic Resistance	ASTM D751, Procedure B	1185 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 1 of 3

* 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.



Use Limitations

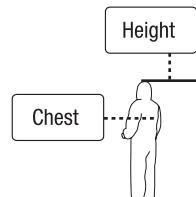
Do not use for:

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

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

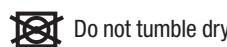


Storage and Disposal

- 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



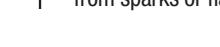
Do not wash



Do not bleach



Do not iron



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 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.

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