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3M™ Protective Coverall 4570

Technical Datasheet

Description

The 3M™ Protective Coverall 4570 range of coveralls are designed to help protect against hazardous dusts (Type 5), light liquid splashes (Type 6), low pressure liquid sprays (Type 4) and high pressure liquid jets (Type 3).

Approvals

These products are type examined by SATRA Technology Europe Ltd ., Notified Body number 2777 and audited annually by SGS, Notified Body number 0598.

These products are CE marked to the requirements of European Regulation (EU) 2016/425.

The CE Certificate and Declaration of Conformity can be reviewed at www.3m.com/Body/certs

Comfort and protection

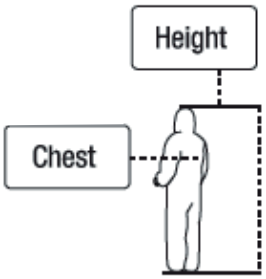
Liquid protection	Type 3 and Type 4 (EN 14605) and Type 6 (EN 13034) Whole suit full and reduced spray test (EN ISO 17491-3)
Dust protection	Type 5 (EN ISO 13982-1) Inward Leakage results: Ljmn,82/90 < 30 %; LS,8/10 < 15 %
Anti-static	Anti-static coating (EN 1149-5:2008)*
Nuclear	Radioactive particulates (EN 1073-2:2002), Class 2
Biohazard	Tested according to EN 14126:2003 (Type 3-B, Type 4-B, Type 5-B, Type 6-B)

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

Materials

Suit	Polypropylene/polyethylene
Zipper	Metal/nylon/polyester braid
Elastic	Synthetic rubber (non-latex)
Seam tape	Polyetheylene
Thread	Polyester/cotton

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



Sizing

An appropriate size garment should be selected to allow 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

Use limitations

Do not use for:

- Contact with heavy oils, sparks or flame, or combustible liquids
- Environments with high mechanical risks (abrasions, tears, cuts)
- Environments with exposure to hazardous substances beyond CE Type 3/4/5/6 certification
- Environments with conditions of excessive heat

Limited use


Do not wash


Do not dry clean


Do not bleach


Flammable — keep away from sparks or flames


Do not iron


Single use — do not re-use


Do not tumble dry

Storage and disposal

- Store in dry, clean conditions in original packaging
- Store away from direct sunlight, sources of high temperature, and solvent vapours
- Store within the temperature range -20°C to +25°C (-4°F to +77°F) and with relative humidity below 80%
- Shelf life is ten (10) 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

Applications and performance

Non-Hazardous Particulates	Yes	**Liquid Continuous Contact**	Yes, if chemical is compatible with suit material†
Non-Hazardous Liquid Splash	Yes	**Hazardous Liquid Splash**	Yes, if chemical is compatible with suit material†
Non-Hazardous Liquid Spray	Yes	**Hazardous Liquid Spray**	Yes, if chemical is compatible with suit material†
Hazardous Dusts and Fibres	Yes	**Organic Solvents**	Yes, if chemical is compatible with suit material†
Gases and Vapours	No	**Acids/ Alkalis**	Yes, if chemical is compatible with suit material†

† For additional chemical penetration and permeation data, please call your local 3M Technical Service Representative. Typical applications may include: chemical handling, environmental cleanup, hazardous waste remediation, agriculture.

In all cases, a risk assessment should be carried out. 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.

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

Technical data

The following tables show 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. The data listed in the tables below is based on one sample only.

Test	Standard/test method	Class/result
Abrasion resistance (visual assessment)	EN530:2010	Class 5
Flex cracking (visual assessment)	ISO 7854:1995	Class 1
Tear resistance	ISO 9073-4:1997	Class 2
Tensile strength	EN ISO 13934-1:1999	Class 1
Puncture resistance	EN 863:1995	Class 2
Bursting resistance	EN ISO 13938-1	Class 2
Resistance to ignition	EN 13274-4:2001	Pass
Resistance to blocking	EN 25978:1990	No blocking
Seam strength	EN ISO 13935-2:1999	Class 3
Repellency to liquids – 30% H_2SO_4	EN ISO 6530:2005	Class 3 of 3
Liquid penetration resistance – 30% H_2SO_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
Repellency to liquids – n-heptane	EN ISO 6530:2005	Class 2 of 3
Liquid penetration resistance – n-heptane	EN ISO 6530:2005	Class 3 of 3
Repellency to liquids – Isopropanol	EN ISO 6530:2005	Class 3 of 3
Liquid penetration resistance – Isopropanol	EN ISO 6530:2005	Class 3 of 3
Anti-static coating on inside only	EN 1149-1:2006	Pass
Radioactive particulates	EN 1073-2:2002	TIL Class 2 of 3
Biological protection	EN 14126:2003	Pass
Synthetic blood penetration resistance	ISO 16603:2004	Pass 20kPa
Blood-borne pathogen penetration resistance	ISO 16604:2004	Class 6
Contaminated solid particle penetration resistance	ISO 22612:2005	Class 3 of 3
Contaminated liquid aerosol penetration resistance	ISO/DIS 22611:2003	Class 3 of 3
Wet bacteria penetration resistance	EN ISO 22610:2006	Class 6

The standards EN 13034:2005, EN 14325 and EN ISO 13982-1:2004, and EN 1073-2:2002 define performance classes. The maximum Class is 6 unless otherwise noted.

Permeation test results

Chemical	CAS number	Fabric		Seam	
		EN 374-3 classified to EN 14325	ASTM F739 classified to ANSI103	EN 374-3 classified to EN 14325	ASTM F739 classified to ANSI103
		1ug/cm²	0.1ug/cm²	1ug/cm²	0.1ug/cm²
2-(2-aminoethoxy) ethanol 98%	929-06-6	Class 6	Not tested	Class 6	>480 (H)
2,4-Difluoroanaline 99%	367-25-9	Class 3	Not tested	Class 1	0 mins
2-Chloroethanol 99%	107-07-3	Class 6	Not tested	Class 6	0 mins
2-Ethylhexanoic acid 99%	149-57-5	Class 6	Not tested	Class 6	102 mins (L)
Acetic Acid 30% (ethanoic acid)	64-19-7	Class 6	Not tested	Class 6	>480 (H)
Ammonium hydroxide 30%	1336-21-6	Class 6	Not tested	Class 1	0 mins
Aniline 99% (phenylamine, aminobenzene)	62-53-3	Class 5	Not tested	Class 5	Average 11 mins
Dimethyl sulphate 98%	77-78-1	Class 6	Not tested	Class 6	>480 (H)
Dimethylformamide (DMF)	68-12-2	Class 6	>480 (H)	Class 6	Average 54 mins (L)
Ethylene glycol 99.5%	107-21-1	Class 6	Not tested	Class 6	>480 (H)
Formaldehyde 10%	50-00-00	Class 6	Not tested	Class 6	>480 (H)
Formic acid 96%	64-18-6	Class 6	Not tested	Class 6	Average 16 mins
Hydrazine monohydrate 98%	7803-57-8	Class 6	Not tested	Class 6	>480 (H)
Hydrobromic acid 48%	10035-10-6	Class 6	Not tested	Class 6	>480 (H)
Hydrochloric acid 37%	7647-01-0	Class 4	Not tested	Class 4	Average 36 mins (L)
Hydrofluoric acid (71-75wt%)	7664-39-3	Class 4	Not tested	Class 5	Average 132 mins (M)
Hydrofluoric acid 48%	7664-39-3	Class 6	Not tested	Class 6	>480 (H)
Isopropyl alcohol 99.5%	67-63-07	Class 6	Not tested	Class 6	Average 9 mins
Mercuric chloride sat. soln.	7487-94-7	Class 6	Not tested	Class 6	>480 (H)
Mercury	92786-62-4	Class 2	Not tested	Class 6	>480 (H)
Methanol	67-56-1	Class 6	0 mins	Class 6	0 mins
Nitric acid 70%	7694-37-2	Class 6	Not tested	Class 6	Average 7 hours (M)
Phenol 85% soln.	108-95-2	Class 6	Not tested	Class 6	>480 (H)
Phosphoric acid 85%	7664-38-2	Class 6	Not tested	Class 6	>480 (H)
Potassium chromate (saturated soln.)	7789-00-6	Class 6	Not tested	Class 6	>480 (H)
Sodium bisulphate 40% soln.	7681-38-1	Class 6	Not tested	Class 6	>480 (H)
Sodium fluoride saturated soln.	7681-49-4	Class 6	Not tested	Class 6	>480 (H)
Sodium hydroxide 40wt%	1310-73-2	Class 6	Not tested	Class 6	>480 (H)
Sodium hypochlorite (13% chlorine)	7681-52-9	Class 6	Not tested	Class 6	>480 (H)
Sulfuric acid 30wt%	7664-93-9	Class 6	Not tested	Class 6	>480 (H)
Sulfuric acid 93.1 wt%	7664-93-9	Class 6	>480 (H)	Class 6	>480 (H)
Zinc bromide saturated soln.	7699-45-8	Class 6	Not tested	Class 6	>480 (H)

Data given here is: for information only; not certified product claims; based on one sample only; based on lab conditions; subject to change. Product supplied may show variation. Breakthrough times are not safe wear times. Permeation rates increase with temperature. Permeation testing does not assess: degradation; mechanical defects; product design/fit.

Test methods referenced are EN 374 and ASTM F-739. EN 374 reports the breakthrough detection time at a permeation rate of 1.0 µg/cm² and refers to the EN 14325 classification in the table. ASTM F-739 reports the normalised breakthrough detection time at a permeation rate of 0.1 µg/cm² and refers to the ANSI 103 classification stated in the table. Both normalised permeation rates of 0.1 µg/cm² and 1.0 µg/cm² are reported in EN ISO 6529.

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EN 14325 Classification		ANSI 103 Classification	
Class 6	>480 mins	H	>480 mins
Class 5	>240 mins	M	>120 mins
Class 4	>120 mins	L	>30 mins
Class 3	>60 mins		
Class 2	>30 mins		
Class 1	>10 mins		

IMPORTANT NOTICE

The use of the 3M product described within this document assumes that the user has previous experience of this type of product and that it will be used by a competent professional. Before any use of this product it is recommended to complete some trials to validate the performance of the product within its expected application.

All information and specification details contained within this document are inherent to this specific 3M product and would not be applied to other products or environment. Any action or usage of this product made in violation of this document is at the risk of the user.

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