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3M™ Protective Coverall 4570

Technical Data Sheet

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).

Comfort & Protection

Liquid Protection	Type 3 & Type 4 (EN 14605) and Type 6 (EN 13034) Whole suit full and reduced spray test (EN ISO 17491-3)
Dust Protection	Type 5 - Solid Airborne Particulates (EN ISO 13982-1:2004 +A1:2010)
Anti-Static	Anti-static coating on inner side of material (EN1149-5:2008)[1]
Nuclear	Radioactive particulates (EN 1073-2:2002) Class 2
Biohazard	Tested according to EN 14126:2003 (see class data in performance table)

Features & Benefits:

- Advanced film technology
- Soft material reducing noise from movement
- Excellent levels of chemical hold out and mechanical strength
- Certified to offer protection against radioactive particulates (EN 1073-2) and infective agents (EN 14126).
- Anti-static treated (inside only) to EN 1149
- Elastic waist is adhered with glue to minimise potential entry points
- Elasticised wrists and ankles for convenience and freedom of movement.
- Thumb loops for secure fit during overhead work
- Three-panel hood design for a better fit and compatibility with other PPE

- Chin Flap with easy grab sealable tape for ease of use and secure fit
- Two integrated storm-flaps combined with double colour-coded zip to create a double seal for added convenience and extra protection.
- Large ring-pull zippers for easy donning and doffing when wearing gloves
- Seams are taped with a multi layer co-extruded clear tape which offers a discreet finish and a consistent seal and barrier to hazardous dusts and high pressure liquid jets

Standards

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

Materials

The following materials are used in the manufacture of this product.

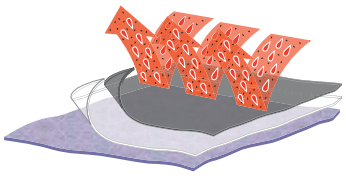
Component	Material
Suit	Polypropylene / Polyethylene
Zipper	Metal / Nylon / Polyester Braid
Elastic	Synthetic Rubber (non-latex)
Thread	Polyester / Cotton
Seams	Polyetheylene

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

1. All apparel must be suitably grounded for anti-static treatment to be effective.
⚠ Except EN863 puncture resistance. Does not offer protection against radiation.

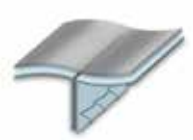
Fabric material

The 3M™ Protective Coverall 4570 uses a heavy-duty material blending a soft inner layer of spun bond fibres with multiple outer layers of a high performance anti-static treated polyethylene laminate, to offer a high level of liquid protection.



Seam Technology

Seams are stitched and overtaped with a clear heat applied multi-layer chemically protective tape to offer increased strength and an effective barrier to liquids and particulates.



Sizing[2]

An appropriate size garment should be selected to allow sufficient movement for the task whilst maintaining a secure fit.

Size	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

2. The values above are the result of illustrative lab test measures and should not be considered as a commitment from 3M.

Applications

Non-Hazardous Particulates	Yes
Non-Hazardous Liquid Splash	Yes
Non-Hazardous Liquid Spray	Yes
Hazardous Dusts and Fibres	Yes
Liquid Continuous Contact/ Immersion	Yes, if chemical is compatible with suit material[3]
Gases and Vapours	No
Hazardous Dusts & Fibres	Yes
Hazardous Liquid Splash	Yes, if chemical is compatible with suit material[3]
Hazardous Liquid Spray	Yes, if chemical is compatible with suit material[3]
Organic Solvents	Yes, if chemical is compatible with suit material[3]
Acids/ Alkalis	Yes, if chemical is compatible with suit material[3]

3. The chemicals against which the product has been tested and certified are listed in the user instructions and shown in the following table. For additional chemical penetration data, please call your local 3M Technical Service Representative or visit the 3M Chemical Test library on http://go.3M.com/CHTL

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™.

Performance

The tables show the performance of this product when tested under laboratory conditions in accordance with the referenced standard test method.
Note: The maximum Class is 6 unless otherwise noted.

Test	Standard/Test Method	Class/ Result
Abrasion resistance (visual assessment)	EN 530:2010	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	ISO 13938-1	Class 2
Resistance to ignition	EN 13274-4	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 Sulfuric Acid	EN ISO 6530:2005 Class 3 of 3	Class 3 of 3
Liquid penetration resistance – 30% H_2SO_4 Sulfuric Acid	EN ISO 6530:2005	Class 3 of 3
Repellency to liquids – 10% NaOH Sodium Hydroxide	EN ISO 6530:2005	Class 3 of 3
Liquid penetration resistance – 10% NaOH Sodium Hydroxide	EN ISO 6530:2005	Class 3 of 3
Anti-static coating on inner sides only	EN 1149-1:2006	Pass
Radioactive particulates (TIL)	EN 1073-2:2002	Class 2 of 3
Biological protection	EN 14126:2003	Pass
Synthetic blood penetration resistance	ISO 16603	Class 6 of 6
Blood-borne pathogen penetration resistance	ISO 16604	Class 6 of 6
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 of 6

Permeation Test Results

Chemical	CAS Number	Fabric		Seam	
		EN374-3 classified to EN14325	ASTM F739 classified to ANSI103	EN374-3 classified to EN14325	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	average 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 6	Not Tested	Class 6	>480 (H)
Methanol	67-56-1	Class 2	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.

EN14325 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		

Test methods referenced above 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 above. 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 above. Both normalised permeation rates of 0.1 µg/cm² and 1.0 µg/cm² are reported in EN ISO 6529

Storage and Disposal

- Store in dry, clean conditions in original packaging, 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%
- Expected shelf life is ten (10) years from date of manufacture when stored as stated[4]
- 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 applicable regulations

4. The shelf life as defined above remains an indicative and maximum data, subject to many external and non-controllable factors. It may never be interpreted as a warranty.

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

Warnings and Limitations

Before use read and understand all user instructions and be sure that the product is suitable for the application and fitted correctly. Product must never be altered or modified.

Do not use for:

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

Ordering Information

3M Code	Model #	Description
GT7000001206	4570	Coverall Grey type 3/4/5/6 Size M
GT7000001214	4570	Coverall Grey type 3/4/5/6 Size L
GT7000001222	4570	Coverall Grey type 3/4/5/6 Size XL
GT7000001230	4570	Coverall Grey type 3/4/5/6 Size XXL
GT700001248	4570	Coverall Grey type 3/4/5/6 Size 3XL

Important Notice

To the extent permitted by law, 3M shall not be liable for any loss or damage including any loss of business, loss of profits, or for any indirect, special, incidental or consequential loss or damage arising from reliance upon any information herein provided by 3M. Nothing in this statement will be deemed to exclude or restrict 3M's liability for death or personal injury arising from its negligence.

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