

# Technical Data Sheet

## 3M™ Protective Coverall 4570

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).

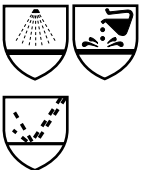




### Key Features

- Advanced film technology
- Soft material reducing noise from movement
- High levels of chemical hold out and mechanical strength
- Certified to offer protection against radioactive particulates (EN 1073-2) and biological contaminants (EN 14126)
- Anti-static treated (inside only) to EN 1149
- Elastic waist is adhered with glue to minimize potential entry points
- Elastic 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 color-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

### Approvals

CE approved under PPE Directive (89/686/ECC), Category III  
CE Certificate Issue: BTTG Testing and Certification Limited, UK.  
Notified Body Number: 0338  
Article 11B Supervision: SGS United Kingdom Limited, UK  
Notified Body Number: 0120

### Comfort and Protection

	<b>Liquid Protection</b>	Type 3 & Type 4 (EN 14605) and Type 6 (EN 13034) Whole suit full and reduced spray test (EN ISO 17491-3)
	<b>Dust Protection</b>	Type 5 (EN ISO 13982-1) Inward Leakage results: Ljmn,82/90 < 30 %; LS,8/10 < 15 %.
	<b>Anti-static</b>	Anti-static coating (EN 1149-5:2008)*
	<b>Nuclear</b>	Radioactive particulates (EN 1073-2:2002), Class 2
	<b>Biohazard</b>	Tested according to EN 14126:2003 (Type 3-B, Type 4-B, Type 5-B, Type 6-B) ASTM F1671:2013 ASTM F1670:2008

\*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

<b>Suit</b>	Polypropylene / Polyethylene
<b>Zipper</b>	Metal / Nylon / Polyester Braid
<b>Elastic</b>	Synthetic Rubber (non-latex)
<b>Seam Tape</b>	Polyethylene
<b>Thread</b>	Polyester / Cotton

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

### Sizing

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



	Height		Chest	
<b>S</b>	64 – 67 in	164 – 170 cm	33 – 36 in	84 – 92 cm
<b>M</b>	66 – 69 in	167 – 176 cm	36 – 39 in	92 – 100 cm
<b>L</b>	69 – 71 in	174 – 181 cm	39 – 43 in	100 – 108 cm
<b>XL</b>	70 – 74 in	179 – 187 cm	43 – 45 in	108 – 115 cm
<b>2XL</b>	73 – 76 in	186 – 194 cm	45 – 49 in	115 – 124 cm
<b>3XL</b>	76 – 78 in	194 – 200 cm	49 – 52 in	124 – 132 cm
<b>4XL</b>	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

**Product must never be altered or modified.**

## 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 +77°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

## Applications and Performance

<b>Non-Hazardous Particulates</b>	Yes
<b>Non-Hazardous Liquid Splash</b>	Yes
<b>Non-Hazardous Liquid Spray</b>	Yes
<b>Liquid Continuous Contact</b>	Yes, if chemical is compatible with suit material†
<b>Gases and Vapors</b>	No
<b>Hazardous Dusts &amp; Fibres</b>	Yes
<b>Hazardous Liquid Splash</b>	Yes, if chemical is compatible with suit material†
<b>Hazardous Liquid Spray</b>	Yes, if chemical is compatible with suit material†
<b>Acids/Alkalis</b>	Yes, if chemical is compatible with suit material†
<b>Organic Solvents</b>	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 clean-up, 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)	EN 530:1994	Class 5
Flex cracking (visual assessment)	ISO 7854:1995	Class 2
Tear Resistance Trapezoidal	ASTM D 5733 (Warp direction/Fill direction)	16 lbf/17 lbf
Tensile strength	EN ISO 13934-1:1999	Class 1
Puncture resistance	ASTM D2582 (MD/CD)	36 N/41N
Burst resistance	ASTM D751, Section 18	150 N
Resistance to ignition	CPSC 16 CFR PT 1610	Class 1
Resistance to blocking	EN 25978:1990	No Blocking
Seam strength	ASTM D751, Section 66 (peak Load/Seam Strength)	17 lbf/8 lbf/in
Repellency to liquids – 30% H <sub>2</sub> SO <sub>4</sub>	EN ISO 6530:2005	Class 3 of 3
Liquid penetration resistance – 30% H <sub>2</sub> SO <sub>5</sub>	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 inside only	EN 1149-1:2006	Pass
Radioactive particulates	EN 1073-2:2002	TIL Class 2/3
Biological protection	EN 14126:2003	Pass
Blood-borne pathogen penetration resistance	ASTM F1671:2013	Pass
Synthetic blood penetration resistance	ASTM F1670/ASTM F1670:2008	Pass
Blood-borne pathogen penetration resistance	ISO 16604:2004	Class 6 of 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 of 6

The standards EN 13034:2005, EN14325 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	Fabric			Seam	
	CAS Number	EN374-3 classified to EN14325	ASTM F739 Breakthrough time	EN374-3 classified to EN14325	ASTM F739 Breakthrough time
		1ug/cm <sup>2</sup>	0.1ug/cm <sup>2</sup>	1ug/cm <sup>2</sup>	0.1ug/cm <sup>2</sup>
2-(2-aminoethoxy) ethanol 98%	929-06-6	Class 6	Not Tested	Class 6	>480 mins
2,4-Difluoroaniline 99%	367-25-9	Class 3	Not Tested	Class 1	Immediate
2-Chloroethanol 99%	107-07-3	Class 6	Not Tested	Class 6	Immediate
2-Ethylhexanoic Acid 99%	149-57-5	Class 6	Not Tested	Class 6	average 102 mins
Acetic Acid 30% (ethanoic acid)	64-19-7	Class 6	Not Tested	Class 6	>480 mins
Acetone	67-64-1	Not Tested	Immediate	Not Tested	Immediate
Acetonitrile	75-05-8	Not Tested	Immediate	Not Tested	Immediate
Ammonium Hydroxide 30%	1336-21-6	Class 6	Not Tested	Class 1	Immediate
Aniline 99% (phenylamine, aminobenzene)	62-53-3	Class 5	Not Tested	Class 5	average 11 mins
Carbon Disulfide	75-15-0	Not Tested	Immediate	Not Tested	Immediate
Dichloro-methane	75-09-2	Not Tested	Immediate	Not Tested	Immediate
Diethylamine	109-89-7	Not Tested	Immediate	Not Tested	Immediate
Dimethyl-formamide	68-12-2	Not Tested	Immediate	Not Tested	Immediate
Dimethyl Sulphate 98%	77-78-1	Class 6	Not Tested	Class 6	>480 mins
Ethyl Acetate	141-78-6	Not Tested	Immediate	Not Tested	1 min
Ethylene Glycol 99.5%	107-21-1	Class 6	Not Tested	Class 6	>480 mins
Formaldehyde 10%	50-00-00	Class 6	Not Tested	Class 6	>480 mins
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 mins
Hydrobromic Acid 48%	10035-10-6	Class 6	Not Tested	Class 6	>480 mins
Hydrochloric Acid 37%	7647-01-0	Class 4	Not Tested	Class 4	average 36 mins
Hydrofluoric Acid (71-75wt%)	7664-39-3	Class 4	Not Tested	Class 5	average 132 mins
Hydrofluoric Acid 48%	7664-39-3	Class 6	Not Tested	Class 6	>480 mins
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 mins
Mercury	92786-62-4	Class 6	Not Tested	Class 6	>480 mins
Methanol	67-56-1	Class 2	Immediate	Class 6	Immediate
n-Hexane	110-54-3	Not Tested	Immediate	Not Tested	Immediate
Nitric Acid 70%	7694-37-2	Class 6	Not Tested	Class 6	average 420 mins
Nitrobenzene	98-95-3	Not Tested	Immediate	Not Tested	Immediate
Phenol 85% soln.	108-95-2	Class 6	Not Tested	Class 6	>480 mins
Phosphoric Acid 85%	7664-38-2	Class 6	Not Tested	Class 6	>480 mins
Potassium Chromate (saturated soln.)	7789-00-6	Class 6	Not Tested	Class 6	>480 mins
Sodium Bisulphate 40% soln.	7681-38-1	Class 6	Not Tested	Class 6	>480 mins
Sodium Fluoride Saturated soln.	7681-49-4	Class 6	Not Tested	Class 6	>480 mins
Sodium Hydroxide 40wt%	1310-73-2	Class 6	>480 mins	Class 6	>480 mins
Sodium Hypochlorite (13% chlorine)	7681-52-9	Class 6	Not Tested	Class 6	>480 mins
Sulfuric Acid 30wt%	7664-93-9	Class 6	Not Tested	Class 6	>480 mins
Sulfuric Acid 93.1 wt%	7664-93-9	Class 6	>480 mins	Class 6	>480 mins
Tetrachloro-ethylene	127-18-4	Not Tested	Immediate	Not Tested	Immediate
Tetra-hydrofuran	109-99-9	Not Tested	Immediate	Not Tested	Immediate
Toluene	108-88-3	Not Tested	Immediate	Not Tested	Immediate
Zinc Bromide Saturated soln.	7699-45-8	Class 6	Not Tested	Class 6	>480 mins

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	
Class 6	>480 mins
Class 5	>240 mins
Class 4	>120 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/cm<sup>2</sup> and refers to the EN 14325 classification in the table above. ASTM F-739 reports the normalized breakthrough detection time at a permeation rate of 0.1 µg/cm<sup>2</sup>. Both normalized permeation rates of 0.1 µg/cm<sup>2</sup> and 1.0 µg/cm<sup>2</sup> are reported in EN ISO 6529.

## 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. Selection 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 employer'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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