



# 4540 Protective Coverall



## Data Sheet

### Description

The 3M™ 4540 Protective Coverall is a **CE Category III, type 5 & 6** protective clothing.

#### The key features include:

- Excellent barrier against dry particles and liquid chemical splash (CE Type 5/6)
- Laminated microporous material with excellent permeability and robustness
- Knitted cuffs for increased wearer comfort
- Elastic waist and ankles for good fit
- 2-Way Zip for extra-convenience
- Resealable zip flap for additional protection
- Breathable pack panel for improved air circulation
- Anti-static (both sides)
- Lint-free
- Available in 4 sizes

### Approvals

The 3M 4540 has been shown to meet the Basic Safety Requirements under Article 10 and 11B of the European Directive 89/686/EEC and is thus CE marked.

The product was examined at the design stage by: SGS, United Kingdom Ltd, Weston-Super-Mare, BS22 6WA, United Kingdom (Notified Body number 0120).

### Applications

The 3M 4540 protective coverall is designed for uses where the wearer is likely to come into contact with limited hazardous light spray or splashes of liquid chemicals or dry particles (dusts).

Suggested uses are for protection against dusts, acid, alkali and/or solvent splash and water.

Typical applications include:

- Maintenance and repair
- Powder coating
- Paint Spray
- Insulation laying
- Pharmaceutical manufacture
- Wood processing
- Low level chemical handling / chemical cleanups
- Resin application
- Pressure / steam water cleaning
- Light spray of cleaning fluids
- Metal processing



TYPE 5



ANTI-STATIC  
EN1149-1



TYPE 6



NUCLEAR  
PARTICLE



### Standards

The 3M 4540 meets the requirements of the following European standards:

**EN 340:** Protective clothing

**EN 368:** Chemical penetration (see table overleaf)

**prEN ISO13034: 1997:** Limited protective performance  
**Type 6:** Against liquid chemicals (splashproof).

**prEN ISO13982-1: 2000:** Limited protective performance  
**Type 5:** Against hazardous dry particles (dustproof).

**EN 1149-1: 1995:** Electrostatic properties

The 3M 4540 also provides protection against nuclear particles and meets the performance requirements and tests of the European standard **EN 1073-2: 2002 CLASS 1:** Protective clothing against radioactive particulate contamination.

### Use Limitations

#### Not for use in:

- Environments with high mechanical risks (abrasion, tear, cuts).
- Exposure to hazardous substances beyond CE Type 5/6 certification.
- Exposure situations resulting in directional spray or liquid build up on the suit (e.g showers of chemicals).
- Exposure to ionizing radiation.
- Contact with heavy oils.
- Exposure to excessive heat.
- Direct contact with sparks, flames or combustible fuels.

### Materials

- |                  |                                |
|------------------|--------------------------------|
| • Suit:          | Polypropylene/PE laminate film |
| • Back panel:    | SMS                            |
| • Elastic:       | Neoprene Rubber (Latex Free)   |
| • Zipper:        | Nylon on Polyester braid       |
| • Knitted Cuffs: | Polyester                      |
| • Thread:        | Polyester/Cotton               |

## Performance of 3M Coverall Material

| Physical Data   | Test Method                    | Results   | Class   |
|---|--------------------------------|---|---------|
| Whole suit reduced spray test ( type 6)               | pr EN 13034 & EN468 (modified) | PASS  | PASS    |
| Whole suit inward leakage for fine particles (type 5) | pr EN ISO 13982-1              | 19.19 % (mean)  | PASS    |
| Abrasion resistance                                   | EN 530 Method 2                | > 100 cycles  | Class 2 |
| Tear resistance                                       | ISO 9073-4                     | > 50,5 N<br>Lengthwise<br>> 22,0 N<br>widthwise                       | Class 1 |
| Seams strength  | ISO 5082-A2                    | > 108,3 N   | Class 3 |
| Resistance to ignition                                | prEN 14325:2003                | PASS  | N/A     |
| Bursting Strength                                     | BS EN ISO13938:1999            | > 56,8 N  | Class 1 |
| Anti Static   | EN 1149-1:1995                 | Outside:<br>3,4x10 <sup>8</sup> Ω<br>Inside:<br>5,8x10 <sup>7</sup> Ω | PASS    |

## Liquid Chemical Penetration

The European Standard EN 368 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.

The repellency index refers to the amount of liquid collected after 1 minute (in a detector beaker) as a percentage of the original quantity.

| Penetration Data<br>3M 4540  | Test Method | Penetration Index | Repellency Index |
|--|-------------|-------------------|------------------|
| Resistance to 30% Sulphuric Acid (H <sub>2</sub> SO <sub>4</sub> ) | EN 368      | 0%                | 98,0 %           |
| Resistance to 10% Sodium Hydroxide (NaOH 10%)                      | EN 368      | 0%                | 97,2 %           |
| Resistance to n-Heptane (Undiluted)                                | EN 368      | 0%                | 86,1 %           |
| Resistance to Isopropanol  | EN 368      | 0%                | 92,4 %           |

## Sizing

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

|     | H            | L            |
|-----|--------------|--------------|
| M   | 167 - 176 cm | 92 - 100 cm  |
| L   | 174 - 181 cm | 100 - 108 cm |
| XL  | 179 - 187 cm | 108 - 115 cm |
| XXL | 186 - 194 cm | 115 - 124 cm |



## Maintenance, Storage & Disposal

### Maintenance:

|  |                  |  |                   |  |             |
|--|------------------|--|-------------------|--|-------------|
|  | Do not wash      |  | No Chlorination   |  | Do not iron |
|  | Do not dry clean |  | Do not tumble dry |  | Inflammable |

### Storage:

This product must be stored in a cool dry place, away from light.

### Disposal:

This garment should be replaced when damaged or heavily contaminated.

Contaminated garment should be treated as special waste and disposed of in accordance with National regulations.

**For more information on 3M products and services please call the 3M Health & Safety Helpline on: 0870 60 800 60 (UK), 1-800 320 500 (Ireland).**



### Occupational Health and Environmental Safety Group

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