



1	3S-Arbeitsschutz GmbH		
2	Multi-Tec Plus	year of manufacture XXXX	11
	Protective Clothing Category III		
3	CE 0516		
8	Type 3B: EN 14126:2003		
7	Type 3: prEN 14605:2003		
	Type 4: prEN 14605:2003		
	Type 5: prEN 13982-1:2003		
	Type 6: prEN 13034:2003		
4	EN 1149-1:1995		6
5			9
	Stay away from flames		

Instructions for Use

Markings:

Each coverall has an inside label. The inside label contains information on the performance level and protection provided by the coverall.

1 Manufacturer of the protective clothing **2** MULTI-TEC PLUS is the model designation for a stitched coverall with overtaped seams, hood and elasticated cuffs and ankles. **3** CE symbol – The coverall complies with the European standard for category III personal protective equipment. The type and quality certificate was issued in 2009 by Saechsische Textilforschungsinstitut e.V., Annaberger Strasse 240, D-09125 Chemnitz, Germany (certifying body code: 0516). **4** Multi-Tec Plus coveralls are antistatic-treated and provide electrostatic protection conforming to EN 1149-1. **5** Antistatic symbol conforming to EN 1149-1. **6** The European standards for chemical protective clothing define six types of protective clothing. A symbol is assigned to each of the six types. **7** The MULTI-TEC PLUS complies with the specifications for the following full body protection types according to the current European standards for chemical protective clothing: Type 3B; EN 14126:2003, Type 3: EN14605:2005, Type 4: EN 14605:2005, Type 5: EN ISO 13892-1:2004, Type 6: EN 13034:2005. **8** The coverall has been tested according to EN 1073-2:2002 as protective clothing against radioactive particles. **9** The “open book” symbol indicates that the wearer of the coverall must carefully read the “Instructions for wearing chemical protective clothing”. The five care symbols have the following meanings:



Do not wash. The protective performance is reduced by washing.



Not fire-resistant. Do not use close to flames or strong heat sources.



Do not machine dry.



Do not dry-clean.



Do not iron.

10 The marked sizes refer to body measurements and are based on normal clothing sizes. Please select the appropriate size for you.

Body measurements [cm]

Size	Chest	Body height	Size	Chest	Body height
S	84-92	164-170	XL	108-116	180-188
M	92-100	168-176	XXL	116-124	186-194
L	100-108	174-182	XXXL	124-132	194-202

11 Year of manufacture

Performance profile for MULTI-TEC PLUS Coveralls

Test method	Standard	Unit	Test result	EN Class
Abrasion resistance	EN 530:1994 (Method 2)	Cycles	> 100; < 500 cyc.	2 of 6
Resistance to damage by flexing	EN ISO 7854/B:1997	Cycles	> 5,000; < 15,000 cycles	3 of 6
Trapezoidal tear resistance MD = machine direction / XD = cross direction	EN ISO 9073-4:1997	N	MD = 76.8 N XD = 57.4 N	3 of 6
Tensile/breaking strength (max. force and elongation) MD = machine direction / XD = cross direction	EN ISO 13934-1:1999	N	MD = 248.9 N XD = 259.3 N	2 of 6
Puncture resistance	EN 863:1995:	N	13.5 N	2 of 6
Surface resistivity at RH 25%	EN 1149-1:1995	Ohm	1.9×10^7	N/A
Stability to heat	EN 25978:1993:		No blocking	2 of 2
Flammability	EN 13274-4:2001 (Method 3)	N/A	Self-extinguishing	Pass

Resistance to penetration by liquids (EN 368)

Chemical	Penetration index in %	Repellency index in %
Sulphuric acid 30%	0.0	98.2
Sodium hydroxide 10%	0.0	98.1
o-Xylene undiluted	0.0	94.7
Butan-1-ol, undiluted	0.0	95.2

Permeation data for liquids

(EN ISO 6529:2001 Method A – Breakthrough time (BTT) at $1 \mu\text{g}/\text{cm}^2\text{min}$)

Chemical	BTT (min.)	EN Class	Chemical	BTT (min.)	EN Class
Hydrochloric acid 32%	> 480	6 of 6	Sodium hydroxide 40%	> 480	6 of 6
Nitric acid 70 %	410/470/445	5 of 6			

> = greater than, < = less than, S = immediate, NT = not tested

All “classes” conform to the classifications specified in EN 14325:2004/prEN 14605:2003.

P = penetration index (% penetrated), **R** = repellency index (% repellent)

Note: For further information on barrier performance, please contact 3S®.

Resistance to penetration by infective agents

TEST: Resistance to penetration by pathogens transmitted by blood, using bacterium Phi-X174.

RESULT: Hydrostatic pressure 20 kPa. Classification according to EN 14126:2003: 6 of 6

TEST: Resistance to penetration by infective agents due to mechanical contact with substances containing contaminated liquids.

RESULT: Breakthrough time > 75 min. Classification according to EN 14126:2003: 6 of 6

TEST: Resistance to penetration by biologically contaminated dust. RESULT: Penetration (log cfu) < 1. Classification according to

EN 14126:2003: 3 of 3

TEST: Resistance to penetration by biologically contaminated aerosols. RESULT: Penetration log ratio > 5. Classification according

to EN 14126:2003: 3 of 3

Test performance of the complete garment

Test method	Test result	EN Class
Type 3: Jet Test (EN463)	Pass	---
Type 4: Spray Test (EN 468)	Pass	---
Type 5: Inward Leakage Test (EN ISO 13982-2)	Pass	---
Type 6: Spray Test (EN 468 mod.)	Pass	---
Protection against particulate radioactive contamination (EN 1073 1:2002)	Nominal protection factor 21.5	1 of 3
Seam strength (EN ISO 13935-2)	147.7, pass	4 of 6

Typical applications:

Multi-Tec Plus coveralls are designed to protect personnel against hazardous substances or to protect sensitive products and processes from contamination by humans. Depending on the toxicity of the chemicals and the conditions of exposure, these coveralls can be used as protection against inorganic liquids (exposure pressure no greater than specified in the Type 3 test method).

The test results obtained under the exposure conditions specified in EN 14126 and listed in the above table indicate that the material is a highly effective barrier against many viruses and bacteria.

Limitations of use

Exposure to even higher concentrations of liquids and substances may require protective clothing that provides even higher barrier properties. Please check that you have selected the appropriate protective garment for your intended use. For advice, please contact your supplier or 3S-Arbeitsschutz GmbH. The user alone shall bear sole responsibility for all decisions regarding which additional personal protective equipment to combine with the Multi-Tec Plus coveralls and how long the coveralls can be worn for specific interventions (with respect to protective performance, wear comfort and heat stress). 3S-Arbeitsschutz GmbH shall not accept any liability whatsoever for improper use of Multi-Tec Plus coveralls. Exposure to biohazards not corresponding to the specified barrier performance of the protective garment may result in biological contamination of the wearer.

Preparation:

Please do not wear the protective garment if it has any defect. In the unlikely event of any defect, return the garment (unused and uncontaminated) to 3S Arbeitsschutz GmbH.

- a) In the event of combination with any other PPE (gloves and/or mask) make sure that the equipment is correctly designed, fitted and sealed. The "complete garment" tests were conducted using full-face masks with an adequately wide rim (e.g. Auer, Dräger or Sundström). Other mask types and designs must be inspected by the user to ensure their suitability for use.
- b) If necessary, the coverall must be sealed against the full-face mask and gloves using suitable adhesive tape

Storage:

Multi-Tec Plus coveralls must be stored under the normal commercially applicable conditions.

Disposal:

Multi-Tec Plus coveralls can be incinerated or buried in a controlled landfill without harming the environment. The disposal method depends only upon the type and degree of contamination during use.

Special notes:

The specified barrier performance against chemicals (resistance to penetration and permeation) was determined using the test media listed above. This fact must be taken into account when using Multi-Tec Plus coveralls. The above results cannot be transposed to other chemicals, and so appropriate additional tests must be conducted where applicable. Testing was carried out under laboratory conditions and is intended to act only as a guideline to practical application. The antistatic effect is only assured if the person/garment is safely earthed, e.g. by antistatic footwear conforming to EN ISO 20345 with additional requirement A or professional footwear conforming to EN ISO 20347 with additional requirement A.

The coverall must be closed before used. Make sure that the body is fully covered. The garment must not be left in any explosion-hazard area. A specific risk analysis must be conducted before any application in Zone 0 explosion-hazard areas or in areas containing highly explosive gases/vapours of explosion group IIC.

The contents of these Instructions for Use were verified by the STFI certifying body in January 2009.