

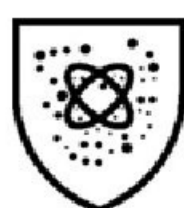
INDUTEX

Garments Lines made with fabric

Tessaform[®]

JetGuard[®] PLUS

- Garments made with welded over taped seams (**TOPGUARD[®]** Technology)
 - cat. 3 type 3-B, (also Type 4, 5 and 6)
 - for NBC (nuclear, biological and chemical) protection
 - with antistatic properties
- Accessories with welded over taped seams (**TOPGUARD[®]** Technology)
 - cat. 3 type PB [3]-B
 - with antistatic properties



NUCLEAR PROTECTION
(EN 1073-2) non ventilated suits
(EN 1073-1) ventilated suits



BIOLOGICAL PROTECTION
(EN 14126)



CHEMICAL PROTECTION
(EN943-1 type 2-B)
(EN 14605 type 3-B)
(EN 14605 type 4)
(EN ISO 13982-1 type 5)
(EN 13034 type 6)



ANTISTATIC PROPERTIES
(EN 1149)

Jetguard[®] PLUS garments have good electrical characteristics and does not generate electrostatic charges. The time taken to decline for the potential residue is neither too fast or too slow.

CWA (CHEMICAL WARFARE AGENTS) PERMEATION RESISTANCE (NATO Test)

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Tessaform®

Data sheet

PHYSICAL PROPERTIES

Property		Norm/Method	U.M.	Value	Class
Abrasion resistance		EN 530	cycles	>2.000	6
Flex cracking resistance		EN 7854	cycles	>15.000	4
Trapezoidal tear resistance	warp	EN-ISO 9073-4	N	50,80	3
	weft	EN-ISO 9073-4	N	31,50	2
Traction resistance	warp	EN-ISO 13934-1	N	190	3
	weft	EN-ISO 13934-1	N	130	3
Puncture resistance		EN 863	N	15,50	2
Bursting resistance		EN-ISO 13938-1	KPa	141	2
Resistance to blocking		ISO 5978	-	no blocking	2
Surface resistivity		EN 1149-1	Ω	conform	n.a.*
Ignition resistance		EN 13274-4	-	Self extinguishing **	n.a.*
Over taped seam strength resistance		EN ISO 13935-2	N	250	4

Class defined in the relevant standard EN 14605 (type 3 and type 4); EN 13982-1 (type 5) and EN 13034 (type 6)

* n.a.: not applicable.

** Self extinguishing. On both sides no auto combustion is pronounced but the formation of hole is observed without dripping.

PROTECTIVE PROPERTIES

Particle penetration

Total barrier against any particle dimension



Chemical Protection

Permeation resistance EN ISO 6529

Chemical n° CAS		Permeation ASTM F 739 (0,1µg/min/cm²)	Permeation EN ISO 6529 (1µg/min/cm²)	
			minutes	Class
Acetaldehyde	75-07-0	>480	>480	6
Acetone	67-64-1	244	478	5
Acetonitrile	75-05-8	>480	>480	6
Acetic acid (glacial)	64-19-7	>480	>480	6
Acrolein	107-02-8	>480	>480	6
Acrylamide (50%)	79-06-1	>480	>480	6
Acrylonitrile	107-13-1	>480	>480	6
Allyl alcohol	107-18-6	>480	>480	6
Allyl chloride	107-05-1	>480	>480	6
Amyl acetato n-	628-63-7	>480	>480	6

Tessaform®

Data sheet

Chemical n° CAS		Permeation ASTM F 739 (0,1µg/min/cm²)	Permeation EN ISO 6529 (1µg/min/cm²)	
			minutes	Class
Ammonia	7664-41-7	>480	>480	6
Ammonium hydroxide (30%)	1336-21-6	>480	>480	6
Aniline	62-53-3	>480	>480	6
Antimony pentachloride	7647-18-9	>480	>480	6
Anthracene (sat'd in toluene)	120-12-7	>480	>480	6
Benzene	71-43-2	>480	>480	6
Benzonitrile	100-47-0	455	>480	6
Bromine	7726-95-6	-	150	4
Butyl ether n-	142-96-1	>480	>480	6
Carbon disulphide	75-15-0	77	>480	6
Carbon tetrachloride	56-23-5	>480	>480	6
Chlorine	7782-50-5	>480	>480	6
Chloroacetic acid	79-11-8	>480	>480	6
Chlorobenzene	108-90-7	-	90	3
Chloroethanol 2-	107-07-3	>480	>480	6
Chloroform	67-66-3	-	360	5
Chloromethyl methyl ether	107-30-2	>480	>480	6
Chromic acid – saturated solution of chromium oxide VI in sulphuric acid at 96%	1333-82-0	-	>480	6
Cresol -o	95-48-7	>480	>480	6
Creosote	8001-58-9	>480	>480	6
Cyclohexane	110-82-7	>480	>480	6
Di(2-ethylhexyl)	117-81-7	>480	>480	6
Dichloromethane	75-09-2	-	270	5
Diesel flue	70892-10-3	>480	>480	6
Diethylamine	109-89-7	>480	>480	6
Dimethylacetamide N,N-	127-19-5	>480	>480	6
Dimethylformamide N,N-	68-12-2	>480	>480	6
Dimethyl nitrosamine	62-75-9	>480	>480	6
Dimethyl sulphide	75-18-3	>480	>480	6
Dioxane 1,4-	123-91-1	>480	>480	6
Epichlorhydrin	106-89-8	>480	>480	6
EPO 3 Harder and Epox AF bi component glue	-	>480	>480	6
Ethanolamine	141-43-5	-	360	5
Ethyl acetate	141-78-6	>480	>480	6
Ethyl cellosolve® acetato	111-15-9	>480	>480	6
Ethylenediamine	107-15-3	>480	>480	6
Ethylene dibromide	106-93-4	>480	>480	6
Ethylene glycol	107-21-1	>480	>480	6
Formaldehyde (37%)	50-00-0	>480	>480	6
Formic acid (96%)	64-18-6	>480	>480	6
Fluorobenzene	462-06-6	>480	>480	6
Furaldehyde 2-	98-01-1	137	398	5
Hexamethylene diisocyanate	822-06-0	>480	>480	6
Hexane n-	110-54-3	>480	>480	6
Hydrazine	302-01-2	>480	>480	6
Hydrochloric acid (37%)	7647-01-0	>480	>480	6

Tessaform®

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Chemical n° CAS	Permeation ASTM F 739 (0,1µg/min/cm ²)	Permeation EN ISO 6529 (1µg/min/cm ²)	
		minutes	Class
Hydrofluoric acid (50%)	7664-39-3	>480	6
Hydrofluoric acid (70%)	7664-39-3	>480	6
Hydrogen peroxide (70%)	7722-84-1	-	90
Idrazine monohydrate	7803-57-8	>480	6
Isophthaloyldichloride (45°C)	99-63-8	>480	6
Isopropyl alcohol	67-63-0	>480	6
Javel (50°C)	7681-52-9	-	330
Kerosene (Jet A fuel)	8008-20-8	>480	6
Mercuric chloride (sat'd)	7487-94-7	>480	6
Mercury	7439-97-6	-	270
Methanol	67-56-1	361	>480
Methyl-2-pentanone 4-	108-10-1	11	>480
Methylene bromide	74-95-3	312	312
Methylene chloride	75-09-2	>480	>480
Methyl ethyl ketone	78-93-3	>480	>480
Methyl isocyanate	624-83-9	9	>480
Methyl-t-butyl-ether	1634-04-4	>480	>480
Methyl vinyl ketone	78-94-4	>480	>480
Naphthalene	91-20-3	>480	>480
Nitric acid (70%)	7697-37-2	>480	>480
Nitric acid (> 90%, fuming)	7697-37-2	>480	>480
Nitrobenzene	98-95-3	>480	>480
Nitrogen dioxide	10102-44-0	>480	>480
Petrol, leaded	86290-81-5	>480	>480
Petrol, unleaded	8006-61-9	>480	>480
Phenol (85%)	108-95-2	>480	>480
Phosphoric acid (85%)	7664-38-2	>480	>480
Phosphorous oxytrichloride	10025-87-3	>480	>480
Phosphorous trochloride	7719-12-2	>480	>480
Polychlorinated biphenyl (PCB) in transformer oil	11097-69-1	>480	>480
Potassium carbonate	584-08-7	-	330
Potassium chloride	7447-40-7	-	360
Potassium chromate (sat'd)	7789-00-6	>480	>480
Potassium hydroxide (23%)	1310-58-3	-	270
Potassium hydroxide (50%)	1310-58-3	-	270
Propylene oxide 1,2-	75-56-9	>480	>480
Sodium cyanide (45%)	143-33-9	>480	>480
Sodium hydroxide (50%)	1310-73-2	>480	>480
Sodium hydroxide (conc.)	1310-73-2	>480	>480
Sodium hypochlorite (30% Chlorine)	7681-52-9	>480	>480
Sodium sulfide	1313-82-2	-	180
Styrene oxide	96-09-3	>480	>480
Sulphuric acid (93%)	7664-93-9	>480	>480
Sulphuric acid (95%)	7664-93-9	>480	>480
Sulphuric acid (96%)	7664-93-9	-	210
Sulphur anhydride	7446-09-5	>480	>480
Tetrachlorobiphenol 2,2',6,6'-	79-95-8	>480	>480
Tetrachloroethylene 1,1,2,2-	127-18-4	>480	>480

Tessaform[®]

Data sheet

Chemical n° CAS		Permeation ASTM F 739 (0,1µg/min/cm²)	Permeation EN ISO 6529 (1µg/min/cm²)	
			minutes	Class
Tetrahydrofuran	109-99-9	>480	>480	6
Tin chloride, Mono-n-butyl	1118-46-3	>480	>480	6
Tin chloride, Tri-n-butyl	1461-22-9	>480	>480	6
Titanum tetrachloride	7550-45-0	-	150	4
Toluene	108-88-3	-	360	5
Toluene-2,4-diisocyanate	584-84-9	>480	>480	6
Toluidine o-	95-53-4	>480	>480	6
Trichloroacetic acid	76-03-9	>480	>480	6
Trichlorobenzene 1,2,4-	120-82-1	-	300	5
Trifluoroacetic acid	76-05-1	>480	>480	6
Trimethyl chinon	935-92-2	>480	>480	6
Vynil acetate	108-05-4	>480	>480	6

Liquid chemical penetration resistance (EN ISO 9530)

Chemical	Penetration %	Class	Repellence %	Class
Sulphuric acid 30%	0,00	3 of 3	95,5	3 of 3
Sodium hydroxide 10%	0,00	3 of 3	96,6	3 of 3
o-xylene	0,00	3 of 3	95,7	3 of 3
Butan-1-ol	0,00	3 of 3	95,1	3 of 3

CWA (Chemical Warfare Agents) permeation resistance

Chemical	NATO Permeation Quantity after 24 h. µg/cm ²	Permeation FINABEL (h:min.)
Mustard (HD)	3,30	2:10
Soman (GD)	< 0,07	> 24:00
Sarin (GB)	not testable	> 24:00
Tabun (GA)	not testable	> 24:00
VX	not testable	> 24:00
Lewisite	not testable	5:00

Tessaform[®]

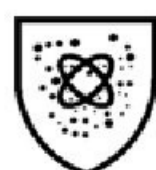
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Biological Protection (EN 14126)

Test		Value	Class
Synthetic blood under hydrostatic pressure	ISO 16603	20 KPa	PRELIMINARY TEST
Blood born infective agents (Phi-X 174 bacteriophage)	ISO 16604	20 KPa	6 of 6
Penetration of infecting agents by contact	EN ISO 22610	> 75 min.	6 of 6
Biologically contaminated aerosols	ISO DIS 22611	Log >5	3 of 3
Biologically contaminated powders	EN ISO 22612	0 Log u.f.c	3 of 3

NB To guarantee the biological protection all garments must be made with over taped seams or welded seams.

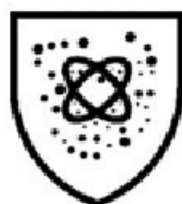


Nuclear Protection (EN 1073-2)

Garments made with raw material *Tessaform*[®] passed all the tests included in EN 1073-2 norm (non ventilated suits) and EN 1073-1 norm (ventilated suits) for the protection against nuclear contaminated particles.



Garments made with welded over taped seams (**TOPGUARD**® Technology) with NBC (nuclear, biological and chemical) protection made with raw material **Tessaform**® in grey colour (available in military green colour)



NUCLEAR PROTECTION
(EN 1073-2) non ventilated suits
(EN 1073-1) ventilated suits



BIOLOGICAL PROTECTION
(EN 14126)



CHEMICAL PROTECTION
(EN 14605 type 3-B)
(EN 14605 type 4)
(EN ISO 13982-1 type 5)
(EN 13034 type 6)



ANTISTATIC PROPERTIES
(EN 1149)

Garments have antistatic properties following these norms:

- Surface resistance and volume resistance – EN 1149-1 Par. 5-4-2 e 5-4-3 – EN 1149-2 Rv Par. 7
- Triboelectric compatibility – EN 1149-1 Par. 4.1-4.2 App. 1-2-3 – EN 1149.3 Par. 4.2-4.2.1 – EIA IS 5 A
- Time decay of charge – EN 1149-3 Par. 3.5-3.6 –pr EN 1149-5 – EIA IS 541 A STD Fed. TM N° 101 C Method 4046/1
- Electric safety ground resistance of model of the human body – CEI 64-8/4 Par. 6.12.5
- Time decay of the charge on a model of the human body – IEC 61340-4-1 TR/2

Jetguard® Plus garments have good electrical characteristics and does not generate electrostatic charges. The time taken to decline for the potential residue is neither too fast or too slow.

AVAILABLES MODELS

CATEGORY 3 TYPE 3-B (also 4, 5 and 6) - All the garments are in conformity with the following norms:



- EN 340 Protection Garments: General requirements
- EN 14605 Liquid jet tight chemical protective garments (Type 3)
- EN 14605 Liquid aerosols tight chemical protective garments (Type 4)
- EN ISO 13982 Particle tight chemical protective garments (Type 5)
- EN 13034 Liquid limited splash tight chemical protective garments (Type 6)

- OVERALL with hood
- OVERALL with hood and incorporated boots
- SPECIAL GARMENTS on customer need

CATEGORY 3 TYPE PB[3]-B - ACCESSORIES

- GOWN rear entry
- JACKET + TROUSER
- HOOD
- APRON
- SLEEVES
- BOOTS with pvc and antislid sole
- OTHER ACCESSORIES on customer need





MOST COMMON WORKING AREAS

- Emergency interventions after accidents with loss of chemicals
- Petrochemical companies
- Metal works
- Mining
- Production, treatment and shipment of chemicals
- Tank and reservoirs clean
- Army
- Waste treatment
- Water treatment
- Plating works
- PCB removal

The photo (right) shows a worker wearing a gown made of a light blue Partiguard® material with knit cuffs, laces at the neck, reinforced belt at the waist. This garment is also available in our gray Tessaform® material with elastic wrists.

Part No.
53322002 (Med)
53322003 (Large)
53322004 (XL)

