

**Garments made with over taped seams or welded seams
(**TOPGUARD**® Technology) cat. 3 type 2
for protection NBC (nuclear, biological and chemical)
made with raw material *Tessaform*®**

Data Sheet

PHYSICAL PROPERTIES

PROPERTY		Method	U.M.	VALUE	CLASS
Weight		ISO 4591	gr/m ²	130	-
Abrasion resistance		EN 530/96	cycles	> 2000	6
Flex cracking resistance		EN-ISO 7854/99 (B)	cycles	> 100.000	6
Trapezoidal tear resistance	MD	EN-ISO 9073-4/99	N	31,8	2
	XD	EN-ISO 9073-4/99	N	121	5
Traction resistance	MD	EN-ISO 13934-1/00	N	68	2
	XD	EN-ISO 13934-1/00	N	172	3
Puncture resistance		EN 863/95	N	20,8	2
Burst resistance		EN-ISO 13938-2/01	KPa	262	3
Stability to heat	ext./ext	ISO 5978/90	-	few Adhesion	-
	ext./int	ISO 5978/90	-	No adhesion	-
	int./int	ISO 5978/90	-	No adhesion	-
Surface resistivity		EN 1149-1/97	Ω	ND	-
Hydrostatic head		EN ISO 20811/93	cm H ₂ O	515,2	-
			Pa	50560	-
Ignition resistance		prEN 13274-4/98 (3)	-	Self extinguishing	-

PROTECTIVE PROPERTIES



CHEMICAL PROTECTION

Total tight ness for any particle dimension

Permeation resistance (EN 369: 1 µg/min/cm²)

Chemical	n° CAS	Real Permeation (min.)	Permeation ASTM F 739 (min.)	Permeation EN 369 (min.)	480 th minute Permeation (µg/min/cm ²)	Accuracy (µg/min/cm ²)
Hydrofluoric acid 70%	7664-39-3	8	> 480	> 480	0,0052	0,001
Methanol	67-56-1	361	361	> 480	0,43	0,1
Phenol	108-95-2	> 480	> 480	> 480	< 0,5	0,5
Brome	7726-95-6	55	56	60	31	0,001
PCB	11097-69-1	> 480	> 480	> 480	< 0,1	0,1

CHEMICAL WARFARE AGENTS RESISTANCE

Chemical	Permeation NATO - Quantity 4 h. µg/cm ²	Permeation FINABEL (h:min.)	Accuracy FINABEL µg/cm ²
Mustard (HD)	0,13	3:00	0,1
Soman (GD)	< 0,05	> 24:00	0,005
Sarin (GB)	non testabile	> 24:00	0,005
Tabun (GA)	non testabile	> 24:00	0,005
VX	< 0,05	> 24:00	0,005
Lewisite	non testabile	3:15	0,005

**BIOLOGICAL PROTECTION (EN 14126)**

Test	Value	class
synthetic blood under hydrostatic pressure	20 KPa	6 of 6
Blood born infective agents (Phi-X 174 bacteriophage)	20 KPa	6 of 6
Penetration of infecting agents by contact	> 75 min.	6 of 6
Biologically contaminated aerosols	0 micro organisms	3 of 3
Biologically contaminated powders	0 micro organisms	3 of 3

**NUCLEAR PROTECTION (EN 1073-1)**

These garments passed all the tests included in EN 1073-1 norm for the protection against nuclear contaminated particles.

All the garments are in conformity with the following norms:

- EN 340: General requirements
- EN 943-1: Non-gas tight chemical protective garments (Type 2)
- EN 466 and EN 463: Liquid jet tight chemical protective garments (Type 3)
- EN 465 and EN 468: Liquid aerosols tight chemical protective garments (Type 4)
- prEN ISO 13982:2000: Particle tight chemical protective garments (Type 5)
- prEN 13034:2002: Liquid limited splash tight chemical protective garments (Type 6)

