

Professionals deserve protective clothing
PWG Veiligheidskleding



In touch with the wearers of 'our protective clothing'

Professionals deserve professional workwear

We want you to perform well on the job, and stay safe. And we've developed and produced a range of work apparel we hope will enhance your performance and safety.

In touch with the wearers of 'our protective clothing'

As a developer, manufacturer and supplier of protective and corporate workwear, we're in touch with the people who wear 'our protective clothing'. PWG workwear protects the wearer against dangers and external hazards. 'Safety First' is and remains our slogan.

This core value has made PWG the preferred supplier of many fire services, (semi) government agencies and companies operating nationally and internationally in different branches and industries. Our specialists are able to match the client's wishes and requirements with current specifications, and user needs. We are dedicated to serving our customers' specific demands, and also provide various kinds of customised protective workwear.

Development, production, delivery and services

PWG develops and manufactures corporate and protective clothing in close collaboration with clients and partners such as Dupont®. People in high-risk professions, or who work with hazardous materials require the highest level of protection and, at PWG, we are committed to optimising the protective factors of our workwear. The protective apparel we develop is manufactured in our sewing workshop in Poland. The factory produces workwear in compliance with our stringent norms and specifications. We guarantee top quality.

Products manufactured by hand-picked suppliers

We don't, of course, manufacture every product in our range. We also partner with suppliers. They supply certified brands of equal calibre as our high-quality products. Think safety shoes, boots, personal protective equipment such as glasses, helmets, hearing protection and various products and accessories in the area of work apparel, and corporate and protective clothing. PWG offers a top to toe service, delivering a full range of workwear to meet client's needs.

Stylish corporate workwear

Protective workwear is designed to protect the wearer: that's paramount. But protective clothing also needs to look professional. PWG can meet all your needs: we can develop customised apparel for you.

PWG Safety Clothing offers:

- Fireproof garments
- Firefighter apparel
- Hi Vis clothing
- Arc flash clothing
- Chemical protective clothing
- Antistatic clothing
- Workwear
- Winter clothing
- Thermal clothing
- Safety footwear
- Polo shirts / shirts / jeans / socks
- PPE

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READ THIS BEFORE USING YOUR GARMENT!

Information for the user: This garment was designed to comply with the basic health and safety regulations set out in the EC directive for personal protective equipment (89/686). After 21-4-2018 directive (EU) 2016/425.

Purpose of use: Every piece of clothing developed by PWG is designed for a specific purpose in accordance with the standards and the classes included therein for which the garment is certified. The pictograms and accompanying explanation shown on the garment's CE label indicate the standards and classes met by the item of clothing. (Important: The garment only meets the standards and classes shown by the pictograms on the garment label. If the class is given a value of 0 or no class is displayed then this garment is not suitable or tested for that use).

Warning: When a specific form of protection is required:

- Wear garments and / or combinations that at least offer the same level of protection the workwear was developed for.
- The garments must cover the entire body and provide sufficient overlap, even if you bend over, kneel, crawl and the like.
- Workwear must be worn only for the purpose for which it was developed (NOT for other specifications, or higher classes).
- Make sure clothing is always cleaned, repaired and/or replaced in a timely manner.
- Always wear clothing closed and with closed flaps, fitted hoods etc. so that the function of the clothing is guaranteed.
- If clothing is dirty, damaged, wet, or old it may adversely affect your safety, and appropriate measures must be taken (cleaned, replaced).

Storage: All garments must be kept dry, and away from sunlight and UV light. Garments that have been worn must always be cleaned and dried before being stored.

Cleaning and impregnating: Clothing must be cleaned and maintained in a timely manner, according to the cleaning instructions. Failure to follow the instructions or to clean them in a timely manner may adversely affect the protective function of the garment. Waterproof clothing should be cleaned with suitable detergents and after cleaning dirty detergents should be rinsed properly. Clothing with a dirt and water-repellent finish must be re-impregnated in a timely manner (generally after cleaning 5 times). Clothing with a repellent finish, which is intended to protect against hazardous chemicals, must be re-impregnated after each washing. Note: only use the correct product for this, and in the correct concentration. Garments must always be thoroughly dried, but don't let them dry out because this could cause irreversible damage (shrinkage, wrinkles). Do not use detergents with optical brighteners, and don't use fabric softeners.

Modifications: The garments must not be modified by third parties (for example, no logos, or turn-ups) which may adversely affect the protective effect of the clothing.

Repairs: Repairs must be made only in accordance with PWG, and using identical materials in order to safeguard the required protection level.

Materials: The clothing does not contain materials known to cause allergies, or that are carcinogenic, toxic or mutagenic.

Disposal: The packaging material and clothing must be disposed of in accordance with the applicable statutory regulations. Both the packaging material and, where appropriate, the clothing, are recyclable.

Ageing: Carry out a visual check for signs of ageing. Intensive washing, mechanical stress, strong sunlight, chemicals and the like can cause ageing, which lowers the level of protection provided.

Certification: All garments developed by PWG are tested in compliance with the inspection procedure set out in directive 89/686. The certification is carried out by Centexbel (Notified Body 0493 Technologiepark 7, B- 9052 Zwijnaarde). Declarations of conformity can be found here <https://www.pwg.nl/declarations-of-conformity/>.

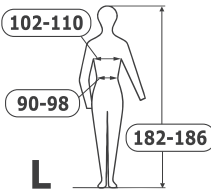
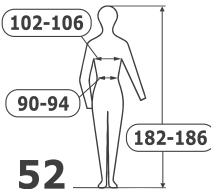
General: The user must be aware that the clothing cannot provide sufficient protection in all circumstances and that additional measures must be taken. Improper use or failure to comply with regulations may adversely affect the effectiveness of the garments. The manufacturer cannot be held responsible for this.

EN ISO13688:2013: Protective clothing - General requirements

All our garments must comply with the appropriate basic requirements. The key specifications are:

- The clothing must be ergonomically designed. (This relates to aspects such as design, size designation, comfort etc.)
- The materials used must not adversely affect the wearer's hygiene or health. (For example, tests are carried out to determine pH value, warmth and the presence of harmful substances.)
- Size designation (see table below)
- Marking and Information for the user (wash and care labels, CE labels, user information)

Size	Waist	Chest	Height	Letter size
40	66 - 70	78 - 82	162 - 166	XS
41	66 - 70	78 - 82	166 - 170	
42	70 - 74	82 - 86	166 - 170	
43	70 - 74	82 - 86	170 - 174	
44	74 - 78	86 - 90	170 - 174	S
45	74 - 78	86 - 90	174 - 178	
46	78 - 82	90 - 94	174 - 178	
47	78 - 82	90 - 94	178 - 182	
48	82 - 86	94 - 98	174 - 178	M
49	82 - 86	94 - 98	178 - 182	
50	86 - 90	98 - 102	178 - 182	
51	86 - 90	98 - 102	182 - 186	
52	90 - 94	102 - 106	182 - 186	L
53	90 - 94	102 - 106	186 - 190	
54	94 - 98	106 - 110	182 - 186	
55	94 - 98	106 - 110	186 - 190	
56	98 - 102	110 - 114	186 - 190	XL
57	98 - 102	110 - 114	190 - 194	
58	102 - 106	114 - 118	186 - 190	
59	102 - 106	114 - 118	190 - 194	
60	106 - 111	118 - 123	186 - 190	XXL
61	106 - 111	118 - 123	194 - 198	
62	111 - 117	123 - 129	190 - 194	
63	111 - 117	123 - 129	194 - 198	
64	117 - 123	123 - 129	190 - 194	
65	117 - 123	123 - 129	198 - 202	
66	123 - 129	129 - 135	194 - 198	3XL
67	123 - 129	129 - 135	198 - 202	
68	129 - 135	135 - 141	194 - 198	
69	129 - 135	135 - 141	198 - 202	
70	135 - 141	141 - 147	194 - 198	4XL
71	135 - 141	141 - 147	198 - 202	
72	141 - 147	147 - 153	198 - 202	



Comment: In general, the lined outerwear and rainwear is supplied in standard sizes S to 3XL and other clothing in sizes 46, 48, 50 to 64. (For more information get in touch with us, or see our website).

How to measure: The table above is a guide for taking measurements. We advise you to try on the garment, particularly for letter sizes, because this general size chart doesn't include all size designations (for example the wearer can opt for a loose or close-fitting garment, stretch or non-stretch).

EN ISO11612:2015

Protective clothing - Clothing to protect against heat and flame - Minimum performance requirements.



WXY
EN ISO 11612:2008
A.. B.. C.. D.. E.. F..

Intended use: The clothing is designed to protect against short contact time with flame and provides protection for those hazards as classified on the (B, C, D, E or F) clothing label.

Design requirements: For general design requirements the specifications laid down in ISO13688 apply. This standard also sets out specific design requirements that the clothing must meet.

Warning:

- Wear clothing that at least meets the classes required by the risk assessment / evaluation.
- Wear clothing and / or other protective equipment that covers the entire body (including hands, feet, head).
- Make sure there is sufficient overlap between the clothing and all items of PPE, and make sure this is sufficient to guarantee coverage in all positions.
- Make sure that all closures (front closure, flaps, etc.) are closed. Avoid things such as turn-ups on sleeves and trousers where splashes of molten metal can collect.
- The protective properties of the clothing can be adversely affected by use, maintenance, humidity and contamination (clean and / or replace the clothing in a timely manner).
- If the worker is accidentally splashed by chemicals, flammable liquids or molten metals, he/she must leave the workplace as quickly as possible and remove the clothing, making sure their skin doesn't come into contact with the chemicals / liquids or metals.
- Garments may not provide protection from second degree burns caused by molten materials, particularly if the clothing is worn next to the skin.

Dimensional stability	Fabrics ≤ 3%, Knits ≤ 10% (if > 5%) extra info)		
Tensile strength	Fabrics > 300 N (if > 5%)	Tear Strengt	Tissue> 15 N
Burst strength	Knits > 200 KPa	Seam strength	Fabric > 15 N
Heat resistance	After exposure to 180 °C, none of the materials should burn, melt or shrink more than 5% (optionally at 260 °C and shrinkage <10%)		
Flame test method A1 or Flame test method A2	After-burn time ≤ 2 sec, Afterglow time ≤ 2 sec, no burning drops, no non-burning drops Do not reach side or top, no hole formation. After-burn time ≤ 2 sec, afterglow time ≤ 2 sec, no burning drops, no non-burning drops		
Convection heat	4 ≤ HTI < 10s≤B1, 10s ≤ HTI < 20s≤ B2, 20 s ≤ HTI ≤ B3,		
Radiant heat	7s≤ RHTI24 < 20s≤ C1, 20s≤ RHTI24 < 50s≤ C2, 50s ≤ RHTI24 < 95s ≤ C3, RHTI24 > 95s ≤ C4		
Molten Aluminium	100 gr ≤ splash index < 200 gr ≤ D1; 200 gr ≤ splash index < 350 gr ≤ D2; splash index ≥ 350 gr ≤ D3		
Melted Iron	60 gr ≤ splash index < 120 gr ≤ E1; 120 gr ≤ splash index < 200 gr ≤ E2; splash index ≥ 200 gr ≤ E3		
Contact heat	5 ≤ T < 10s≤F1, 10s ≤ T < 15s≤ F2, 15 s ≤ T ≤ F3		

Note: The tests of the above table are routinely carried out after 5 washing cycles according to the washing instructions that apply to the garment. In addition, the flame test is carried out after a number of washing cycles specified by the supplier. This is stated on the label with Max. ... washing cycles.

The index for aluminium also generally applies to molten aluminium bronze alloy and molten minerals and the index for iron also applies to molten copper, molten phosphor bronze and molten brass. Several adapted requirements apply to leather (strength, shrinkage, pH value, fat content, etc.).

EN ISO11611:2015

Protective clothing for use in welding and allied processes.



EN ISO 11611:2007
Class ..

Intended use: The clothing is designed to protect against short contact time with flame, small splashes of molten metal, a limited degree of radiant heat and limited short-term contact with electrical conductors.

Design requirements: For general design requirements, the specifications laid down in ISO13688 apply. The standard also contains specific design requirements that the clothing must meet.

Warning:

- Use clothing that at least meets the classes required by the risk assessment / evaluation (see also the table below).
- Wear clothing and / or other protective equipment that provides full body coverage (including hands, feet, head).
- Make sure all closures (front closure, flaps, etc.) are closed and avoid turn-ups on sleeves and trousers where splashes of molten metal can collect.
- Make sure there is sufficient overlap between the clothing and all items of PPE, and make sure this is sufficient to guarantee coverage in all positions.
- The clothing is only suitable for short-term contact with parts of the welding circuit. Additional electrically insulating layers are required for increased risk of electric shock.
- The clothing protects against accidental short-term contact with electrical conductors at a voltage of up to 100V.
- The protective properties of the clothing can be adversely affected by use, maintenance, humidity and contamination
- The increase of oxygen in the air (in specific welding processes in closed environments) can adversely affect the protection level of the clothing.
- The clothing also offers protection against UV rays.
To check that the garment still offers this level of protection, hold it in front of a 100W bulb and examine it at arm's length (1m). If you see light shining through it, that means that UV rays will also pass through. If symptoms similar to sunburn are experienced, additional measures must be taken.
- Electrical welding equipment cannot always be sufficiently insulated, so extra vigilance is required.

Class 1	Manual welding techniques with small splashes and drops such as: autogenous welding, TIG welding, MIG welding, Micro Plasma welding, soldering, spot welding, electric welding with rutile coated electrodes.	Machining techniques such as: cutting machines (oxygen), plasma cutting machines, resistance welding, thermal spraying.
Class 2	Manual welding techniques with large splashes and drops such as: MAG welding, MIG welding with high current, flux welding, plasma cutting, cutting (oxygen), electric welding with cellulose coated electrodes.	Machining techniques: In confined spaces, overhead welding / cutting, or welding/ cutting in similar limited positions.

Tensile strength	≥ 400 N	Tear strength	Class 1 > 15N Class 2 > 20N
Burst strength	≥ 200 KPA	Seam strength	≥ 225 N
Dimensional stability	≤ 3% for fabrics ≤ 5% for knits		
Flame test Method A	Doesn't reach side or top, no hole formation, no burning drops, no non-burning drops, after-burn time ≤ 2 sec, afterglow time ≤ 2 sec		
Welding spatter after cleaning ΔT 40K	Class 1 > 15 drops, Class 2 > 25 drops		
Radiant heat 20 kW / m ²	Class 1 RHTI ₂₄ > 7s, Class 2 RHTI ₂₄ > 16s		
Electrical resistance	> 10 ⁵ W		

Notes: The tests of the above table are routinely carried out after 5 washing cycles according to the washing instructions that apply to the garment. In addition, the flame test is carried out after a number of washing cycles specified by the supplier. This is stated on the label with Max. ... washing cycles. Several adapted requirements apply to leather (strength, shrinkage, pH value, fat content, etc.).

IEC61482-2:2009

Live working - Protective clothing against the thermal hazards of an electric arc - Part 2: Requirements.



IEC 61482-2
ATPV=... cal / cm² of Class ..

Intended use: The clothing is designed to protect against the thermal hazards that occur with an electric arc.

Design requirements: For general design requirements, the requirements as laid down in ISO13688 apply. In addition, the standard contains specific design requirements that the clothing must meet.

General: There are 2 methods allowed in this standard to measure the effect of an electric arc. The ATPV test (IEC 61482-1-1) and the box test (IEC 61482-1-2).

Warning:

- Wear clothing that at least meets the classes required by the risk assessment / evaluation.
- Wear clothing and / or protective equipment that covers the entire body (including hands, feet, head).
- The conditions of use and risks in the workplace must be taken into account. Parameters that deviate from the test parameters can result in heavier conditions.
- Make sure there is sufficient overlap between the clothing and all items of PPE, and make sure this is sufficient to guarantee coverage in all positions.
- Make sure that all closures (front closure, flaps, etc.) are closed and avoid things such as turn-ups on sleeves and trousers where splashes of molten metal can collect.
- The protective properties of the clothing can be adversely affected by use, maintenance, humidity and contamination (allow the clothing to be cleaned and / or replaced on time).
- Check the clothes for damage before use and do not use damaged clothing.
- Repair must only be made in accordance with the supplier.
- Do not wear undergarments that might melt.
- The clothing is not intended for electrical protection (shock).

Tensile strength	≥ 400 N	Tear strength	≥ 20 N
Tensile strength *	≥ 400 N (250N)	Tear Strength *	≥ 20 N (12N)
Bursting strength (knits)	≥ 200 KPA	Melt Stitching	≥ 260 °C
Dimensional stability	≤ 3%		
Box test on the build-up Class 1: 4kA, Class 2: 7kA	After-burn time ≤ 5s, does not melt through to the inside, no hole formation > 5mm in the innermost layer, all measurements under the Stoll curve		
Box test on clothing Class 1: 4kA, Class 2: 7kA	After-burn time ≤ 5s, does not melt through to the inside, no hole formation > 5mm in the innermost layer, closures must function, accessories must not have a negative influence on the protection		
ATPV test on the body and on clothing	Reporting ATPV value, break-open, melting, dripping, charring, shrinkage, igniting etc.		

* For the tensile strength and tear strength, a low value (250N and 12N) applies for fabrics with a low weight (between 150 and 220 gr/m²).

EN1149-5:2008/2018

Protective clothing - Electrostatic properties - Part 5: Material performance and design requirements.



NEN-EN 1149-5:2008
IEC 61482-2
ATPV=... cal / cm² of Class ..

Intended use: The clothing is designed to be anti-electrostatic.

Design requirements: For general design requirements, the specifications laid down in ISO13688 apply. In addition, the standard contains specific design requirements that the clothing must meet.

Warning:

- Antistatic clothing must not be opened or taken off in an explosive environment.
- The person wearing the antistatic clothing (in the environment where this is required) must be earthed by a resistance lower than 108Ω.
- Antistatic clothing must not be opened or taken off in an explosive environment.
- Anti-static clothing should not be used in an oxygen-enriched environment or in Zone 0 (see EN 60079-10-1 [7]) without prior approval from the safety chief.
- The antistatic properties of the clothing can be adversely affected by use, maintenance and contamination.
- This antistatic clothing is intended to be worn in zones 1, 2, 20, 21 (see EN 60079-10-1 [7] and EN 60079-10-2 [8]). Environment where the minimum combustion energy of the explosive atmosphere is greater than 0.016mJ.

EN1149-3 METHODE 2	$t_{50\%} < 4s$ or $S > 0,2$
or	
EN1149-1	$< 2,5 \times 10^9 \Omega$ on 1 side

For fabrics with anti-static threads the space between the threads is max. 10mm in 1 direction.

EN ISO14116:2015 index 1, 2 of 3

Protective clothing - Protection against flame - Limited flame spread materials, material assemblies and clothing.

Intended use: The clothing is designed to protect against short flame contact of flames.

Design requirements: For general design requirements, the requirements as laid down in ISO13688 apply. In addition, the standard contains specific design requirements that the clothing must meet.

Warning:

- Wear clothing that at least meets the classes required by the risk assessment / evaluation.
- Clothing that meets index 1 may only be worn over a minimum index 2 material.
- Wear clothing and / or protective equipment that covers the entire body (including hands, feet, head).
- Make sure there is sufficient overlap between the clothing and all items of PPE, and make sure this is sufficient to guarantee coverage in all positions.
- Make sure all closures (front closure, flaps, etc.) are closed and avoid turn-ups on sleeves and trousers.
- The protective properties of the clothing can be adversely affected by use, maintenance, humidity and contamination.
- The increase of oxygen in the air (in specific welding processes in a closed environment) can adversely affect the protective function of the clothing.

Index	Requirement (before and after cleaning)
Index 3	After-burn time ≤ 2 sec, no burning drops. There is no afterglow from the carbonized part to the undamaged part, do not reach side or top, no hole formation.
Index 2	No burning drops, no afterglow from the carbonized part to the undamaged part, does not reach side or top. No hole formation.
Index 1	No burning drops, there is no afterglow from the carbonized part to the undamaged part, does not reach side or top.

Individual materials must at least meet class 1.
The material structure must at least meet class 2, tested on both the inside and outside.

Tensile strength	Non-woven > 30N
Tear strength	Non-woven > 10N
Seam strength	Fabrics > 30 N
Dimensional stability:	Tissues and Non-woven fabrics < 3% Knits < 5%
Burst strength:	Knits and seam knits > 100 kPa (sample 50cm ²) or 200 kPa (sample 7,3 cm ²)

EN ISO20471:2013+A1:2016

High visibility clothing -
Test methods and requirements.



Intended use: The clothing is designed to protect against poor visibility.

Design requirements: For general design requirements, the stipulations laid down in ISO13688 apply. In addition, the standard contains specific design requirements that the clothing must meet.

Warning: It is possible that 2 classes are displayed for clothing with removable sleeves. In that case, the highest class applies when the garment is worn with sleeves and the lowest class when the garment is worn without sleeves.

Clothing that clearly does not comply (dirty, discoloured, etc.) must be replaced immediately. The garment's lifespan is not only determined by the maximum number of washes. Intensive use (mechanical, sunlight), storage, extreme dirt and the like can reduce the garment's lifespan. The application of logos, shoulder pieces etc. will reduce the fluorescent surface. Find out what is permitted/or is possible. If no maximum number of washes is indicated in the clothing, the chromaticity is tested after 5 washes as indicated in the standard.

Requirements of a fluorescent and retro-reflective surface	Class 3	Class 2	Class 1
Background material	0,8 m ²	0,50 m ²	0,14 m ²
Reflection material	0,2 m ²	0,13 m ²	0,10 m ²
Combined material	-	-	0,20 m ²

Combined material is material that has both fluorescent and retro-reflective properties.

Reflection coefficient for retro-reflecting. New, complies with the minimum reflection coefficient as included in EN ISO20471 table 4. After pre-treatment > 100 cd/(lx.m²) observation angle of 12' and an orientation angle of 5 °.

Reflection coefficient for combined retro-reflective / fluorescent material: New, complies with the minimum reflection coefficient as included in EN ISO20471 table 5. After pre-treatment > 15 cd/(lx.m²) observation angle of 12' and an orientation angle of 5 °.

Requirements background material (fluorescent material and contrast)

Test	Requirement		
Colour coordinates and luminance factor for fluorescent background material and combined fluorescent / retro-reflective material. New and after Xenon test	Colour coordinates within the area as defined in EN ISO20471 Table 2. Luminance factor minimal: Fluorescent yellow: B _{min} . 0.76, Fluorescent orange B _{min} . 0.40 Fluorescent red B _{min} . 0.25		
Colour fastness: Abrasion resistance	Discolouration ≥ 4 ²⁾ Bleeding ≥ 4		
Colour fastness: Sweat resistance	Discolouration ≥ 4 , Bleeding ≥ 4 Discolouration ≥ 4 , Bleeding ≥ 4		
Colour fastness	Discoloured fluorescent	Bleeding fluorescent	Bleeding contrast
Wash	4-5	4	4-5
Chemical	4	4	4-5
Bleaching	4	/	/
Ironing	4-5	4	4
Dimensional stability	knits < 5%		
Tensile strength fabrics	$\geq 100N$		
Burst strength:	Knits and seam knits > 100 kPa (sample 50cm ²) or 200 kPa (sample 7,3 cm ²)		
Strength coated materials	Tensile strength > 100N ¹⁾ Tear strength > 20N ¹⁾		
Water vapour resistance RET in m ² .PA/W	< 5 Imt > 0,15		

For the requirements waterproof fabrics on water resistance, water vapour resistance see EN343: 2003

¹⁾ Does not apply to fabrics with a stretch > 50%

EN 343:2003+A1:2007

Protective clothing - Protection against rain.



X
Y EN343:2003/A1:2005

Intended use: The clothing is designed to protect against bad weather conditions (rain, wind, cold).

Design requirements: For general design requirements, the specifications laid down in ISO13688 apply. In addition, the standard contains specific design requirements that the clothing must meet.

Warning: Wear clothing in a wet environment with all closures (including pocket flaps etc.) closed and hoods up. Damage to the waterproof layer, e.g. through intensive use, can cause leakages. When the clothing has got wet, hang it up to dry first. (It mustn't be stored damp!). Do not make holes clothes, stitch on them, etc. For garments specifically for cold conditions (refrigerated areas and extreme cold), workwear must be worn according to EN 342 standard.

Test	Requirement
Dimensional stability	≤ 3%
Colour coordinates and luminance factor for combined fluorescent / retro-reflecting material. New and after Xenon test	Colour coordinates within the area as defined in table 3 of EN471: 2003. Minimal luminescence factor: Fluorescent yellow: $B_{min} \cdot 0.70$ Fluorescent orange $B_{min} \cdot 0.40$ Fluorescent red $B_{min} \cdot 0.25$
Class x: Water resistance	Class 1 Class 2 Class 3
Water tightness new	≥ 8000 Pa - -
Waterproofing seams	≥ 8000 Pa ≥ 8000 PA ≥ 13000 Pa
Waterproofing after cleaning	- ≥ 8000 PA ≥ 13000 Pa
Waterproofing after abrasion ³⁾	- ≥ 8000 PA ≥ 13000 Pa
Waterproofing after bending	- ≥ 8000 PA ≥ 13000 Pa
Waterproofing after petrol and oil (outer fabric + optional solid liners ¹⁾)	- ≥ 8000 PA ≥ 13000 Pa
Class y: Water vapour resistance	Class 1 Class 2 Class 3
R_{et} in $m^2 \cdot Pa / W \cdot ^\circ$	RET ≥ 40 20 < RET ≤ 40 RET ≤ 20
Tensile strength of the outer material ²⁾	≥ 450 N
Tear strength of the outer material	≥ 25 N
Seam strength outer material ²⁾	≥ 225 N

- ¹⁾ Waterproofing and water vapour resistance are measured on all layers together (outer fabric + laminate + lining) with the exception of removable linings.
²⁾ Does not apply to fabrics with a stretch > 50%
³⁾ For fabrics with external coating and for Z-liners, abrasion is performed with adjusted parameters

For fabrics with low breathability, depending on the ambient temperature, a limited continuous wear time is recommended. This is included in the table below.

Max. recommended wearing time	1	class, RET rating in $m^2 \cdot Pa / W \cdot min$	3
Temperature of the work environment $^\circ C$	1 RET > 40 min	2 20 < RET ≤ 40 min	3 RET ≤ 20 min
25	60	105	205
20	75	250	-
15	100	-	-
10	240	-	-
5	-	-	-

"-" means no limit for wearing time

Values based on: normal physical load (150 W / m^2); standard person; 50% humidity; wind speed 0.5 m / s. Extra ventilation openings, breaks, low physical load, high wind speed and the like increase the wearing time.

EN 13034:2005+A1:2009

Protective clothing against liquid chemicals

- Performance requirements for chemical protective clothing offering limited protective performance against liquid chemicals (Type 6 and Type PB equipment).



EN13034:2005
Type 6 [PB]

Intended use: EN13034 Type PB [6] clothing is only intended for very limited chemical protection where full protection is not necessary and where the user can take adequate timely action when the clothing is contaminated. Type BP [6] provides the lowest level of chemical protection and is intended only for potential exposure to small amounts of spray or accidental exposure to small splashes.

Specific: Garments / combinations marked with Type 6 are tested according to the mist test (& 5.2 of EN13034: 2005). Garments marked with Type PB [6] (Partial Body protection) are not tested by this fog test and are therefore intended for partial protection.

Warning: The clothing should be re-impregnated after each washing in order to keep the protection optimal. With regard to limited chemical protection of such clothing should be immediately replaced by another garment after chemical exposure. The soiled garment must be immediately cleaned and re-impregnated. Use at least clothing that meets the classes as required by the risk assessment / evaluation. If the hood is not worn, it must be removed.

Test	Requirement
Abrasion	Class 6 > 2000 cycles, Class 5 > 1500 cycles, Class 4 > 1000 cycles, Class 3 > 500 cycles, Class 2 > 100 cycles, Class 1 > 10 cycles
Tear strength	Class 6 > 150 N, Class 5 > 100 N, Class 4 > 60 N, Class 3 > 40 N, Class 2 > 20 N, Class 1 > 10 N
Tensile strength	Class 6 > 1000N, Class 5 > 500 N, Class 4 > 250N, Class 3 > 100N Class 2 > 60 N, Class 1 > 30N
Perforation resistance	Class 6 > 250N, Class 5 > 150 N, Class 4 > 100N, Class 3 > 50N Class 2 > 10 N, Class 1 > 5N
Repulsion chemicals	H2SO4, NaOH, o-Xylene, Butan-1-ol, Class 3 > 95%, Class 2 > 90%, class 1 > 80%
Penetration chemicals	H2SO4, NaOH, o-Xylene, Butan-1-ol Class 3 < 1%, Class 2 < 5%, Class 1 < 10%
Resistance to combustion	No drop formation, self-extinguishing, afterburning time < 5sec after: Class 3: 5 s in flame, Class 2: 1 s in flame, Class 3: by the flame without stopping
Seam strength	Class 6 > 500N, Class 5 > 300 N, Class 4 > 125 N, Class 3 > 75 N Class 2 > 50 N, Class 1 > 30 N

Requirements Mechanical tests: Min. Class 1 Chemical testing requirements: Min. Class 2 for 1 of the chemicals.

Test for Type 6 (full suit)

Mist test	No penetration Moist surface undergarments < 3x calibrated surface
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Washing instructions

Follow the washing instructions provided on the PWG garment labels, and which are explained in the table in this brochure.

Washing



Normal programme at 95 °C
Normal washing action, normal rinse and spin cycle



Gentle programme at 95 °C
Gentle washing action, gradual cooling of suds, rinse cycle and gentle spin cycle.



Normal programme at 60 °C
Normal washing action, normal rinse and spin cycle.



Gentle programme at 60 °C
Limited washing action, gradual cooling of suds, rinse cycle and gentle spin cycle.



Normal programme at 40 °C
Normal washing action, normal rinse and spin cycle.



Gentle programme at 40 °C
Limited washing action, gradual cooling of suds, rinse cycle and gentle spin cycle.



Very gentle programme at 30 °C
Extremely gentle washing action, rinse cycle and very gentle spin cycle.



Handwash
Handwash only, max. temperature 40°C.



Not washable

Ironing



Max. ironing temperature 200°C



Max. ironing temperature 150°C



Max. ironing temperature 110°C
- steam ironing can be hazardous



Do not iron, do not steam

Dry cleaning



Can be dry cleaned
- All common solvents.



Can be dry cleaned
- All common solvents except trichloroethane.



Can be dry cleaned with limited mechanical treatment and / or the drying temperature and / or the addition of water
- All common solvents except trichloroethane.



Can be dry cleaned
- Use only petroleum-based solvents and R113.



Can be dry cleaned with limitation of the mechanical treatment and / or the drying temperature and / or the water addition
- Only petroleum-based solvents and R113.



Cannot be dry cleaned

Bleaching



Chlorine bleach can be used
- Cold only and with a diluted solution.



No chlorine bleach

Drying



Tumble dry



Tumble dry at low temperature



Do not tumble dry