

# Dräger Safety AG & Co. KGaA

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# CE 0493

# EN466

## MANUAL

en

### Workstar PVC chemical protection clothing

#### For your safety

##### Strictly follow the Instructions for Use

Any use of the chemical protection suit requires full understanding and strict observation of these instructions. The chemical protection suit is only to be used for the purposes specified here.

##### Maintenance

The chemical protection suit must be regularly inspected and serviced by experts (and all maintenance operations must be logged – see “Record Card”). Observe the chapter on “Maintenance Intervals”. Repairs and general overhaul of the chemical protection suit may only be carried out by trained service personnel. We recommend that a service contract be obtained with DrägerService and that all repairs also be carried out by them. Only Dräger original parts may be used for maintenance.

##### Liability for proper function or damage

The liability for the proper function of the chemical protection suit is irrevocably transferred to the owner or operator if the chemical protection suit is serviced or repaired by personnel not employed or authorised by DrägerService or if the chemical protection suit is used in a manner not conforming to its intended use. Dräger cannot be held responsible for damage caused by non-compliance with the recommendations given above. The warranty and liability provisions of the terms of sale and delivery of Dräger are likewise not modified by the recommendations given above.

This chemical protective clothing fulfils the fundamental prescriptions of the European Directive 89/686/EEG concerning Personal Protection (PPE's). By means of type approval, this garment has been certified to the European norms EN 466 (1994), protection against liquid chemicals (fluids) - coverall type 3 - with liquid tight connections between different parts of the protective suits. In addition the garment complies with the norms EN 465, ENV 343 and EN 340.

This type of PPE is submitted to an EEC-quality guarantee system of the production with supervision (type 11B). The supervision on our ISO 9001-system has been committed to BQA/CENTEXBEL (n° 0493), Technologiepark 7, B-9052 Zwijnaarde.

The information above is only valid for new garments and therefor only valid during the first use.

Protective garments with the reference number GP 6001 will be provided with an EN 466 label.

#### Mechanical characteristics

	class
<b>RESISTANCE TO</b>	
abrasion	6/6
blocking : right side on the reverse side	2/2
right side on the right side	1/2
flexion	5/5
perforation	3/5
tear strength	3/5
<b>ADHESION COATING</b>	5/5
<b>TENSILE STRENGTH</b>	
overwelded seams	5/5
no overwelded seams	4/5



EN 466 / EN 465



ENV 343

3  
1

#### Chemical permeation

The CHEMICAL PERMEATION TESTS have also been carried out on new, unused material according to the testing method EN369. The permeation tests have been carried out in a pure environment at 20°C and with a relative humidity of 65 %. In view of the unpredictable reactions of product in certain circumstances (nature, concentration en purity of the product, environment, temperature, ...), we strongly advise each user to test the Chemtux fabric thoroughly BEFORE each specific application. The breakthrough time was measured after an uninterrupted exposure to chemicals. This time is not necessary equal to the summation of several short periods of exposures. After the first use it is possible that, due to certain reactions of the chemical products, the breakthrough time decreases considerably.

Class	1	2	3	4	5	6
Breakthrough time (min)	>10	>30	>60	>120	>240	>480

The accomplished resistances are divided into the following classes of permeation :

	Time (min)	class		Time (min)	class
Inorganic acids			Hydrocarbon/oils		
sulphuric acid 40%	> 480	6	crude oil	> 480	6
sulphuric acid 95 %	55	2	petroleum	132,9	4
hydrochloric acid (min. 37%)	> 480	6	gasoline	16,9	1
nitric acid 25%	> 480	6	fuel	23,4	1
			machine oil	> 480	6
Detergents			Organic acids		
anionic	> 480	6	acetic acid 50%	> 480	6
kathionic	> 480	6	Other products		
Alkali			Hydrogen fluoride 40%	> 480	6
ammonia aq. 25 %	> 480	6	hydrogenperoxide H <sub>2</sub> O <sub>2</sub>	> 480	6
sodiumhydroxide 50% w/w	> 480	6	Sodiumhypochlorite (120 g/l act. chlore)	> 480	6
			Chlorine	9	/

\* The permeation results are only valid for new and unused Workstar PVC-fabrics (not valid for the gloves, boots, ... not making part of the garment) !

The protective garment is not really suitable to give you protection against solvents. As an indication we give you the breakthrough times of some solvents.

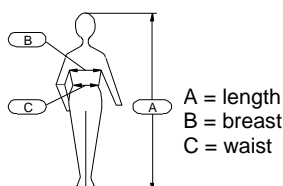
Solvents	breakthrough time (min)	class
n-hexane	9,2	/
dichloormethane	1,2	/
diethylamine	2,2	/
methanol	15,3	1
ethylacetaat	3,2	/
acetone	1,6	/
acetonitrile	2,2	/

### Sizes

For an optimal protection, please follow strictly the under mentioned directions for use :

- first of all read the information and safety brochure of the chemical products and machinery you are going to work with
- check if the size of the protective garment and the type of protection of the garment is suitable for you (see sizes on the measuring table)

	size	A	B	C
M	50-52	164-182	96-104	84-92
L	54-56	170-188	104-112	92-100
XL	58-60	170-188	112-120	100-108
XXL	62-64	176-194	120-128	108-116
Order r				
measure	M	L	XL	XXL
Order number	R 54 526	R54 527	R 54 528	R 54 929



- check before every use if there are no visual damages on the garment : holes or hitches, softening or destruction of the coating, delamination, discolouring, cracking of the coating or loss of flexibility, ... If there are any doubts about the efficiency of the garment, it must be destroyed and replaced.
- when putting on the protective garment we advise you that a second person checks if everything is closed and sealed as it should. Jackets have to be worn OVER the trousers.
- read also the manuals of the other additional protective equipment you are using (gloves, masks, ...) in order to guarantee a combination with the garment of maximum protection.  
E.g. : when using a respiratory mask, the hood of the garment must be pulled firmly over the headbands, around the facial cover. A facial mask is pulled over the hood after having closed the front zipper and flap. Ensure that you have a good protection at the ankles and wrists.

### Care instructions :

- for an optimal protection and maximum life-time of the protective garment it is advisable to remove chemical stains as soon as possible from the surface : rinsing or conform to the internal directives of security.
- before taking off the protective garment (PPE) after use, it is advisable to take a shower in order to rinse the chemicals and to make sure that there will be no contact with the remaining chemicals on the surface of the garment.

### Symbols :

- hand wash (maximum temperature 30 °C)
- no bleaching with products based on chloride
- no ironing
- no dry cleaning
- no tumble or tunnel drying. Drip dry.

### Stock instructions :

The garment has to be stored without compression in a cool and non humid area. Do not store when wet and let the garment drip dry. Be careful that the packing and the garment are not damaged.

### Tractability of production :

On the label you find the necessary information. Article/Order number/date of Production.