

BODYGUARD



LASER SAFETY CLOTHING

Your Safety. Our Concern!

www.protect-laserschutz.de

PROTECT[®]
LASERSCHUTZ GMBH

Why laser safety clothing?

Personal protective equipment (PPE) should always be provided to workers in any job or activity which by its nature can cause injuries or impair health. Working with laser systems entails in particular high health risks, which should be countered with the appropriate PPE.

Lasers are a popular and constantly evolving technology used extensively in industry and science. High-power laser equipment and hand-held laser systems are utilized for processing ever evolving materials in fields such as mechanical engineering, plant construction, vehicle manufacturing, the medical sector and the optical industry. The laser manufacturing methods largely applied in those fields include welding, cutting, drilling, soldering, marking and labelling.

Among the laser safety products already on the market, such as laser safety eyewear, windows, curtains and cabins, the need for additional laser personal protective equipment is constantly increasing as existing laser systems become more varied and thus more unpredictable.

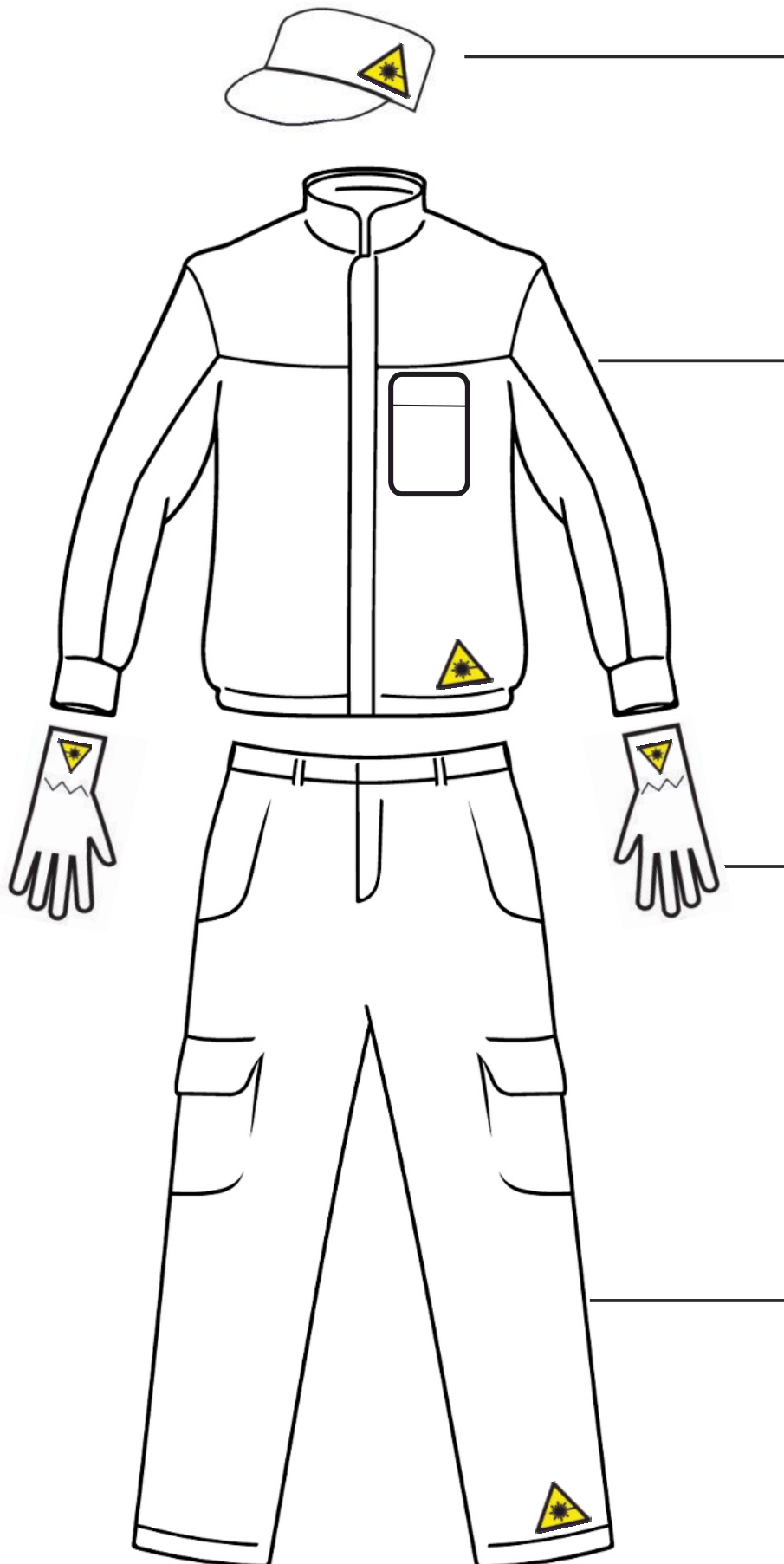


For that reason, and because of an increasing number of customer inquiries, PROTECT-Laserschutz GmbH, in collaboration with its partners Spezialtextilwerk Funke and Held GmbH, has expanded its product portfolio by two new additions: passive laser safety clothing and laser safety gloves.

The new BODYGUARD laser safety clothing is certified for the entire wavelength range from UV to IR with the highest possible levels of protection. As such it is suitable for all currently known types of lasers and all modes of laser operations.

wavelength (nm)	type of laser	power density	comparable protection levels acc. to DIN EN 207
180 - 315	D	$1,0 \times 10^6 \text{ W/m}^2 \text{ PF CE}$	D LB9
180 - 315	I, R	$3,0 \times 10^5 \text{ J/m}^2 \text{ PF CE}$	IR LB4
180 - 315	M	$3,0 \times 10^{15} \text{ W/m}^2 \text{ PF CE}$	M LB5
> 315 - 1400	D	$1,0 \times 10^7 \text{ W/m}^2 \text{ PF CE}$	D LB6
> 315 - 900	I	$5,0 \times 10^4 \text{ J/m}^2 \text{ PF CE}$	I LB7
> 900 - 1400	I	$5,0 \times 10^5 \text{ J/m}^2 \text{ PF CE}$	I LB8
> 315 - 1400	R	$5,0 \times 10^3 \text{ J/m}^2 \text{ PF CE}$	R LB6
> 315 - 1400	M	$1,5 \times 10^3 \text{ J/m}^2 \text{ PF CE}$	M LB7
>1400 - 11000	D	$1,0 \times 10^6 \text{ W/m}^2 \text{ PF CE}$	D LB3
>1400 - 11000	I	$1,0 \times 10^5 \text{ J/m}^2 \text{ PF CE}$	I LB3

In addition to affording protection, the new "BODYGUARD" laser safety clothing is skin-friendly and breathable. The clothing is not only comfortable to wear but also washable, a particular advantage with respect to other products, especially for procedures performed under high-temperature conditions.



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BODYGUARD

laser safety cap / -bonnet

universal range of use with all common laser systems at wavelengths from 180 to 11000 nm

available in two models

laser safety cap

- standard color: black with yellow seam
- onesize
- individual adjustment at head form due to strip with velcro connection
- material: special skin-friendly laser safety cloth
- washable at 40°
- checked and certified by TÜV Rheinland



laser safety head bonnet

- standard color: black with yellow seam
- available in two sizes:
 - size S for head circumference from 53 to 56 cm
 - size L for head circumference from 57 to 60 cm
- material: special skin-friendly laser safety cloth
- washable at 40°
- checked and certified by TÜV Rheinland

CE



EN 11611
Klasse 2; A1+A2

also suitable for use according to welding safety norm DIN EN 11611 class 2, A1+A2



EN 11612
A1+A2 B1 C1 F1

also suitable for use according to heat and flame safety norm DIN EN 11612 A1+A2 B1 C1 F1



BODYGUARD

laser safety jacket



stand-up collar offers optimum protection



cuffs as sleeve ends



strong zipper

big chest pocket, perfect for storage of e.g. your laser safety spectacles



- universal range of use with all common laser systems at wavelengths from 180 to 11000 nm
- really good for combination with laser safety trousers
- many details in assembly ensure a comfortable wearing comfort (see detail pictures): e.g. easy closing due to zipper and velcro, comfortable side pockets
- rotary reflective strip application
- pockets for laser safety spectacles and gloves
- standard color: black with yellow seam, standard sizes see overview page 18
- individual embroidery (company name, logo,...)
- material: special skin-friendly laser safety cloth
- washable at 40°
- checked and certified by TÜV Rheinland



EN 11611
Klasse 2; A1+A2

also suitable for use according to welding safety norm DIN EN 11611 class 2, A1+A2



EN 11612
A1+A2 B1 C1 F1

also suitable for use according to heat and flame safety norm DIN EN 11612 A1+A2 B1 C1 F1



BODYGUARD

laser safety coat



cuffs as sleeve ends

additional big side pockets

strong zipper

- universal range of use with all common laser systems at wavelengths from 180 to 11000 nm
- extensive protection of upper body and upper legs
- really good for combination with laser safety trousers
- many details in assembly ensure a comfortable wearing comfort (see detail pictures): e.g. easy closing due to zipper and velcro, functional side pockets and a big breast pocket
- rotary reflective strip application
- pockets for laser safety spectacles and gloves
- standard color: black with yellow seam, standard sizes see overview page 18
- individual embroidery (company name, logo,...)
- material: special skin-friendly laser safety cloth
- washable at 40°
- checked and certified by TÜV Rheinland



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Klasse 2; A1+A2

also suitable for use according to welding safety norm DIN EN 11611 class 2, A1+A2



EN 11612
A1+A2 B1 C1 F1

also suitable for use according to heat and flame safety norm DIN EN 11612 A1+A2 B1 C1 F1



BODYGUARD

laser safety overall



stand-up collar offers optimum protection



cuffs as sleeve ends



strong zipper



big chest pocket, perfect for storage of e.g. your laser safety spectacles

- universal range of use with all common laser systems at wavelengths from 180 to 11000 nm
- laser protection from neck to feet in just one garment
- many details in assembly ensure a comfortable wearing comfort (see detail pictures): e.g. easy closing due to zipper and velcro, functional side pockets and a big breast pocket
- rotary reflective strip application
- pockets for laser safety spectacles and gloves
- standard color: black with yellow seam, standard sizes see overview page 18
- individual embroidery (company name, logo,...)
- material: special skin-friendly laser safety cloth
- washable at 40°
- checked and certified by TÜV Rheinland



EN 11611
Klasse 2; A1+A2

also suitable for use according to welding safety norm DIN EN 11611 class 2, A1+A2



EN 11612
A1+A2 B1 C1 F1

also suitable for use according to heat and flame safety norm DIN EN 11612 A1+A2 B1 C1 F1



BODYGUARD

laser safety trousers



adjustable waist due to velcro



two big side pockets

- universal range of use with all common laser systems at wavelengths from 180 to 11000 nm
- protection of torso and legs
- very suitable for combination with laser safety jacket or coat
- many details in assembly ensure a comfortable wearing comfort (see detail pictures): e.g. easy closing due to zipper and velcro, functional pockets, adjustable waist due to velcro
- rotary reflective strip application
- standard color: black with yellow seam, standard sizes see overview page 18
- individual embroidery (company name, logo,...)
- material: special skin-friendly laser safety cloth
- washable at 40°
- checked and certified by TÜV Rheinland

CE



EN 11611
Klasse 2; A1+A2



EN 11612
A1+A2 B1 C1 F1

also suitable for use according to welding safety norm DIN EN 11611 class 2, A1+A2



BODYGUARD

laser safety apron



Simple length adjustability



practical click closure

- universal range of use with all common laser systems at wavelengths from 180 to 11000 nm
- protection of a large part of torso and upper legs
- very suitable for combination with laser safety trousers
- many details in assembly ensure a comfortable wearing comfort (see detail pictures): z.B. easy closing due to practical click closure, adjustment mechanism
- standard color: black with yellow seam, standard sizes see overview page 18
- individual embroidery (company name, logo,...)
- material: special skin-friendly laser safety cloth
- washable at 40°
- checked and certified by TÜV Rheinland



EN 11611
Klasse 2; A1+A2

also suitable for use according to welding safety norm DIN EN 11611 class 2, A1+A2



EN 11612
A1+A2 B1 C1 F1

also suitable for use according to heat and flame safety norm DIN EN 11612 A1+A2 B1 C1 F1



BODYGUARD

laser safety gloves

universal range of use with all common laser systems at wavelengths from 180 to 11000 nm

available in two models

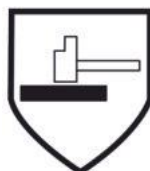
laser safety gloves standard

- standard color: black with yellow seam
- standard sizes see overview page 18
- individual embroidery (company name, logo,...)
- material: special skin-friendly laser safety cloth
- washable at 40°



laser safety gloves 2K

- for better fine motor skills
- standard color: black with yellow seam
- standard sizes see overview page 18
- individual embroidery (company name, logo,...)
- material: special skin-friendly laser safety cloth
- washable at 40°
- checked and certified by TÜV Rheinland



EN 388
1 2 2 1

also suitable for use according safety norm
DIN EN 388
1 2 2 1



EN 12447
4 3 4 XXX

also suitable for use according safety norm
DIN EN 12447
4 3 4 XXX

overview sizes clothes:

shown dress sizes	comply to dress size female	comply to dress size male
S	42	48
M	44	50
L	46	52
XL	48	54
XXL	50	56

overview sizes gloves:

shown glove sizes (german)	comply with glove size female	comply with glove size male
7	M	S
8	L	M
9	XL	L
10	XXL	XL
11	-	XXL
12	-	XXXL

product care and cleaning instructions



products correspond to currently valid guidelines and regulations of EU

all certifications performed by:



TÜVRheinland®
DIN CERTCO

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Maximilienallee 2 - 04129 Leipzig
Zertifizierungsstelle-Nr.: 0197

DIN CERTCO Gesellschaft für
Konformitätsbewertung mbH
Alboinstr. 56
12103 Berlin
Zertifizierungsstelle-Nr.: 0196

PROTECT-Laserschutz GmbH

PROTECT-Laserschutz GmbH is a manufacturer of laser safety, work safety and welding protection products, specialised in industry, medicine and R&D.

With our years of experience in laser safety and our extensive know-how in laser and work safety we offer you highly qualified consulting, competitive prices and conditions as well as a fast and reliable processing on customer wishes.

Our wide range of products includes e.g. laser safety clothing, safety eyewear, laser safety curtains and barriers.

We offer you innovative products and new technologies, therefore we cooperate with research facilities, universities and professional associations.

As a manufacturer we are certified according to EN ISO 9001: 2008.



PROTECT
industrial, R&D line

PROTECT
medical line

PROTECT
safety eyewear



BODYGUARD



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