

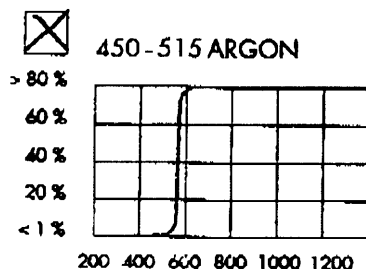
Bolle

7231015

TECHNICAL DATA SHEET - WARNINGS**LASERS TYPE****PROTECTIVE SPECTACLES****BOLLE****WAVELENGTH CONCERNED**

% Transmission - Wavelength in nm.

426	
COVERALL	X
CRISTAL	
SQUALE	

**APPROPRIATE MARKING :**

Bolle reference		D Marking EN207	I Marking EN207	R Marking EN207	DIR Marking EN208	TIV
450 - 515 OD1		DI 488 - 515 L1			0.01W2X10-6J510-515 R1	52
450 - 515 OD2		DI 488 - 515 L2			0.1W2X10-5J510-515 R2	44
450 - 515 OD3		DI 488 - 515 L3				41
450 - 515 OD4		DI 488 - 515 L4				38
450 - 515 OD5		DI 488 - 515 L4	I 488 - 515 L5			35
450 - 515 OD6	X	DI 488 - 515 L4	I 488 - 515 L6			34

MEANING OF MARKING : EN 207 - TOTAL PROTECTION

D 488 - 515 L1 F

Continuous laser Usage range Protective scale Bolle manufacturer logo Impact 45 m/s

MEANING OF MARKING : EN 208 - PROTECTION FOR ADJUSTMENT

0.01 W 2 X 10⁻⁶ J 510 - 515 R1 F

Laser power Laser energy Usage range Protective scale Bolle manufacturer logo Impact 45 m/s

C.I. Number : 8L381

N°2 ANGLAIS

USER INSTRUCTIONS ACCORDING TO EN 207 AND EN 208 P.P.E. (Personal Protective Equipment) DIRECTIVE 89/686/EEC

BOLLE EYE PROTECTION PRODUCTS : CARE AND MAINTENANCE INSTRUCTIONS

CARE :

Lenses may be cleaned with a soapy water or an optical cleaning tissue or solution.

MAINTENANCE :

Like all other protective products, the life depends on the type of use, care and maintenance.

Check your goggles, masks and protective visors regularly.

Pitted, scratched or damaged protective spectacles must be completely replaced since they reduce visual perception.

Always put your protective spectacles or mask back in the original protective packaging after use.

WARNING :

- Laser radiation protective spectacles form an individual protection that must be provided in addition to elementary safety measures. However even when wearing laser spectacles, never deliberately look directly at the laser beam or at a reflection of it through a mirror.
- The palpebral reflex may be reduced or blocked (medical treatment, illness).
- In some cases, the filter can change the perception of colors.
- The user must increase the illumination at the workstation when the visible transmission is less than 20%.
- Allergies may occur with extremely sensitive skins in some cases.

USAGE :

Since the laser protector is specific, it may only be used with the corresponding laser.

MEANING OF THE LETTERS D, I, R AND M : TEST DURATION FOR LASER FILTERS AND PROTECTIVE SPECTACLES (EN 207 - EN 208)

Test condition for laser types	Laser description	Pulse duration (s)	Number of pulses
D	Continuous laser	10	1
I	Pulsed laser	10^{-4} à 10^{-1}	100
R	Triggered laser	10^{-9} à 10^{-7}	100
M	Pulsed laser with mode coupling	$< 10^{-9}$	100

RECOMMENDED SCALE NUMBER FOR USE OF LASER FILTERS AND/OU PROTECTIVESPECTACLES (EN 207)

Scale number	Maximum transmission spectral factor at the laser wavelengths	Maximum energy illumination and/or maximum energy exposure for wavelength ranges								
		180 nm to 315 nm			> 315 nm to 1400 nm			> 1400 nm to 1000 nm		
		E (W/m ²)	H (J/m ²)	E (W/m ²)	E (W/m ²)	H (J/m ²)	E (W/m ²)	E (W/m ²)	H (J/m ²)	E (W/m ²)
		For test conditions / pulse durations according to table 3								
		D	I, R	M	D	I, R	M	D	I, R	M
L1	10^{-1}	0,01	3×10^2	3×10^{11}	10^2	0,05	5×10^7	10^4	10^3	10^{12}
L2	10^{-2}	0,1	3×10^3	3×10^{12}	10^3	0,5	5×10^8	10^5	10^4	10^{13}
L3	10^{-3}	1	3×10^4	3×10^{13}	10^4	5	5×10^9	10^6	10^5	10^{14}
L4	10^{-4}	10	3×10^5	3×10^{14}	10^5	50	5×10^{10}	10^7	10^6	10^{15}
L5	10^{-5}	100	3×10^6	3×10^{15}	10^6	5×10^2	5×10^{11}	10^8	10^7	10^{16}
L6	10^{-6}	10^3	3×10^7	3×10^{16}	10^7	5×10^3	5×10^{12}	10^9	10^8	10^{17}
L7	10^{-7}	10^4	3×10^8	3×10^{17}	10^8	5×10^4	5×10^{13}	10^{10}	10^9	10^{18}
L8	10^{-8}	10^5	3×10^9	3×10^{18}	10^9	5×10^5	5×10^{14}	10^{11}	10^{10}	10^{19}
L9	10^{-9}	10^6	3×10^{10}	3×10^{19}	10^{10}	5×10^6	5×10^{15}	10^{12}	10^{11}	10^{20}
L10	10^{-10}	10^7	3×10^{11}	3×10^{20}	10^{11}	5×10^7	5×10^{16}	10^{13}	10^{12}	10^{21}

SCALE NUMBER, SPECTRAL TRANSMISSION FACTOR AND MAX. LASER POWER (EN 208)

Scale number	Range of the spectral transmission factor		Continuous lasers and pulsed lasers with pulse duration $\geq 2 \times 10^{-4}$ s Maximum laser power (W)	Pulsed lasers with pulse duration $\geq 10^{-9}$ to 10^{-4} s Maximum pulse energy (J)
	Filters	Frames		
R1	$10^{-2} < T(\lambda) \leq 10^{-1}$	$T(\lambda) \leq 10^{-1}$	0,01	2×10^{-6}
R2	$10^{-3} < T(\lambda) \leq 10^{-2}$	$T(\lambda) \leq 10^{-2}$	0,1	2×10^{-5}
R3	$10^{-4} < T(\lambda) \leq 10^{-3}$	$T(\lambda) \leq 10^{-3}$	1	2×10^{-4}
R4	$10^{-5} < T(\lambda) \leq 10^{-4}$	$T(\lambda) \leq 10^{-4}$	10	2×10^{-3}
R5	$10^{-6} < T(\lambda) \leq 10^{-5}$	$T(\lambda) \leq 10^{-5}$	100	2×10^{-2}