

YAMAMOTO KOGAKU

How to specify Yamamoto safety goggles/eyewear

Each part number for Yamamoto safety eyewear should consist of three parts', the FRAME-TYPE, the filter series and the LENS-CODE.

(LENS-CODE = protective filter type.)

1. FRAME TYPE SELECTION

The following five frame types are applicable to the popular Laser Defence and Laser Sight series. An "O" in the appropriate box (see selection tables) indicates that a given Frame and Lens type are compatible. Otherwise, a "-" fills the spot. (Some filters are too thick, or are composite, and therefore can not be made into all 5 styles.)

For further information on the frame types for Laser Safeguard & Lightguard, please contact Lastek Pty Ltd.

⚠ This eyewear does not protect your eyes from direct laser beam, and you shall not look into laser beam under any circumstances.



2. FILTER SERIES SELECTION

This specifies the degree of blocking and other general physical characteristics of the filters.

No code = Laser Defence series, high optical density, narrow range

"C" = Laser Defence series, high optical density, multi band

"M" = Laser Sight series, 1/100 attenuation, for low power lasers, users can still see the beam, if in the visible region

"A" = Laser Sight series, 1/10,000 attenuation, for intermediate power lasers

"G" = Tempered Glass series. High optical density, high visible transmittance, high chemical resistance.

3. LENS-CODE

The LENS-CODE specifies the wavelength of the blocking filter required.

A typical selection:

Model YL110 - C - LASER DIODE

= Goggle, Multiband type, 660-1064nm.

LASER DEFENCE - Applications for single wavelength laser

APPLICABLE LASER	YL-110	YL-280	YL-300	YL-331	YL-900	CLT (%)	FILTER CODE	WAVELENGTH (nm)	O.D.
EXCIMER (ArF, KrF, XeCl)	0	0	0	-	0	Clear/85	EXCIMER	190-380	10
332								10	
337								10	
ARGON	0	0	0	-	0	Orange/32	ARGON & He-Cd	457.9	10
								488 & 515	10
								441.6	10
Nd-YAG (SHG)	0	0	0	-	0	Red/16	Nd-YAG (SHG)	532	10
DYE	0	-	0	-	0	Blue/8	DYE 1	570-630	3-8
DYE	0	-	0	-	0	Purple/5	DYE 2	570-610	8-5
He-Ne	0	0	0	-	0	Blue/14	He-Ne	632.8	5
GOLD-VAPOR								627.8	5
KRYPTON								647.1	5
								676.4	8
LASER DIODE								660-680	5
RUBY	0	-	0	-	-	Blue/35	Ruby	694.3	7
LASER DIODE	0	0	0	0	0	Green/25	LASER DIODE1	740-790	6-4
ALEXANDRITE								740-790	6-4
LASER DIODE	0	0	0	0	0	Green/27	LASER DIODE2	790-910	3-6-5
ALEXANDRITE								755	6
LASER DIODE	-	-	-	0	-	Pink/30	ALEXANDRITE	750-800, 800-850	10-4
TI-SAPPHIRE								750-850	4
Nd-YAG	0	0	0	0	0	Green/30	Nd-YAG	1064	6
Nd-YLF								1053	6
CO ₂	0	0	0	0	0	Green/60	CO ₂	10600	10

e.g. for Argon laser and frame type YL-110 order YL-110-ARGON

LASER DEFENCE – For Multi-bands lasers

APPLICABLE LASER	YL-110C	YL-300C	YL-331C	YL-900C	CLT (%)	FILTER CODE	WAVELENGTH (nm)	O.D.
KRYPTON	0	0	-	-	Green/3	KRYPTON	520	2.3
							530	1.5
							570	2
							650	1.3
VISIBLE LASER DIODE	0	0	0	0	Green/7	LASER DIODE	660-680	2-3
LASER DIODE							740	4
							820	4
TI-SAPPHIRE							680-1100	3-5
Nd-YAG							1064	5
Nd-YAG (FHG)	0	0	0	0	Green/8	Nd-YAG	266	10
Nd-YAG (THG)							355	10
Nd-YAG (SHG)							532	3
Nd-YAG							1064	6

e.g. for Ti-Sapphire laser and frame type YL-210 order YL-210C-LASER DIODE

LIGHT-GUARD SERIES

APPLICABLE LASER	CODE NAME	COLOR/LUMINOUS TRANSMITTANCE (%)	WAVELENGTH (nm)	O.D.
CO ₂	YL-70S CO ₂	Clear /88%	10600nm	5
			190-380nm	4
Er YAG	YL-250S ErYAG	Clear /90%	2940nm	3.5

LASER SIGHT SERIES - Attenuation to 1/100 (Allow visualisation of laser beam)

APPLICABLE LASER	YL-110M	YL-280M	YL-300M	YL-900M	CLT (%)	FILTER CODE	WAVELENGTH (nm)	O.D
He-Cd	0	0	0	0	Orange/63	ARGON488	441.6	2
ARGON							457.9	2
ARGON							488	2
ARGON	0	0	0	0	Orange/57	ARGON514.5	514.5	2
							488	3
Nd-YAG (SHG)	0	0	0	0	Red/30	Nd-YAG (SHG)	532	2
COPPER-VAPOR	0	-	0	0	Green/6	COPPER-VAPOR	578.2	2
							510.6	2
DYE	0	-	0	0	Blue/10	DYE	580-625	2
He-Ne	0	0	0	0	Blue/47	He-Ne	632.8	2
GOLD-VAPOR							627.8	2
RUBY							694.3	2
KRYPTON	0	-	0	0	Blue/55	VISIBLE LASER DIODE	647.1	2
							676.4	2
LASER DIODE							660-680	2
LASER DIODE	0	0	0	0	Green/48	LASER DIODE	780	1
LASER DIODE3	0	0	0	0	Pink/55	LD3	780	5
							810	6
							850	4

LASER SIGHT SERIES - Attenuation to 1/10,000 (Allow visualisation of laser beam)

APPLICABLE LASER	YL-110A	YL-280A	YL-300A	YL-900A	FILTER CODE	COLOR/LUMINOUS TRANSMITTANCE (%)	WAVELENGTH (nm)	O.D.
ARGON	0	0	0	0	ARGON 488	ORANGE/57	488	4
							457.9	4
ARGON	0	0	0	0	ARGON 514.5	ORANGE/50	514.5	4
							488	5
NdYAG(SHG)	0	0	0	0	NdYAG (SHG)	RED/25	532	4

LASER DEFENCE & SIGHT SERIES - High visible transmittance; high chemical resistance; high colour distinctness

APPLICABLE LASER	YL-120G	YL-250C	YL-270C	LENSE CODE	COLOR/LUMINOUS TRANSMITTANCE (%)	WAVELENGTH (nm)	O.D.
Nd-YAG	0	0	0	NdYAG(OD3)	LIGHTGREEN/80%	1064	3
Ho-YAG						2100	2
Er-YAG						2940	2
Nd-YAG	-	0	0	NdYAG(OD5)	LIGHTGREEN/80%	1064	5
Ho-YAG						2100	3.5
Er-YAG						2940	3.5
Nd-YAG	0	0	0	NdYAG(OD7)	LIGHTGREEN/80%	1064	7
Ho-YAG						2100	5
Er-YAG						2740	5

LASER DEFENCE & SIGHT SERIES continued

APPLICABLE LASER	YL-120G	YL-250G	YL-270G	LENSE CODE	COLOR/LUMINOUS TRANSMITTANCE (%)	WAVELENGTH (nm)	O.D.
DYE	0	-	-	DYE	BROWN/16%	580	10
						610	4
LASER DIODE	0	0	0	LASER DIODE	BLUE/66%	810	4
TELECOM	-	0	0	TELECOM	LIGHTGREEN/80%	980	3
LASER DIODE						1300	2
						1550	2

LASER SAFEGUARD - CONFORMS TO DIN 58215 - Aluminium frame, high luminous transmittance

APPLICABLE LASER	LENSE CODE NAME	WAVELENGTH (nm)	MIN. OPTICAL DENSITY
Nd-YAG	YL-120H-YAG Goggle	1064	7
		1319.5	7
Nd-GLASS	YL-220H-YAG Glasses	1060	7
Nd-YLF		1047	7
		1053	7
Infra-Red		1000-1600	7
CO ₂	YL-120H-CO ₂ Goggle	10600	7
EXCIMER		ArF	193
	KrF	248	10
	XeCl	308	10
Ultra-Violet	YL-220H-CO ₂ Glasses	190-320	10

LASER SAFETY SHIELD, Flexible material for covering viewing windows/laminating

SIZE	CODE NAME	APPLICABLE LASER	WAVELENGTH (nm)	MIN. OPTICAL DENSITY
33cm x 50cm	YL-600-Ar	EXCIMER	190-380	3
		ARGON	457.9-514.5	
		He-Cd	441.6	
		Nd-YAG (SHG)	532	
33cm x 50cm	YL-600-HeNe	He-Ne	632.8	2
		GOLD VAPOR	627.8	
		DYE	570-630	
		KRYPTON	647.1,676.4	
33cm x 50cm	YL-600-LD	RUBY	694.3	3
		LASER DIODE	740-910	
		ALEXANDRITE	740-820	
33cm x 50cm	YL-600-YAG	Ti-SAPPHIRE	700-1000	1-3
		Nd-YAG	1064	3
		Nd-YLF	1047-1000	
		CO ₂	10600	

Laser safety shield is available in rolls 33cm wide and up to 10m long. Length must be a multiple of 50cm.