


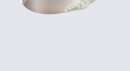


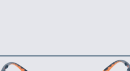



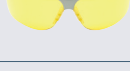


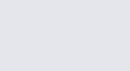




Lens Colour Table

Classification	Lens Type	Filter code	Protection	Benefits	Typical applications	Markets
Clear Lens	Clear 	2C-1.2 or 3-1.2	Impact protection (low energy), UV (A, B and C)	Visibility, good colour recognition	Mechanical work, engineering	Industrial manufacturing (metal, chemical, transportation, automotive), DIY
Clear Lens	Clear CR39 and Mineral Lenses 	N/A	Good resistance to scratching and chemicals, UV (A,B,C) protection	Visibility, good colour recognition	Chemical laboratories	Laboratories
Solar Lens	Smoke 	5-2.5 or 5-2	Impact protection (low energy), UV (A, B and C), visible light	Colour differentiation under sunlight, and reduced eye fatigue under glare conditions	Outdoor work, mechanical work with glare, vehicle drivers, road works	Industrial manufacturing, construction, roadworks, DIY
Solar Lens	Light Gold Mirror 	5-1.7	Impact protection (low energy), UV (A, B and C), glare	Mirror coating keeps lens clear while reflecting light instead of absorbing it. For both sunny and low light conditions.	Fork lift truck, mechanical work indoor/outdoor, maintenance	Construction, logistics/transport
Solar Lens	Indoor/Outdoor Lens (I/O) 	5-1.7 (EN172)	Impact protection (low energy), UV (A,B,C), glare	Good visibility in sunny and low light conditions	Fork lift truck driving, mechanical work both indoor and outdoor	Construction, logistics, transport
Solar Lens	Bronze Lens 	5-2.5 (Bronze) 5-3.1 (Dark Bronze) (EN 172)	Impact protection (low energy), UV (A,B,C), blue light (480nm)	Good visibility and colour recognition in sunlight and glare conditions.	Outdoor work and mechanical work with glare	Construction and outdoor mechanical work
Solar Lens	Blue Lens 	5-3.1 (EN172)	Impact protection (low energy), UV (A,B,C), bright light	Eliminates glare, eye stress and fatigue in monochromatic (single colour) yellow lit environments	Outdoor work, semi conductor fabrication, photolithography, sodium vapour lighting, yellow lighting	Construction and outdoor mechanical work
Solar Lens	Silver, Red, Blue Mirror Lens 	5-3.1	Impact protection (low energy), UV (A,B,C), scratches, glare	Good colour recognition in sunlight and glare conditions	Outdoor work, mechanical work with glare, recreational activities	Construction and outdoor mechanical work
Solar Lens	Grey Lens 	5-2.5 5-3.1	Impact protection (low energy), UV (A,B,C), scratches, glare	Good colour recognition in sunlight and glare conditions	Outdoor work, mechanical work with glare, recreational activities	Construction and outdoor mechanical work
Solar Lens	Polarised 	N/A	Impact protection (low energy), UV (A,B,C), glare	Horizontal glare, good contrast in bright environments	Outdoor work, mechanical work with glare, recreational activities	Construction and outdoor mechanical work, e.g. in wet conditions, marine
High Contrast Lens	Red-Orange 	N/A	Impact protection (low energy), UV (A, B and C), blue light from 400nm to 530nm	Filters blue light from 400nm to 530nm thus preventing damage to cornea	Polymerisation, paint and adhesive curing, crack testing	Dental, automotive repair, aerospace
High Contrast Lens	Amber 	2-1.2 (EN170)	Impact protection (low energy), UV (A,B,C), blue light (480nm)	Filter blue light and enhances contrast in low light conditions	Surface inspection, Wood's lamp, shooting, mechanical work	Shooting, dental, automotive repair, aerospace
High Contrast Lens	Yellow 	2-1.2	Impact protection (low energy), UV (A, B and C), visible light	Enhanced contrast in low light conditions	Surface inspection, work in poor visibility/dark environment, mechanical work	Industrial manufacturing, oil production and shooting
High Contrast Lens	Vermillion 	N/A	Impact protection (low energy), UV (A,B,C)	Excellent colour recognition against green backgrounds	Shooting	Shooting, forestry, recreational activities
Welding Lens	IR Shade 5/Green  IR shade 1.7 IR shade 3.0 IR shade 5.0 IR shade 7.0 	5 (EN169) or 4-5 (EN171) 1.7 3 5 7	Impact protection (low energy), UV (A, B and C), visible light, IR	Prevents welding flash burn (99.5% IR absorption)	Certain gas welding applications, brazing, cutting and welder's assistant. NOT suitable for electric arc welding.	Welding, engineering, construction, automotive, metal scrap yard
Welding Lens	Minimiser Lens 	6-1.7	Impact protection (low energy), UV (A,B,C), visible light, IR	Prevents welding flash burns, whilst improving colour recognition (compared to Green shade)	Welder's assistant, glass work feeder	As for IR shade 5

**3M**  
**Occupational Health Group**  
**3M United Kingdom plc**  
3M Centre  
Cain Road, Bracknell  
Berkshire RG12 8HT  
Tel: 0870 60 800 60  
www.3M.com/uk/ohes

**3M Ireland Limited**  
The Iveagh Building  
The Park  
Carrickmines  
Dublin 18  
Tel: 1 800 320 500

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CHEYEBRO Iss.1

3M Occupational Health and Environmental Safety Group



The 3M range of eyewear gives you a variety of modern and stylish products to choose from. All safety spectacles and goggles protect the eyes from a wide range of hazards and are available with a selection of coatings, lens types and accessories.

Comfort

Many of our products come with adjustable features and soft materials at points of contact in order to improve fit and comfort to accommodate different face sizes and shapes.

Why do you need to protect your eyes?

Eye injuries, whatever the source, can result in anything from simple irritation to total blindness.

- MECHANICAL HAZARDS** - Examples: impact, solid particles
- THERMAL HAZARDS** - Examples: hot liquids splash, flame
- RADIATION HAZARDS** - Examples: ultraviolet, infrared, visible light, laser
- ELECTRICAL HAZARDS** - Examples: direct contact, short-circuit electric arc
- CHEMICAL OR BIOLOGICAL HAZARDS** - Examples: acids, solvents, alkalis, splash, infected blood

Compatibility

Eye protection often needs to be worn in conjunction with other protective equipment and it is essential that comfort and fit with other PPE (Personal Protective Equipment) is maintained. The eyewear range can be used in combination with respiratory and hearing protection by 3M. Compatibility with other PPE will be subject to a number of variable factors which requires employer and end user to conduct an appropriate selection depending on individual needs.

Guide to choosing eyewear by hazard or application

This guide is an outline only and should not be used as the only means of selecting eye protection.

Product by hazard

Risk	Spectacles	Goggles
Optical radiation (e.g. UV, IR) See Lens Colour Table	✓	✓
High speed particle at: Low energy (F) Medium energy (B)	✓	✓ ✓
Liquid droplets		✓
Large dust particles		
Gas and fine dust particles		✓
Molten metal and hot solids		✓
High speed particle at extreme temperature	✓	✓

Choice of product by application

Application	Spectacles	Goggles
Vistors	✓	
Grinding		✓
Turning	✓	✓
Assembling	✓	✓
Cold Metal Working	✓	✓
Hot Metal Working		✓ (T)
Painting		✓
Laboratory - Acids		✓
Laboratory - Dusts	✓	✓
Laboratory - Hospital	✓	X
Outdoor	✓	
Chemical splash		✓
Chemical gas		✓ (Non vented)










Accessories for 3M™ Eyewear



	3M™ COMFORT OVER SPECTACLES				3M™ CLASSIC OVER SPECTACLES					3M™ PREMIUM SPECTACLES								
PRODUCT DESCRIPTION	2800	OX1000	OX2000	OX3000	TourGuard™	Visitor™	Marcus Grünholm™	Metaliks™	Fuel™	Metaliks™ Sport	Force-3™	BX™	BX™ Readers	Eagle™	Eagle™ Near Vision	Eagle™ Welding	2750	LED Light Vision™
TECHNICAL FEATURES	PC				PC		PC			PC								
Lens Type (PC = Polycarbonate)	PC				PC		PC			PC								
Other lens materials available in range										CR39 Mineral								
Impact resistant	FT	F	F	F	F	F	FT	F	FT	FT	FT	FT	FT	S	F	F	FT	FT
Coating for clear lens	AS	–	DX	DX	AS		AS-AF	AS-AF	AS-AF	AS-AF	Mirror	AS-AF	AS-AF	AS	AS	AS	AS-AF	AS-AF
Other coating available within series							Mirror			DX								
Optical class	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	A	1	1
Filter	UV	UV	UV	UV	UV	UV	UV	UV	Solar-Glare	UV	UV	UV	UV	UV	UV	UV	UV	UV
Visible Light Transmission	91%	92%	92%	92%	92%	92%	92%	92%	45%	92%	45%	92%	92%	92%	92%	54% - 99%	93%	92%
Lens marking	2C-1.2 3M 1 FT	2-1.2 AOS.1.F	2-1.2 AOS.1.F	2-1.2 AOS.1.F	AOS.1.F	2-1.2 AOS.1.F	2C-1.2 AOS.1.FT	2-1.2 AOS.1.F	5-1.7 AOS.1.FT	2C-1.2 AOS.1.F	5-3.1 AOS.1.FT	2C-1.2 AOS.1.FT	2C-1.2 AOS.1.FT	AOS.1.S	2C-1.2 AOS.1.F	1.7 AOS.1.F.K	2C-1.2 3M 1 FT	2C-1.2 AOS.1.FT
PRODUCT FEATURES																		
Adjustable temple length	Yes		Yes									Yes	Yes	Yes	Yes	Yes	Yes	
Temple inclination	Yes											Yes	Yes	Yes	Yes	Yes	Yes	
Formable or rotating temple tips			Yes				Yes	Yes				Yes	Yes	Yes	Yes	Yes	Yes	
Soft temple tips	Yes			Yes			Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Flat temples for extra comfort under helmets							Yes	Yes		Yes								
Soft, comfortable, ventilated nose bridge							Yes	Yes	Yes									
Wrap around glasses for superior view							Yes	Yes	Yes									
Broad and adjustable head bands for goggles or strap for glasses																		
Browguard or micro fibre pouch										Micro Fibre Pouch								
Temple colours available for range	Blue arms	Black arms	Blue arms	Blue arms	Clear	Clear	Black arms	Grey arms	Grey, Platinum, Titanium, Brown, Black arms	Black arms	Grey arms	Black arms	Black arms	Blue arms	Black arms	Black arms	Black arms	Black/Grey arms
Headband material																		
Special features	Soft temple and adjustable tips	Lightweight with no metal parts	Comfortable and adjustable temple	Flat temples make it comfortable with Petior™ Ear Muff	Also comes in small size for a chic look	Lightweight for extra comfort	Hypo-allergic metal frames and special large size for trendy look. Also available in large sizes.	Polished metal frame for stylish look	Extreme heat and torsion resistance, nose ventilation system and triple flex lens coating	Polished metal frame for stylish look	Stylish and comfortable	Comes in 3 Bi-focal lenses, 1.5, 2 and 2.5 magnification	Versatile spectacles with clip-ons for all activities	Excellent for close work with a standard pupil distance 64mm	Comfortable for welders assistant	Stylish and versatile	Light in dark places e.g. plumbing	
LENS OPTION																		
Clear lens	Clear	Clear	Clear	Clear	Clear	Clear	Clear	Clear		Clear		Clear	Clear	Clear		Clear		Clear
Solar lens							Bronze, Blue mirror	Grey	Bronze, Indoor/Outdoor, Red mirror, Blue mirror, Polarised	Grey, Blue mirror	Red mirror, Silver mirror, Indoor/Outdoor	Grey					Grey	
High contrast lens										Amber								
Green/Welding lens	Shade 5									Shades 1.7, 3, 5, 7								

	3M™ COMFORT SPECTACLES						3M™ CLASSIC SPECTACLES		
PRODUCT DESCRIPTION	Maxim™	Maxim™ Ballistic™	Solus™	2840	OX2000™	Nassau™ Plus	2820	2720	Tora™
TECHNICAL FEATURES	PC						PC		
Lens Type (PC = Polycarbonate)	PC						PC		
Other lens materials available in range									
Impact resistant	FT	FT	FT	FT	F	F	FT	FT	FT
Coating for clear lens	DX	DX	AS	AS-AF	DX	DX	AS-AF	AS-AF	AS-AF
Other coating available within series	Mirror	Mirror	AS-AF, Mirror	Mirror					
Optical class	1	1	1	1	1	1	1	1	1
Filter	UV	UV	UV	UV	UV	UV	UV	UV	UV
Visible Light Transmission	92%	92%	92%	93%	92%	92%	93%	93%	92%
Lens marking	2C-1.2 AOS.1.FT	2C-1.2 AOS.1.FT	2C-1.2 AOS.1.FT	2C-1.2 3M 1 FT	2-1.2 AOS.1.F	2-1.2 AOS.1.F	2C-1.2 3M 1 FT	3-1.2 3M 1 FT	2C-1.2 AOS.1.FT
PRODUCT FEATURES									
Adjustable temple length	Yes			Yes		Yes			
Temple inclination	Yes	Yes		Yes			Yes		
Formable or rotating temple tips				Yes					
Soft temple tips			Yes	Yes	Yes	Yes	Yes		
Flat temples for extra comfort under helmets		Yes						Yes	
Soft, comfortable, ventilated nose bridge	Yes	Yes							
Wrap around glasses for superior view				Yes			Yes	Yes	Yes
Broad and adjustable head bands for goggles or strap for glasses									Yes
Browguard or micro fibre pouch	Browguard	Browguard	Micro Fibre Pouch	Browguard		Browguard			
Temple colours available for range	Black arms	Black arms	Black, orange and silver blue arms	Grey arms	Blue arms	Blue or Black arms	Black/Grey arms	Blue arms	Clear arms
Headband material									
Special features	180 degree vision for picture perfect clarity and include welding lens with the range	180 degree vision, exceed Military Vo test regimen for high velocity impact (198m/s)	Lightweight, fashion, field of vision brow guard	Rimless style	Reversible nose piece	Style and versatility in one. Flexible for a range of applications.	Lightweight, style and comfort in one design. Great field of vision.	Lightweight, great look in sleek design.	Lightweight, stylish and with cord on all
LENS OPTION									
Clear lens	Clear	Clear	Clear	Clear	Clear	Clear	Clear	Clear	Clear
Solar lens	Bronze, Indoor/Outdoor	Bronze, Indoor/Outdoor	Bronze, Indoor/Outdoor, Red and Blue Mirror	Indoor/Outdoor mirror, Smoke			Grey	Grey	Bronze
High contrast lens	Amber	Amber, Vermillion	Amber	Yellow			Yellow	Yellow	Amber
Green/Welding Lens	Shades 3, 5 and Minimiser			Shade 5					

	3M™ COMFORT GOGGLES				3M™ CLASSIC GOGGLES	3M™ SPECIAL GOGGLES	
							
PRODUCT DESCRIPTION	2890	Fahrenheit™	Flyer™	Modul-R	4700	Maxim 2x2	Maxim Hybrid
TECHNICAL FEATURES							
Lens Type (PC = Polycarbonate)	PC	PC	PC	PC	PC	PC	PC
Other lens materials available in range	Acetate	Acetate	Acetate, Propionate				
Impact resistant	BT	B	F	BT	B	FT	FT
Coating for clear lens	AS-AF	AS-AF	AF	DX		AS-AF	DX
Other coating available within series	AF	AS, DX					
Optical class	1	1	1	1	1	1	1
Filter	UV	UV		UV		UV	
VLT	86%	92%	92%	92%	92%	92%	92%
Lens marking	2C-1.2 3M 1 K N BT	2C-1.2 AOS.1.BT	AOS.1.F	2C-1.2 AOS.1.B	AOS.1.B	2C-1.2 AOS.1.FT	AOS.1.FT
PRODUCT FEATURES							
Resistance against liquid drops	Yes (2890, 2890A and 2890S)	Yes	Yes	Yes	Yes	Yes	Yes
Resistance against gas and dust	Yes (2890, 2890SA and 2890S)	Yes (non vented version)					
Resistance against molten metal	Yes (2890S)						
Comes with microfibre pouch		Yes					
Headband material	Polyester	Nylon	Nylon				
Special features	2890S is non vented	Vented, unvented, with and without foam, one made for helmet	Comes with and without foam	Thermoplastic material for comfort and half visor		Easy to switch from a headband to glasses to ensure the right protection every time	
LENS OPTION							
Clear lens	Clear	Clear	Clear	Clear	Clear	Clear	Clear

Impact Resistance Table

Mechanical Resistance	Impact Level	Maximum Speed	Lens Material
B or B(T)	Medium Energy Impact	120m/s	Polycarbonate, Acetate
F or F(T)	Low Energy Impact	45m/s	Polycarbonate, Acetate
S	Enhanced Solidity	12m/s	CR39 Toughened Glass

(T) signifies that eyewear meets mechanical resistance at high temperature

Coating Options Table

Example application	User in an abrasive environment, e.g. workbench	User moves from hot to cold or sweating for long durations	Where static build up occurs	Chemical resistant	UV, sunlight and glare
AS (Anti-scratch)	Yes				
AF (Anti-Fog)		Yes			
AS-AF (Anti-scratch, anti-fog)	Yes	Yes			
DX	Yes	Yes	Yes	Yes	
Mirror	Yes				Yes