

**3M Science.
Applied to Life.™**

3M™ Solus™ 1000 Series Safety Spectacles

Technical datasheet



Product description

The 3M™ Solus™ 1000 is a safety spectacle with:

- ▶ Slim frame
- ▶ Scotchgard™ Anti-Fog coating
- ▶ Optional adjustable headband
- ▶ Optional foam or TPE gasket

Key features

- ▶ Optical class 1 lens for prolonged use
- ▶ Single piece ocular lens
- ▶ Semi-rimless ocular frame
- ▶ Frame colours in either blue/black or green/black
- ▶ Scotchgard™ Anti-Fog coating providing protection against fogging and scratching, meeting K and N marking requirements of EN 166
- ▶ Offers protection against UV radiation
- ▶ Optional foam gasket or TPE gasket to give medium energy impact protection when worn with headband
- ▶ TPE gasket designed to be worn with 3M™ Solus™ 1000 prescription inserts
- ▶ Scotchgard™ Anti-Fog coating provides scratch resistance and durability, even after multiple washes
- ▶ Can be autoclaved for use in cleanroom environments (based on internal testing)
- ▶ Basic weight 26g

Product range

3M™ Solus™ 1101SGAF-EU, clear polycarbonate lens with Scotchgard™ coating and Blue/Black frame

3M™ Solus™ 1101NSGAF-TSKT-EU, clear polycarbonate lens with Scotchgard™ coating, Blue/Black frame, with TPE insert and neoprene headband

3M™ Solus™ 1101SGAFKT-EU clear polycarbonate lens with Scotchgard™ coating, Blue/Black frame, with foam insert and headband

3M™ Solus™ 1201SGAF-EU, clear polycarbonate lens with Scotchgard™ coating and Green/Black frame

3M™ Solus™ 1201SGAFKT-EU, clear polycarbonate lens with Scotchgard™ coating, Green/Black frame, with foam insert and headband

3M™ Solus™ 1201SGAF-TSKT-EU, clear polycarbonate lens with Scotchgard™ coating, Green/Black frame, with TPE insert and fabric headband

3M™ Solus™ 1102SGAF-EU, grey polycarbonate lens with Scotchgard™ coating and Blue/Black frame

3M™ Solus™ 1202SGAF-EU, grey polycarbonate lens with Scotchgard™ coating and Green/Black frame

3M™ Solus™ 1103SGAF-EU, amber polycarbonate lens with Scotchgard™ coating and Blue/Black frame

3M™ Solus™ 1203SGAF-EU, amber polycarbonate lens with Scotchgard™ coating and Green/Black frame

3M™ Solus™ 1107SGAF-EU, Indoor/outdoor polycarbonate lens with Scotchgard™ coating and Blue/Black frame

3M™ Solus™ 1207SGAF-EU, indoor/outdoor polycarbonate lens with Scotchgard™ coating and Green/Black frame

3M™ Solus™ 1000S-EU, headband

3M™ Solus™ 1000G-EU, foam gasket

3M™ Solus™ 1000TPE-EU, TPE gasket

3M™ Solus™ 1000RX-EU, RX insert with TPE gasket

Typical applications

These products may be suitable for use in a wide variety of applications including:

- ▶ Industrial manufacturing
- ▶ Metal working
- ▶ Construction
- ▶ Food industry
- ▶ Pharmaceutical
- ▶ General laboratory

Intended use

These products are intended for protection against a variety of hazards including low energy impact (F) when worn as a spectacle with temple arms, or medium energy impact (B) when worn as a goggle with a headband and gasket. These products also provide protection at extremes of temperature -5°C and +55°C (T) in accordance with EN 166:2001.

When worn as a goggle with a headband and TPE gasket these assemble option also provide protection against droplets or splashes of liquid (3) and large dust particles (4), which meet EN 166:2001.

These products also help protect against UV radiation in accordance with EN 170:2002 (clear and amber lenses), and sun glare in accordance with EN 172:1994 (grey and indoor/outdoor lenses).

3M™ Solus™ 1000 Series Safety Spectacles

Intended use (continued)

The 3M™ Solus™ 1000 lenses are also intended to give an enhanced level of protection against fogging and scratching from the Scotchgard™ coating which meets K rating for anti-scratch (AS) and N rating for anti-fog (AF) as per EN 166:2001.

Sterilisation by autoclaving - limited internal testing has been carried out on samples subjected to 10x, 20x, 30x and 40x automatic cleaning and disinfection and sterilisation by autoclaving at 121°C. Testing was then carried out on the following properties:

- ▶ Mechanical performance (BT)
- ▶ Anti-fog properties (N)
- ▶ Anti-scratch properties (K)
- ▶ Optical performance

Based on the internal testing the claims remain valid.

NOTE: Sterilisation by autoclaving was only tested on the safety spectacles (3M™ Solus 1101SGAF-EU and 3M™ Solus 1201SGAF-EU). Testing was NOT carried out on the foam insert or headband.

A number of lens options are available for a variety of different applications:

- ▶ Clear - Good colour recognition and excellent UV protection
- ▶ Grey - Protection from sunglare
- ▶ Amber - Enhanced contrast in low light conditions
- ▶ Indoor / Outdoor - Perfect for workers that move in and out of strong sunlight
- ▶ Scotchgard™ – for added protection against fogging and scratching (EN 166 anti-fog (N) and anti-scratch (K))

Use limitation

- ▶ Never modify or alter this product
- ▶ Do not use this product against hazards other than those specified in this document
- ▶ These products are not suitable for grinding or welding
- ▶ These products are NOT designed to be worn over prescription spectacles

Standards and approval

These products are type examined by SATRA Technology Europe Ltd, Bracetown Business Park, Clonee, Dublin 15, Dublin, Ireland. Notified Body No. 2777.

These products are CE marked to the requirements of the European Regulation (EU) 2016/425.

[GB only]: These products are type examined by SATRA Technology Centre Limited, Wyndham Way, Telford Way, Kettering, Northamptonshire, NN16 8SD, United Kingdom. Approved Body No. 0321.

These products are UKCA marked and meet the requirements of Regulation 2016/425 on personal protective equipment, as amended to apply in GB.

The applicable legislation can be determined by reviewing the Certificate and Declaration of Conformity at www.3M.com/Eye/certs.

Materials listing

Component	Material
Lens	Polycarbonate
Frame (rigid)	Polycarbonate
Frame (soft)	TPE
Nosepiece	TPR
Headband	Nylon fibre or neoprene
Headband connector	Polycarbonate
Gasket frame	Nylon
Gasket	EVA foam or TPE
RX insert	Polycarbonate / polyester blend

Marking

The products have demonstrated compliance with the requirements of EN 166:2001 and associated standards and bear the following marks:

Product lens	Lens marking	Frame marking
S1101SGAF-EU	2C-1.2 3M 1 BT K N	EN 166 FT CE
S1201GAF-EU	2C-1.2 3M 1 BT K N	EN 166 FT CE
S1103SGAF-EU	2C-1.2 3M 1 BT K N	EN 166 FT CE
S1203SGAF-EU	2C-1.2 3M 1 BT K N	EN 166 FT CE
S1102SGAF-EU	2C-3 / 5-3.1 3M 1 BT K N	EN 166 FT CE
S1202SGAF-EU	2C-3 / 5-3.1 3M 1 BT K N	EN 166 FT CE
S1107SGAF-EU	5-1.7 3M 1 BT K N	EN 166 FT CE
S1207SGAF-EU	5-1.7 3M 1 BT K N	EN 166 FT CE
S1000	-	EN 166 BT CE
Foam gasket	-	EN 166 BT 3
S1000	-	4 CE
TPE Gasket	-	4 CE

Explanation of marking

Marking	Description
2C-1.2 (EN 170:2002)	UV protection with good colour recognition. This product conforms to the requirements of the standard, providing UV protection for the complete specified range (210nm – 365nm)
5-1.7 and 5-3.1 (EN 172:1994 (as amended))	Sun-glare protection conforming to the requirements of the standard, providing UV protection for the complete specified range (280nm – 350nm)
1	Optical class
F	Impact protection against high speed particle at low energy (45m/s)
B	Impact protection against high speed particle at medium energy (120m/s)
T	Tested for impact protection at extreme temperature conditions -5°C and +55°C
K	Resistance to surface damage by fine particles
N	Resistance to fogging
3	Protection against droplets and splashes of liquid
4	Protection against large dust particles