

3M Science.
Applied to Life.™

3M Personal Safety Division

3M™ Rugged Anti-Scratch Technology.

3M™ Protective Eyewear / Rugged Anti-Scratch

3M™ Rugged Anti-Scratch Technology Overview.

Products included



3M™ SecureFit™ 600



3M™ Maxim

Product Description

3M™ Rugged Anti-Scratch (RAS) coating has emerged from a rich heritage of advanced coating innovation. RAS provides excellent protection in the toughest environments.

3M™ Rugged Anti-Scratch super hard coat leverages more than 50 years of 3M coating chemistry expertise to offer long-lasting lens protection that's clearly different. Scientifically engineered by 3M, RAS is an advanced anti-scratch lens coating designed to stand

up to the rigors of a wide range of applications such as chipping, chiselling, drilling, milling, machining, masonry, riveting, sanding and sawing.

Being at least 5 times more scratch resistant than any hard coat on many other 3M safety eyewear the Rugged Anti-Scratch coating may lower replacement costs by extending the life of the lens.

*Safety spectacles are not recommended for use against liquid chemical droplets. For protection against chemical splash hazards, alternative 3M products are available.

Key features

- › Helps keeps lenses clear, longer
- › Less down time needed to wipe lenses
- › Lasts at least 5 times longer than generic 3M hard coats
- › Anti-scratch properties meeting the K mark requirements of European standard EN 166 Clause 7.3.1
- › Offers good resistance to degradation by contact with chemicals*

Product Details

Product Number	Description	Lens	Coating
SF601RAS-EU	SecureFit 600 Clear PC lens	Clear	RAS
11864	Maxim (Black/Grey) Clear PC lens	Clear	RAS
11865	Maxim Ballistic Clear PC lens	Clear	RAS

3M™ Rugged Anti-Scratch

Resistance to surface damage by fine particles.

There are a number of test methods available that are designed to assess a lens' ability to resist surface damage.

In Europe, the EN 166 test method includes an optional requirement for 'resistance to surface damage by fine particles'.

In this test, the diffusion of light through the lens is measured before and after the lens is subjected to conditioning involving falling sand.

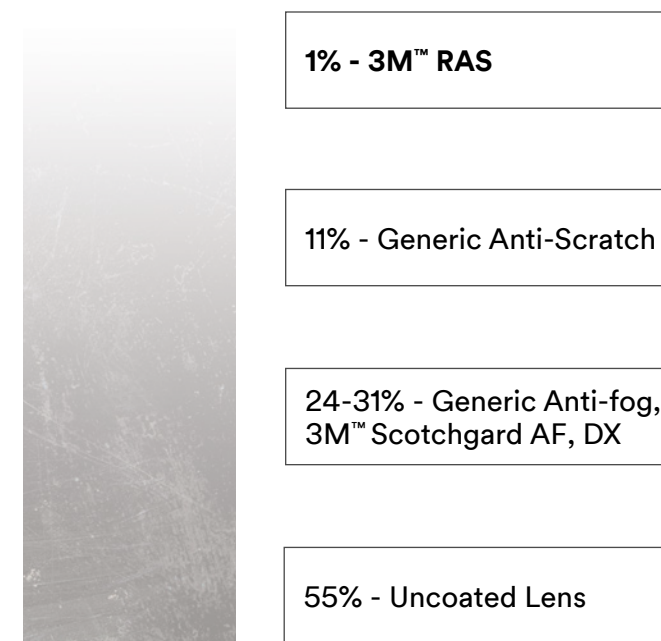
Products which comply with this requirement carry a K mark on their lens.

3M™ Anti-Scratch coating provides superior protection to lens surfaces and therefore complies with the K mark requirements of the European test standard EN 166.

Test method:

- › Conditioned and tested in accordance with EN 166:2001 Clause 7.3.1 Resistance to damage by fine particles.
- › Testing conducted by Inspec Plc. As per the requirements of the standard, 4 samples were used in the testing

Surface damage by abrasion



In order to assess the abrasion resistance of lens coatings, 3M has performed extensive comparative tests using industry-recognised methods. In these tests, abrasion was simulated using specified equipment. The amount of surface damage was represented as a change in light diffusion through the lens; the smaller the change, the better the performance.

The abrasion resistance provided by 3M™ RAS outperforms any of our other hard coats being at least 5 times more scratch resistant.

Test method:

- › Test based on US Military Combat Eye Protection System GL-PD 10-12 Section 4.3.3.4.3.1 Abrasion Resistance.
- › Sample eyewear is placed on the Taber Linear Abrader and rubbed with wear-eraser for 20 cycle with 750 g additional weight on the abrader arm. Haze of the abraded track is then measured using BYK-Gardner haze-gard plus with a reduced 1/4" opening.
- › The percent haze gain is the difference between the haze readings taken before and after the abrasion. Lower haze change indicates improved abrasion resistance.
- › Tested was conducted in 2012 by 3M. Results for 3M™ Scotchgard™ Anti-fog lenses were averaged from a batch of 141 models. With the exception of the 3M™ Scotchgard™ Anti-fog lenses, five samples were tested from each set and the haze change value was then averaged.