

Which resistance tests has PROFILON® AX A1 passed?

PROFILON® AX A1 is a 3-ply impact resistant security film with a thickness of 360µ or 15 mil. Glass coated with PROFILON® AX A1 has passed resistance tests at the testing authorities of (steel ball drop test):

- A1 according to DIN 52 290 ■ P2A according to EN 356
- Underwriters Laboratories UL/ULc 972 burglary resistive glazing material

In addition, PROFILON® AX A1 has explosion resistant properties and binds to dangerous glass splinters (fragment retention) in the event of a detonation.

What types of PROFILON® AX A1 are available?

- transparent
- white-matt (privacy protection) ■ solar (sun protection)
- alarm – active glass break detector of notification class C (VdS certified)

How scratch-resistant is PROFILON® AX A1?

After an abrasion test, which scratches the film randomly, the increase of diffused light is measured. The German Federal Office for motor vehicles, known for its high standards, allows an increase of diffused light of 4.5%. With only 2.5% PROFILON® AX A1 is well below this value. The scratch-resistance generated by the special surface coating helps create the long durability of PROFILON® AX A1.

From experience and customer feedback, PROFILON® AX A1 works without visual and technical impairment many years after expiration of the standard 10-year warranty period. The specially-hardened, long-lasting surface of the film can easily be cleaned with ordinary cleaning agents.

Does PROFILON® AX A1 change its appearance in the course of time?

PROFILON® AX A1 is manufactured with a UV filter preventing a yellowing of the film even after many years

How is the glass coated with PROFILON® AX A1?

The high-performance film is installed from the interior surface of the pane of glass. An attachment to the frame may be necessary dependant on the application. This is done, dependent on the window construction, either by installing PROFILON® AX A1 below the pane holding profile, by sealing with silicone or through the additional mechanical connection "PROFICON". The glass panes are not taken out of the frame, but coated directly within the frame with PROFILON® AX A1 by factory trained installers.

Technical data

Resistance class	A1 according to DIN 52290 (impact resistance) P2A according to EN 356 UL 972 (Underwriters Laboratories USA/Canada)
Thickness	approx. 360µ
Colour/Tinge	crystal clear
Light transmission	94 % (visible light)
UV absorption	> 99 % (300 – 380 nm)
Adhesive	on acrylic basis
Composition	multi-ply laminate, developed in Sandglider-process
Surface coating	hardened DURITAL-surface sr; increase of scattered light 2,5 % according to Taber abrasion test
Fire features	B1 according to DIN 4102, part 1
Haze value	0,9%

Further tested by KWU/Siemens, VdS, R+V, Federal Office for the Protection of the Constitution, Asial, US-Forces, TÜV Rheinland, ANSI, IRL, Unisearch, Prins Maurits Lab./TNO, German Secret Service, Aachen Technical University, Underwriter's Laboratories



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With the release of a new datasheet the previous data loose their validity.
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PROFILON® AX A1

**Impact resistant
security film**



PROFILON® AX A1 is a 3-ply impact resistant security film protecting glass in cases of smash-and-grab, vandalism and attacks with incendiary devices. Additionally the laminate offers explosion resistant properties and is classed hardly flammable.

Window panes are one of the most vulnerable parts of a building. Burglaries, attacks with projectiles or incendiary devices and vandalism are often carried out through penetration of these weak points in the physical security of the building. PROFILON® AX A1 was developed to significantly increase the resistance an offender encounters in cases of those mechanical attacks on glass.

The multi-ply composition of PROFILON® AX A1 absorbs the impact energy caused by a stone, a thrown incendiary device or other types of 'tools' attack. The extremely strong adhesive provides a very firm bond of the film to the glass preventing immediate entry by aggressively holding glass splinters together.

PROFILON® AX A1 provides:

- impact resistance
- explosion resistance
- deterrent to smash and grab
- splinter retention
- reduction of the spread of fire
- UV absorbing

PROFILON® AX A1 can be retrofitted on any glass with a flat surface, regardless of whether it is float glass, annealed glass, laminated security glass or heat strengthened glass.

Additionally, an integrated UV filter protects the interior against UV radiation. Thus, yellowing and fading of upholstered furniture or clothing is significantly reduced.