



SAFETY

STANDARDS

EN12600
EN356



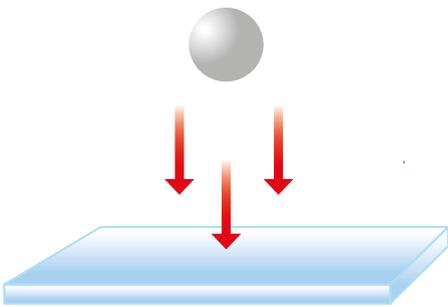
**SOLAR SCREEN
SAFETY**

SMART SECURE SOLUTIONS

Glass is, by nature, a fragile and brittle material. This can lead to dangers for which it is useful, or even mandatory, to protect oneself with adequate technical options, whose allow to limit the risks.

EN 356 TEST

Burglary protection is specified in the P1A-P8B classification according to EN 356. The safety glasses are being tested to withstand increasingly powerful manual attacks in the form of hard or sharp shock.



Vandalism is represented by the fall of several steel balls of 4.11 kg. Glazing is classified in a given category (P1A to P4A) if it is not crossed by the steel ball.

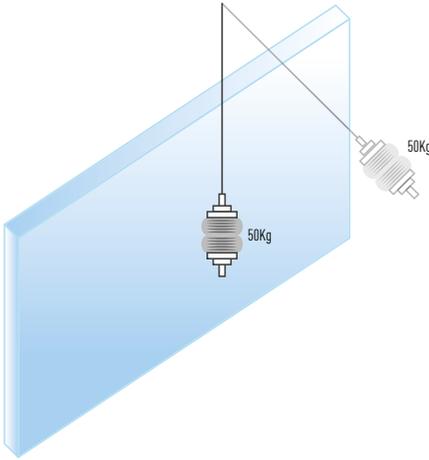
- A indicates the tests carried out from falling balls.
- The classes of P1A AND P4A correspond to protection against objects

CLASS	DROP HEIGHT (m)	ENERGY (JOULES)	NUMBER OF IMPACTS
P1A	1,5	60	3 (in triangle)
P2A	3	120	3 (in triangle)
P3A	6	240	3 (in triangle)
P4A	9	360	3 (in triangle)

Our certified films

FILM	CLASSIFICATION	GLASS THICKNESS	GLASS TYPE
Clear 12 C	P2A	6mm	Clear Glass
Clear 18 C	P2A	4mm	Clear Glass

EN 12600 TEST



Personal safety is listed in classes 1–3 as safety against heavy shocks to prevent cutting damage caused by glass and crash protection. Class 3 means the lowest personal protection and Class 1B1 the highest protection class.

The resistance of the glazing is checked with a pendulum impact test. The glass is impacted by a mass of 50 kg, made up of two tires (pressure: 0.35 MPa). The drop heights range from 190 to 1,200 mm and allow the tested product to be classified.

- Class A: The sample breaks and numerous cracks appear and form many separate fragments with sharp edges (like ordinary glass).
- Class B: The sample breaks and many cracks appear, but the pieces stay together and do not separate (like laminated glass).
- Class C: The sample decays into a large number of relatively harmless pieces (like tempered glass).
- Class 1: The material meets the test requirements at a drop height of 1200 mm.
- Class 2: The material meets the test requirements at a drop height of 450 mm.
- Class 3: The material meets the test requirements at a drop height of 190 mm.

Our films help transforming simple glass into laminated glazing!

Our certified films

FILM	CLASSIFICATION	GLASS THICKNESS	GLASS TYPE
Silver 480 C	2B2	4mm	Clear glass
Clear 4 C	2B2	4mm	Clear glass
Clear 4 X CG	2B2	3mm	Clear glass
Clear Print 3 C	2B2	4mm	Clear glass
Mat White Security	2B2	4mm	Clear glass
Platine 480 XC	2B2	3mm	Clear glass
Secur 4 C	2B2	4mm	Clear glass
Safe 4 C	2B2	4mm	Clear glass
Clear 4 C	2B2	4mm	Clear glass
Clear 7 C	1B1	6mm	Clear glass
Clear 12 C	1B1	6mm	Clear glass
Clear 8 XC	1B1	6mm	Clear glass
Clear 8 C	1B1	4mm	Clear glass
Silver 880 C	1B1	4mm	Clear glass

EN 45 545 (railway standard) TEST

EN 45545 is an European railway standard that was published in 2013 to harmonise the various train management systems including fire and smoke standards. It aims to protect passengers and staff against fire on board rail vehicles.

Railway vehicles are classified according to the level of fire risk associated with their design and operation.

The EN 45545 test uses multiple criteria to assess rail component fire safety. Some of these criteria include heat, smoke, toxicity, and likelihood of ignition. By using a multitude of testing methods, railway components can be classified based on three hazard levels: HL1, HL2 and HL3 with HL1 being the lowest requirement and HL3 the highest.

Our certified films

FILM	M1	EN 45 545
Protec 4C	Yes	HL3
Protec 6C	Yes	HL3
Clear 4XC G	Yes	HL3
Multi Protec 4C	Pending	HL2/HL3

