



TWICE

Twice – is a hard coated extruded polycarbonate sheet, glass like in appearance, with an "ice" grain on both sides.

Choose Arla Twice because...

- Unique double sided ice grain
- Superior hard coated surface and UV protection
- Excellent anti graffiti properties, chemical resistance and scratch resistance in combination with the impact strength of polycarbonate.

In **Twice** Arla has combined high impact strength with the additional qualities of: improved weather and chemical resistance as well as high protection against abrasion. This is possible due to a two-sided coating made of hard silicon, which is known as the very best on the market. The high impact strength of **Twice** is maintained over a wide range of temperatures: -40 °C to +90 °C. In addition to the properties of the hard coat, the "ice" grain gives a nice light diffusion with its structural appearance.

The hard coating is resistant to many chemicals, and provides UV protection for the sheet. Vandalism can be solved by using **Twice**; Paint and graffiti does not stick to the coating and can be easily removed with detergents, the "ice" structure on the sheet also helps enhances the anti vandalism properties.



Abrasion test (performed on flat sheet)

Taber abrasion test CF10F wheel/ 500 g weight	Test Method	Unit	Polycarbonate without coating	Saphir™	PVC	Acrylics	Glass
100 cycles	ASTM D1044	Δ%	35	2	28	21	0,5
500 cycles	ASTM D1044	Δ%	46	9	-	-	1
1000 cycles	ASTM D1044	Δ%	>50	<12	-	-	2
Sandriesel test	DIN 52348	Δ%	37	2	-	-	1

Twice properties

Properties	Value	Unit	Standard
Physical properties			
Density	1,20	g/cm ³	ISO 1183
Light transmission (thickness 1 mm)	88	%	DIN 5036, T.3
Mechanical properties			
Tensile strength at yield (break)*	63 (70)	N/mm ²	ISO 527
Elongation at yield (break)*	6 (110)	%	ISO 527
Elastic modulus*	2300	N/mm ²	ISO 527
Falling dart, Etot t = 4 mm +21 °C, 50% RH, 4,4 m/s, h = 1,07 m, falling dart 14,26 kg	56,7	J	ISO 6603-2
Thermal properties			
Heat deformation temperature, HDT A, 1,82 N/mm ²	135	°C	ISO 75
Thermal expansion coefficient	7×10^{-5}	m/m °C	ASTM D696

*Refers to base material

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