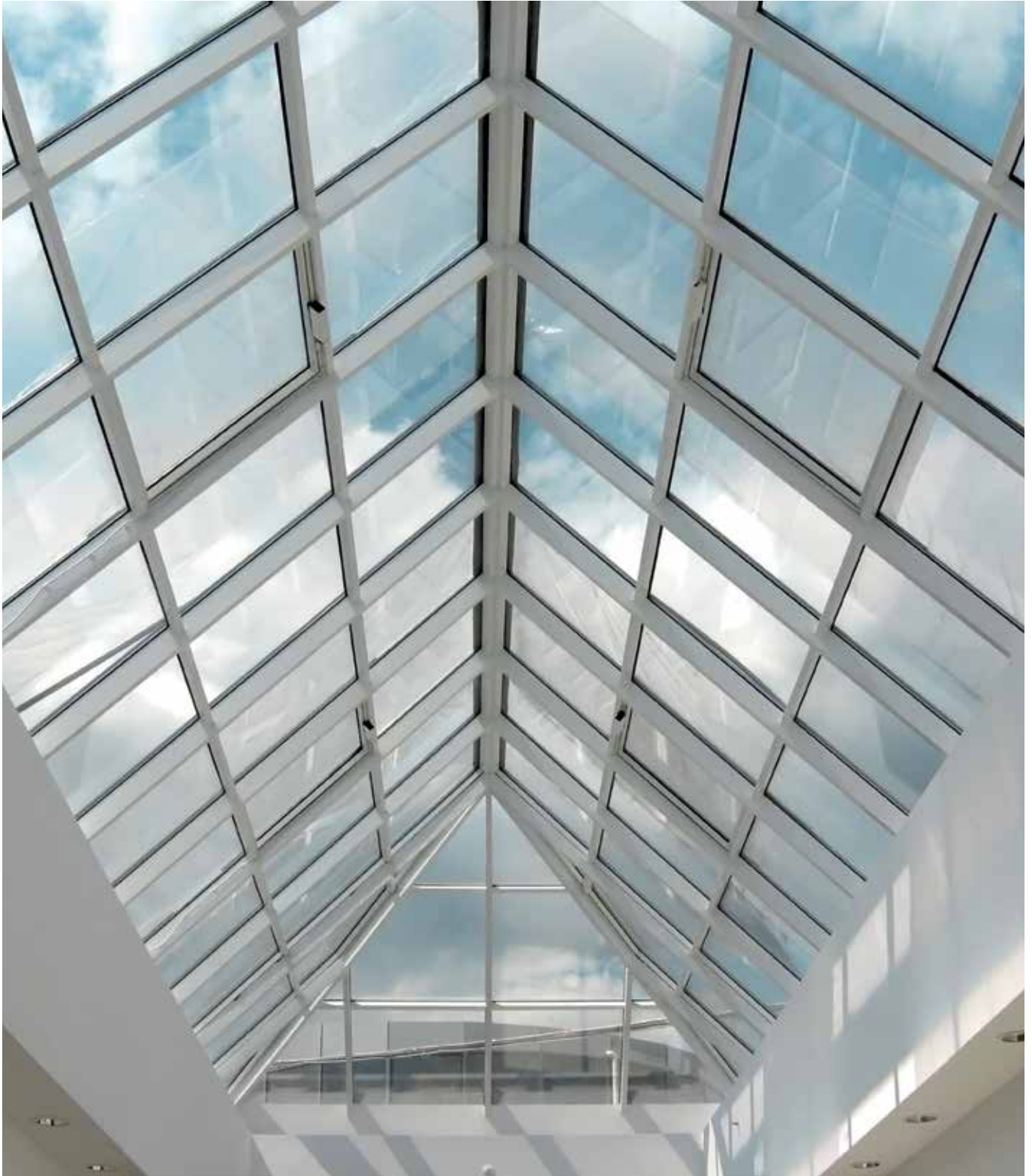




PRODUCT GUIDE

The highly transparent, durable and widely-used acrylic.





CRYLON®

Thanks to its high transparency, resistance and UV stability, acrylic material (PMMA) is the perfect choice when it comes to optics.

CRYLON® stands for a wide range of large-format, extruded acrylic sheets in brilliant clarity with very good optical properties, excellent colour rendering and with various transparency. Available in a range of clear, opals and opaques as well as selected colours and surface structures. The high quality surfaces have a very good weathering and ageing resistance and provide solutions for a variety of indoor and outdoor applications.

CRYLON® is available in standard thicknesses of 1.5 to 25 mm as well as in different product variants:

- **CRYLON® High Impact**
- **CRYLON® UVT**
- **CRYLON® Surface structures**
- **CRYLON® Soft Tone**
- **CRYLON® Sound Barrier Wall (SBW)**
- **CRYLON® Sound Barrier Wall (SBW) Soft Tone**

CRYLON® sheets are produced according to DIN EN ISO 7823-2 and do not contain any toxic materials or heavy metals, which may cause environmental damage or health risks.

The sheets meet the requirements of the RoHS/WEEE directives of the European Union, restricting the use of hazardous substances in electrical and electronic equipment, as well as the requirements of the EU-chemical directive and its amendments in the currently valid version.

Moreover, **CRYLON®** sheets contain none of the substances which are listed in the current version of the ECHA candidate list of "Substances of Very High Concern" (SVHC).

CRYLON® and **CRYLON® High Impact** sheets comply with the requirements of the EU directives 1935/2004 and 10/2011 in their respective valid version. The EU Declaration of Conformity 10/2011 Annex IV for "Good Manufacturing Practice" and contact with foodstuff are available on request.

The sheets are biocompatible and tested as non-cytotoxic and certified for medical applications according to DIN ISO 10993-5.

All **CRYLON®** sheets are manufactured and audited for quality in compliance with the certified and regularly audited production and quality management system according to DIN EN ISO 9001:2015.

CRYLON®

EXTRUDED ACRYLIC IN BRILLIANT CLARITY

CHARACTERISTICS

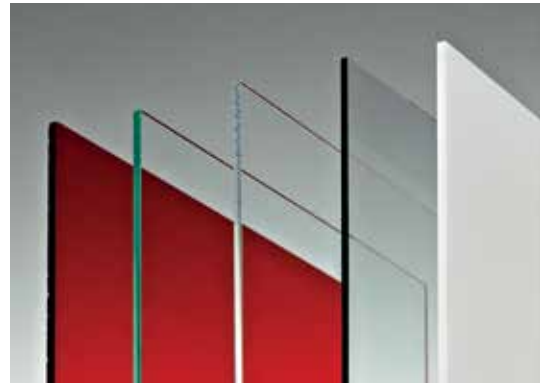
- Good optical properties
- Brilliant transparency
- Excellent colour rendering
- High-quality surfaces
- Very good weathering and ageing resistance
- Can be used in contact with foodstuff – meets all current European food control legislations
- Does not contain any toxic materials or heavy metals
- High impact grades (**CRYLON® High Impact**) for specific applications
- Easy to recycle
- Easy to fabricate
- Fire classification according to EN 13501-1 and UL94 HB, for **CRYLON®** standard grades
- **CRYLON®** sheets are provided with a 10-year warranty

APPLICATIONS

- Construction components: light domes, partition walls, glazing, roofing, caravan windows, sound barrier walls
- Lighting: prismatic control lenses and opal diffusers
- Engineering components: housings, machine covers
- Advertising and decoration: letters, shop fittings, panels, POS/POP displays
- Other applications: containers, lettering templates, solariums UVT (UV-transmitting grade)

PROCESSING

- | | |
|-------------------------------|-----------------|
| ■ Printing | ■ Polishing |
| ■ Laminating | ■ Bonding |
| ■ Sawing | ■ Welding |
| ■ Drilling | ■ Hot bending |
| ■ Thread cutting | ■ Thermoforming |
| ■ Milling | ■ Tempering |
| ■ Laser and water jet cutting | |



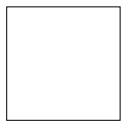
Our detailed processing instructions are available on request.

GENERAL						
Property	Method	Unit	CRYLON®	CRYLON® HI 610	CRYLON® HI 620	CRYLON® HI 630
Density	ISO 1183	g/cm ³	1.19	1.15	1.16	1.17
Water absorption 24h/23°C – 50x50x4 mm ³	DIN EN ISO 62 Method 1	%	0.2	0.3	0.3	0.25
Ball indentation hardness	ISO 2039-1	MPa	235	100	135	155
Forming temperature air pressure		°C	140 – 160	130 – 150	130 – 150	130 – 150
Forming temperature vacuum		°C	160 – 190	140 – 170	140 – 170	140 – 170
Moulding shrinkage		%	0.5 – 0.8	0.6 – 0.9	0.6 – 0.9	0.6 – 0.9
MECHANICAL						
Property	Method	Unit	CRYLON®	CRYLON® HI 610	CRYLON® HI 620	CRYLON® HI 630
Tensile strength	ISO 527-2	MPa	70	40	50	55
Elongation at break	ISO 527-2	%	4	35	25	15
Tensile modulus	ISO 527-2	MPa	3100	1600	2100	2300
Flexural strength	ISO 178	MPa	110	60	80	90
Flexural modulus	ISO 178	MPa	3000	1600	2000	2300
Impact strength Charpy unnotched	ISO 179-1	kJ/m ²	15	60	35	25
Impact strength Charpy notched	ISO 179-1	kJ/m ²	2	5	4	3
OPTICAL						
Property	Method	Unit	CRYLON®	CRYLON® HI 610	CRYLON® HI 620	CRYLON® HI 630
Light transmission (3 mm clear transparent)	DIN 5036-3 / EN ISO 13468-2	%	92	90	90	91
Refractive index	ISO 489	n _{D20} ^D	1.492	1.492	1.492	1.492
Total solar energy transmission (g-value)	DIN EN 410	%	86.5	-	-	-
Gloss value	DIN 67530		>100	-	-	-
THERMAL						
Property	Method	Unit	CRYLON®	CRYLON® HI 610	CRYLON® HI 620	CRYLON® HI 630
Vicat temperature (B 50)*	ISO 306	°C	105	98	102	104
Specific heat capacity	ISO 11357-4	J/gK	1.47	1.5	1.5	1.5
Linear thermal expansion α	DIN 53752	mm/m °C	0.07	0.11	0.10	0.09
Thermal conductivity	DIN 52612	W/mK	0.18	0.18	0.18	0.18
Service temperature continuous use		°C	70	65	65	65
Max. temperature short term use		°C	90	75	80	85
Degradation temperature		°C	>280	>280	>280	>280
ELECTRICAL						
Property	Method	Unit	CRYLON®	CRYLON® HI 610	CRYLON® HI 620	CRYLON® HI 630
Surface resistivity	IEC 60093	Ω	3x10 ¹⁵ – 3x10 ¹⁶	-	-	-
Volume resistivity	IEC 60093	Ω x m	1x10 ¹³ – 5x10 ¹³	-	-	-
Electrical strength	IEC 60243-1	kV/mm	10	-	-	-
Dielectric strength	IEC 60243-1	kV/mm	30	30	30	30
Dielectrical dissipation factor 50 Hz	DIN 53483-2		0.06	-	-	-
Dielectrical dissipation factor 1 KHz	DIN 53483-2		0.04	-	-	-
Dielectrical dissipation factor 1 MHz	DIN 53483-2		0.02	0.03	0.03	0.03
Relative permittivity 50 Hz	DIN 53483-2		2.7	-	-	-
Relative permittivity 1 KHz	DIN 53483-2		3.1	-	-	-
Relative permittivity 1 MHz	DIN 53483-2		2.7	2.9	2.9	2.9
OTHERS						
Property	Method	Unit	CRYLON®	CRYLON® HI 610	CRYLON® HI 620	CRYLON® HI 630
Fire resistance	UL94		HB	HB	HB	HB
Fire performance	CPD 305/2011 DIN EN 13501-1		E, no burning droplets	-	-	-
Contact with foodstuff – GHP	EU directive 1935/2004 VO 10/2011		Conform	Conform	Conform	Conform
Biocompatibility	DIN ISO 10993-5		Not cytotoxic	Not cytotoxic	Not cytotoxic	Not cytotoxic

* = Pre-treatment: 16 h at 80°C

Note: These technical data of our products are typical ones; the actually measured values are subject to production variations.

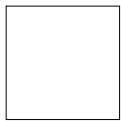
CRYLON® – Clear transparent



Clear

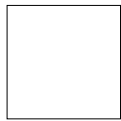
LT 92 %

CRYLON® – White



White WO 075

OPAL
LT 75 %



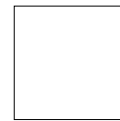
White WO 047

OPAL
LT 47 %



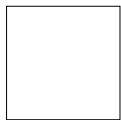
White WO 035

OPAL
LT 35 %



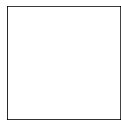
White WO 026

OPAL
LT 26 %



White WO 025

OPAL
LT 25 %



White WS 025

OPAL
LT 25 %



White WO 004

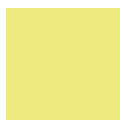
OPAQUE
LT 4 %



**White WL 053
LED**

OPAL
LT 53 %

CRYLON® – Colours



Yellow 2450

LT 15 %



Yellow 2470

LT 17 %



Orange 2350

LT 5 %



Red 2220

LT 4 %



Red 2240

LT 3 %



Blue 2650

LT 10 %



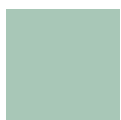
Glossy Black 910

LT <1 %



Brown

LT 50 %







Silicate Green

LT 90 %



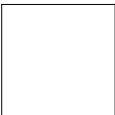
CRYLON® High Impact

The high impact grades **CRYLON® HI 610**, **CRYLON® HI 620** and **CRYLON® HI 630** have outstanding mechanical properties and excellent impact strength.

 <p>Clear HI 610 LT 90 %</p>	 <p>White WO 026 HI 610 LT 25 %</p>	 <p>Clear HI 620 LT 91 %</p>	 <p>Clear HI 630 LT 91 %</p>
--	---	--	--

CRYLON® UVT

CRYLON® UVT is perfectly suitable for solariums and sunbeds. The sheets have high transmittance in the UV-A/UV-B spectral range and very good resistance to degradation following exposure to these rays.

 <p>Clear UVT LT 92 %</p>

CRYLON® Surface Structures

Besides the standard **CRYLON®** variants and the special products High Impact and UVT, there is a variant available with a slight matt surface structure for a clear view without interfering light reflections (anti-reflective) as well as a patterned surface version (Prismatic – pyramid structure). They are particularly suitable for the areas glazing and decoration.

 <p>Anti-reflective SINGLE-SIDED LT 90 %</p>	 <p>Prismatic SINGLE-SIDED LT 80 %</p>
--	--

OPAQUE = non-transparent , OPAL = semi-transparent, UVT = transparent to UV light
 LT = Light transmission (Figures apply to 3 mm sheet thickness only. For the colours Brown and Silicate Green, the light transmission is constant over the entire thickness range, for the colour White WS 025 over the thickness range 2 – 6 mm.)
 The colours printed may vary from the original. To ensure exact colour matching please ask for a colour sample.

Detailed information on the products deviating from the standard can be found in the current valid version of the delivery programme.
 Please contact your customer service representative.



CRYLON® Soft Tone

DOUBLE-SIDED MATT SURFACE

CRYLON® Soft Tone is an extruded acrylic sheet with the appearance and feel of traditional frosted glass.

Due to its outstanding properties, **CRYLON® Soft Tone** provides a wide range of application possibilities for building and industrial glazing, decoration, lighting and advertising. Thanks to the double-sided matt surface of the material, images and text are to be seen clearly in all lighting conditions without distracting reflections.

Moreover, the relatively insensitive, easy to clean surface offers protection from scuffs, scratches and fingerprints.

CHARACTERISTICS

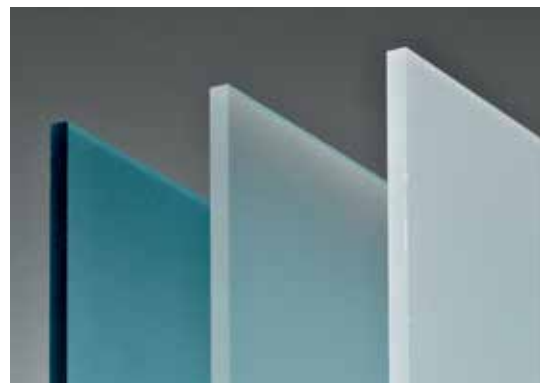
- Double-sided matt surface (single-sided matt on request)
- Improves light scatter
- Good optical properties
- Avoids reflective effects
- Stylish, trendy look
- Easy to maintain
- Very good weathering and ageing resistance
- Provided with a 10-year warranty
- Easy to handle, fabricate and form
- Does not contain any toxic materials or heavy metals
- Fire classification according to UL94 HB
- Stable thickness tolerances
- Overlengths available

APPLICATIONS

- Interior decoration
- Information signs
- Displays
(improved illumination through matt structure)
- Showcases
- Shop fittings
- Advertising signs and media
- Furniture glazing
- Partition walls
- Lighting advertising

PROCESSING

- Printing
- Laminating
- Sawing
- Drilling
- Thread cutting
- Milling
- Laser and water jet cutting
- Polishing
- Bonding
- Welding
- Hot bending
- Thermoforming
- Tempering





CRYLON® Soft Tone single-sided matt to special conditions.

LT = Light transmission (Figures apply to 3 mm sheet thickness only.)

The colours printed may vary from the original. To ensure exact colour matching please ask for a colour sample.

Detailed information on the products deviating from the standard can be found in the current valid version of the delivery programme.
Please contact your customer service representative.

GENERAL			
Property	Method	Unit	CRYLON® Soft Tone
Dens ity	ISO 1183	g/cm ³	1.19
Water absorption 24h/23°C – 50x50x4 mm ³	DIN EN ISO 62 Method 1	%	0.2
Forming temperature air pressure		°C	140 – 160
Forming temperature vacuum		°C	160 – 190
Moulding shrinkage		%	0.5 – 0.8
MECHANICAL			
Property	Method	Unit	CRYLON® Soft Tone
Tensile strength	ISO 527-2	MPa	70
Elongation at break	ISO 527-2	%	4
Tensile modulus	ISO 527-2	MPa	3100
Flexural strength	ISO 178	MPa	110
Impact strength Charpy unnotched	ISO 179-1	kJ/m ²	15
Impact strength Charpy notched	ISO 179-1	kJ/m ²	2
OPTICAL			
Property	Method	Unit	CRYLON® Soft Tone
Light transmission (3 mm clear)	DIN 5036-3	%	88
Gloss Value*	DIN 67530		<35
THERMAL			
Property	Method	Unit	CRYLON® Soft Tone
Vicat temperature (B 50)**	ISO 306	°C	105
Specific heat capacity	ISO 11357-4	J/gK	1.47
Linear thermal expansion α	DIN 53752	mm/m °C	0.07
Thermal conductivity	DIN 52612	W/mK	0.19
Service temperature continuous use		°C	70
Max. temperature short term use		°C	90
OTHERS			
Property	Method	Unit	CRYLON® Soft Tone
Fire resistance	UL94		HB

* = The gloss value of CRYLON® standard grades is >100. The higher the determined non-dimensional value, the stronger is the surface brilliance of the examined work piece.

** = Pre-treatment: 16 h at 80°C

Note: These technical data of our products are typical ones; the actually measured values are subject to production variations.

CRYLON® Sound Barrier Wall (SBW)

TRANSPARENT AND NOISE REDUCING

CRYLON® Sound Barrier Wall (SBW) is a sound absorbing material used in noise protection equipment on roads. Thanks to the optical properties and the very high transparency, it allows an unhindered view of the surroundings.

The advantages of using **CRYLON® Sound Barrier Wall (SBW)** in comparison with more traditional materials such as concrete are that it: is much more lightweight (allowing for easier construction); has a better optical view; avoids the creation of solid divisions; and is more aesthetically pleasing due to the range of colours and finishes available.

CRYLON® Sound Barrier Wall (SBW) and its variations have been tested and approved according to the European standards EN 1793 and EN 1794 and correspond to the German regulatory ZTV-Lsw06. They comply with the requirements for noise insulation, fire performance, stability under wind load and stone cast resistance.

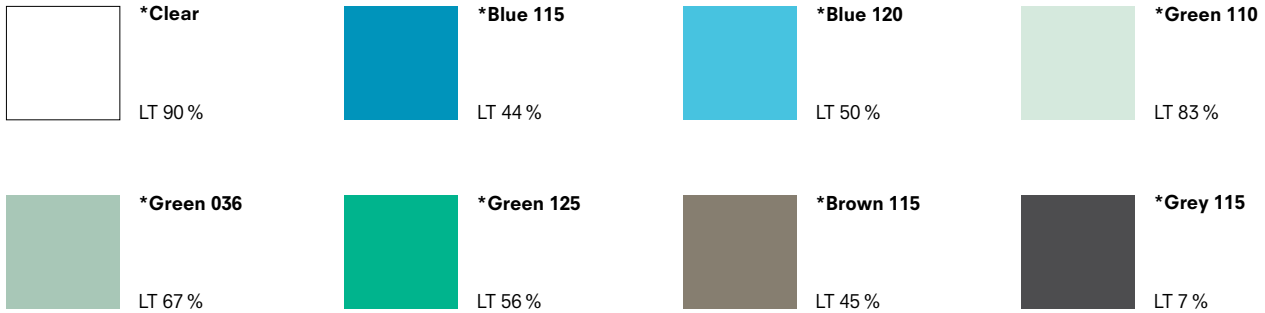
CRYLON® Sound Barrier Wall (SBW) Soft Tone

MATT SOFT SURFACE

The matt finished glazing of **CRYLON® Sound Barrier Wall (SBW) Soft Tone** is achieved by a special type of co-extruded lamination applied on one side or both sides of the sheets. Owing to its outstanding properties, the sheets offer a wide range of creative possibilities for building and industrial glazing where noise reduction and transparency are required.

Thanks to the matt soft surface, light reflective effects can be avoided, whereas the light scattering can be increased. This further supports the function of this sound barrier wall.





CHARACTERISTICS

- Excellent noise reduction
- High break-resistance
- Good optical properties
- Very high transparency
- Superior UV light resistance and outstanding weather resistance
- Easy to fabricate
- Mechanical stability
- Fire stability according to DIN EN 1794-2

APPLICATIONS

- Sound barrier wall devices
- Large scale glazing
- Front covers
- Conservatories
- Roofing

PROCESSING

- Printing
- Laminating
- Sawing
- Drilling
- Thread cutting
- Milling
- Laser and water jet cutting
- Polishing
- Bonding
- Welding
- Hot bending
- Tempering

* = Tested and certified in accordance with the requirements of EN 1793 and EN 1794 and approved for use in Sound Barrier Walls.

LT = Light transmission (Figures apply to 20 mm sheet thickness only.)

The colours printed may vary from the original. To ensure exact colour matching please ask for a colour sample.

Detailed information on the products deviating from the standard can be found in the current valid version of the delivery programme.
Please contact your customer service representative.



SOUND INSULATION	
Thickness (mm)	Value (dB)
15	~29
20	~31



Polycasa N.V.
Van Doornelaan 2A
2440 Geel, Belgium
www.display.3AComposites.com
A member of 3A Composites