PRODUCT GUIDE
The highly transparent, durable and widely-used acrylic.
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. The colour spectrum ranges from clear, opal, glossy black, brown to silicate green. 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 in particular 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 EN ISO 9001:2008.
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, only 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
- Laminating
- Sawing
- Drilling
- Thread cutting
- Milling
- Laser and water jet cutting
- Polishing
- Bonding
- Welding
- Hot bending
- Thermoforming
- Tempering
### GENERAL

<table>
<thead>
<tr>
<th>Property</th>
<th>Method</th>
<th>Unit</th>
<th>CRYLON®</th>
<th>CRYLON® HI 610</th>
<th>CRYLON® HI 620</th>
<th>CRYLON® HI 630</th>
</tr>
</thead>
<tbody>
<tr>
<td>Density</td>
<td>ISO 1183</td>
<td>g/cm³</td>
<td>1.19</td>
<td>1.15</td>
<td>1.16</td>
<td>1.17</td>
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<tr>
<td>Water absorption</td>
<td>DIN EN ISO 62 Method 1</td>
<td>%</td>
<td>0.2</td>
<td>0.3</td>
<td>0.3</td>
<td>0.25</td>
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<tr>
<td>Ball indentation hardness</td>
<td>ISO 2039-1</td>
<td>MPa</td>
<td>235</td>
<td>100</td>
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<td>155</td>
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<tr>
<td>Forming temperature air pressure</td>
<td>°C</td>
<td></td>
<td>140 – 160</td>
<td>130 – 150</td>
<td>130 – 150</td>
<td>130 – 150</td>
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<tr>
<td>Forming temperature vacuum</td>
<td>°C</td>
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<td>160 – 190</td>
<td>140 – 170</td>
<td>140 – 170</td>
<td>140 – 170</td>
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<tr>
<td>Moulding shrinkage</td>
<td>%</td>
<td></td>
<td>0.5 – 0.8</td>
<td>0.6 – 0.9</td>
<td>0.6 – 0.9</td>
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### MECHANICAL

<table>
<thead>
<tr>
<th>Property</th>
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<th>Unit</th>
<th>CRYLON®</th>
<th>CRYLON® HI 610</th>
<th>CRYLON® HI 620</th>
<th>CRYLON® HI 630</th>
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<tbody>
<tr>
<td>Tensile strength</td>
<td>ISO 527-2</td>
<td>MPa</td>
<td>70</td>
<td>40</td>
<td>50</td>
<td>55</td>
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<tr>
<td>Elongation at break</td>
<td>ISO 527-2</td>
<td>%</td>
<td>4</td>
<td>35</td>
<td>25</td>
<td>15</td>
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<tr>
<td>Tensile modulus</td>
<td>ISO 527-2</td>
<td>MPa</td>
<td>3100</td>
<td>1600</td>
<td>2100</td>
<td>2300</td>
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<tr>
<td>Flexural modulus</td>
<td>ISO 178</td>
<td>MPa</td>
<td>110</td>
<td>60</td>
<td>80</td>
<td>90</td>
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<td>Impact strength Charpy unnotched</td>
<td>ISO 179-1</td>
<td>kJ/m²</td>
<td>15</td>
<td>60</td>
<td>35</td>
<td>25</td>
</tr>
<tr>
<td>Impact strength Charpy notched</td>
<td>ISO 179-1</td>
<td>kJ/m²</td>
<td>2</td>
<td>5</td>
<td>4</td>
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### OPTICAL

<table>
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<tr>
<th>Property</th>
<th>Method</th>
<th>Unit</th>
<th>CRYLON®</th>
<th>CRYLON® HI 610</th>
<th>CRYLON® HI 620</th>
<th>CRYLON® HI 630</th>
</tr>
</thead>
<tbody>
<tr>
<td>Light transmission (3 mm clear transparent)</td>
<td>DIN 5036-3 / EN ISO 13468-2</td>
<td>%</td>
<td>92</td>
<td>90</td>
<td>90</td>
<td>91</td>
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<tr>
<td>Refractive index</td>
<td>ISO 489</td>
<td>n°</td>
<td>1.492</td>
<td>1.492</td>
<td>1.492</td>
<td>1.492</td>
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<tr>
<td>Total solar energy transmission (g-value)</td>
<td>DIN EN 410</td>
<td>%</td>
<td>86.5</td>
<td>-</td>
<td>-</td>
<td>-</td>
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<tr>
<td>Gloss value</td>
<td>DIN 67530</td>
<td>&gt;100</td>
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### THERMAL

<table>
<thead>
<tr>
<th>Property</th>
<th>Method</th>
<th>Unit</th>
<th>CRYLON®</th>
<th>CRYLON® HI 610</th>
<th>CRYLON® HI 620</th>
<th>CRYLON® HI 630</th>
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</thead>
<tbody>
<tr>
<td>Vicat temperature (B 50)*</td>
<td>ISO 306</td>
<td>°C</td>
<td>105</td>
<td>98</td>
<td>102</td>
<td>104</td>
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<tr>
<td>Specific heat capacity</td>
<td>ISO 11357-4</td>
<td>J/gK</td>
<td>1.47</td>
<td>1.5</td>
<td>1.5</td>
<td>1.5</td>
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<tr>
<td>Linear thermal expansion α</td>
<td>DIN 53752</td>
<td>mm/m °C</td>
<td>0.07</td>
<td>0.11</td>
<td>0.10</td>
<td>0.09</td>
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<tr>
<td>Thermal conductivity</td>
<td>DIN 52612</td>
<td>W/mK</td>
<td>0.18</td>
<td>0.18</td>
<td>0.18</td>
<td>0.18</td>
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<tr>
<td>Service temperature continuous use</td>
<td>°C</td>
<td></td>
<td>70</td>
<td>65</td>
<td>65</td>
<td>65</td>
</tr>
<tr>
<td>Max. temperature short term use</td>
<td>°C</td>
<td></td>
<td>90</td>
<td>75</td>
<td>80</td>
<td>85</td>
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<tr>
<td>Degradation temperature</td>
<td>°C</td>
<td></td>
<td>&gt;280</td>
<td>&gt;280</td>
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### ELECTRICAL

<table>
<thead>
<tr>
<th>Property</th>
<th>Method</th>
<th>Unit</th>
<th>CRYLON®</th>
<th>CRYLON® HI 610</th>
<th>CRYLON® HI 620</th>
<th>CRYLON® HI 630</th>
</tr>
</thead>
<tbody>
<tr>
<td>Surface resistivity</td>
<td>IEC 60093</td>
<td>Ω</td>
<td>3x10¹⁵ – 3x10¹⁶</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Volume resistivity</td>
<td>IEC 60093</td>
<td>Ω * m</td>
<td>1x10¹³ – 5x10¹³</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Electrical strength</td>
<td>IEC 60243-1</td>
<td>kV/mm</td>
<td>10</td>
<td>-</td>
<td>-</td>
<td>-</td>
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<tr>
<td>Dielectric strength</td>
<td>IEC 60243-1</td>
<td>kV/mm</td>
<td>30</td>
<td>30</td>
<td>30</td>
<td>30</td>
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<tr>
<td>Dielectrical dissipation factor 50 Hz</td>
<td>DIN 53483-2</td>
<td></td>
<td>0.06</td>
<td>-</td>
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<td>-</td>
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<tr>
<td>Dielectrical dissipation factor 1 KHz</td>
<td>DIN 53483-2</td>
<td></td>
<td>0.04</td>
<td>-</td>
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<td>-</td>
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<tr>
<td>Dielectrical dissipation factor 1 MHz</td>
<td>DIN 53483-2</td>
<td></td>
<td>0.02</td>
<td>0.03</td>
<td>0.03</td>
<td>0.03</td>
</tr>
<tr>
<td>Relative permittivity 50 Hz</td>
<td>DIN 53483-2</td>
<td></td>
<td>2.7</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Relative permittivity 1 KHz</td>
<td>DIN 53483-2</td>
<td></td>
<td>3.1</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Relative permittivity 1 MHz</td>
<td>DIN 53483-2</td>
<td></td>
<td>2.7</td>
<td>2.9</td>
<td>2.9</td>
<td>2.9</td>
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### OTHERS

<table>
<thead>
<tr>
<th>Property</th>
<th>Method</th>
<th>Unit</th>
<th>CRYLON®</th>
<th>CRYLON® HI 610</th>
<th>CRYLON® HI 620</th>
<th>CRYLON® HI 630</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fire resistance</td>
<td>UL94</td>
<td></td>
<td>HB</td>
<td>HB</td>
<td>HB</td>
<td>HB</td>
</tr>
<tr>
<td>Fire performance</td>
<td>CPD 305/2011 DIN EN 13501-1</td>
<td></td>
<td>E, no burning, droplets</td>
<td>-</td>
<td>-</td>
<td>-</td>
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<tr>
<td>Contact with foodstuff – GHP</td>
<td>EU directive 1935/2004 VO 10/2011</td>
<td></td>
<td>Conform</td>
<td>Conform</td>
<td>Conform</td>
<td>Conform</td>
</tr>
<tr>
<td>Biocompatibility</td>
<td>DIN ISO 10993-5</td>
<td></td>
<td>No cytotoxic</td>
<td>No cytotoxic</td>
<td>No cytotoxic</td>
<td>No cytotoxic</td>
</tr>
</tbody>
</table>

* = 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 2470
LT 17 %

Yellow 2450
LT 15 %

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.

<table>
<thead>
<tr>
<th></th>
<th>Clear</th>
<th>White 026</th>
<th>Clear</th>
<th>Clear</th>
</tr>
</thead>
<tbody>
<tr>
<td>HI 610 LT 90%</td>
<td>Clear</td>
<td>HI 610 LT 25%</td>
<td>Clear</td>
<td>Clear</td>
</tr>
<tr>
<td>LT 90 %</td>
<td>Clear</td>
<td>LT 90 %</td>
<td>LT 90 %</td>
<td>LT 91 %</td>
</tr>
</tbody>
</table>

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.

<table>
<thead>
<tr>
<th></th>
<th>Clear</th>
</tr>
</thead>
<tbody>
<tr>
<td>UVT LT 92 %</td>
<td>Clear</td>
</tr>
</tbody>
</table>

CRYLON® Surface Structures

Besides the standard CRYLON® variants in clear, opal, opaque, glossy black, brown and silicate green, 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-reflex) as well as a patterned surface version (Prismatic – pyramid structure). They are particularly suitable for the areas glazing and decoration.

<table>
<thead>
<tr>
<th></th>
<th>Anti-reflex</th>
<th>Prismatic</th>
</tr>
</thead>
<tbody>
<tr>
<td>SINGLE-SIDED</td>
<td>SINGLE-SIDED</td>
<td>SINGLE-SIDED</td>
</tr>
<tr>
<td>LT 90 %</td>
<td>LT 90 %</td>
<td>LT 60 %</td>
</tr>
</tbody>
</table>

OPAQUE = non-transparent, OPAL = semi-transparent, UVT = partially transparent to UV light
LT = Light transmission (Figures apply to 3 mm sheet thickness only. For the colours White WS 025, Brown and Silicate Green, the light transmission is constant over the entire thickness range.)
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
- Easy to handle, fabricate and form
- 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
### GENERAL

<table>
<thead>
<tr>
<th>Property</th>
<th>Method</th>
<th>Unit</th>
<th>CRYLON® Soft Tone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Density</td>
<td>ISO 1183</td>
<td>g/cm³</td>
<td>1.19</td>
</tr>
<tr>
<td>Water absorption 24h/23°C – 50x50x4 mm³</td>
<td>DIN EN ISO 62 Method 1</td>
<td>%</td>
<td>0.2</td>
</tr>
<tr>
<td>Forming temperature air pressure</td>
<td></td>
<td>°C</td>
<td>140 – 160</td>
</tr>
<tr>
<td>Forming temperature vacuum</td>
<td></td>
<td>°C</td>
<td>160 – 190</td>
</tr>
<tr>
<td>Moulding shrinkage</td>
<td></td>
<td>%</td>
<td>0.5 – 0.8</td>
</tr>
</tbody>
</table>

### MECHANICAL

<table>
<thead>
<tr>
<th>Property</th>
<th>Method</th>
<th>Unit</th>
<th>CRYLON® Soft Tone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tensile strength</td>
<td>ISO 527-2</td>
<td>MPa</td>
<td>70</td>
</tr>
<tr>
<td>Elongation at break</td>
<td>ISO 527-2</td>
<td>%</td>
<td>4</td>
</tr>
<tr>
<td>Tensile modulus</td>
<td>ISO 527-2</td>
<td>MPa</td>
<td>3200</td>
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<tr>
<td>Flexural strength</td>
<td>ISO 178</td>
<td>MPa</td>
<td>115</td>
</tr>
<tr>
<td>Impact strength Charpy unnotched</td>
<td>ISO 179-1</td>
<td>kJ/m²</td>
<td>17</td>
</tr>
<tr>
<td>Impact strength Charpy notched</td>
<td>ISO 179-1</td>
<td>kJ/m²</td>
<td>2</td>
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### OPTICAL

<table>
<thead>
<tr>
<th>Property</th>
<th>Method</th>
<th>Unit</th>
<th>CRYLON® Soft Tone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Light transmission (3 mm clear transparent)</td>
<td>DIN 5036-3</td>
<td>%</td>
<td>88</td>
</tr>
<tr>
<td>Gloss Value**</td>
<td>DIN 67530</td>
<td></td>
<td>&lt;35</td>
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### THERMAL

<table>
<thead>
<tr>
<th>Property</th>
<th>Method</th>
<th>Unit</th>
<th>CRYLON® Soft Tone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vicat temperature (B 50)*</td>
<td>ISO 306</td>
<td>°C</td>
<td>104</td>
</tr>
<tr>
<td>Specific heat capacity</td>
<td>ISO 11357-4</td>
<td>J/gK</td>
<td>1.47</td>
</tr>
<tr>
<td>Linear thermal expansion α</td>
<td>DIN 53752</td>
<td>mm/m °C</td>
<td>0.07</td>
</tr>
<tr>
<td>Thermal conductivity</td>
<td>DIN 52612</td>
<td>W/mK</td>
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</tr>
<tr>
<td>Service temperature continuous use</td>
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<td>°C</td>
<td>70</td>
</tr>
<tr>
<td>Max. temperature short term use</td>
<td></td>
<td>°C</td>
<td>90</td>
</tr>
</tbody>
</table>

* = Pre-treatment: 16 h at 80°C
** = 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.

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

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 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.
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.

**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

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

**PROCESSING**
- Printing
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CRYLON® Sound Barrier Wall (SBW) Soft Tone

MATT SOFT SURFACE FOR BETTER LIGHTING CONDITIONS

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.

* = 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.