

### Product identification

Hammerglass is a durable and abrasion resistant polycarbonate, further developed through nano-technology providing a unique surface coating of silicone oxide.

### Chemical resistance

The Hammerglass sheets are coated with a silicon oxide treatment for excellent chemical resistance and vandal protection. The surface will withstand attacks from acetone, petrol, White Spirit, paint- and graffiti-removals.

### Light transmission

Hammerglass is extruded in clean room environments which gives the sheets an outstanding clarity. The triple quality control guarantees High end quality. The coating enhances the light transmission.

### Physical properties

| Property                                             | Unit              | Value      | Standard      |
|------------------------------------------------------|-------------------|------------|---------------|
| Density (half the weight of glass)                   | g/cm <sup>3</sup> | 1,20       | ISO 1183      |
| Light transmission (Light source D65, thickness 1mm) | %                 | 88         | DIN 5036, T.3 |
| UV-protection                                        | %                 | 99,96      | SIKA          |
| Refractive index                                     |                   | 1,586      | ISO 489       |
| Moisture absorption 24 hours 23 °C, 50% RH           | %                 | 0,15       |               |
| Recommended range of temperature usage               | °C                | Min -40 °C | Max +90 °C    |

### Mechanical properties

| Property                             | Unit              | Value    | Standard   |
|--------------------------------------|-------------------|----------|------------|
| Tensile strength at yield            | N/mm <sup>2</sup> | 63       | ISO 527    |
| Tensile strength at break            | N/mm <sup>2</sup> | 70       | ISO 527    |
| Elongation at yield                  | %                 | 6        | ISO 527    |
| Elongation at break                  | %                 | 110      | ISO 527    |
| Elastic modules                      | N/mm <sup>2</sup> | 2300     | ISO 527    |
| Flexural modules                     | N/mm <sup>2</sup> | 2300     | ISO 178    |
| Charpy unnotched impact break +23 °C | kJ/m <sup>2</sup> | No break | ISO 179/2D |
| Izod notched impact break -40 °C     | kJ/m <sup>2</sup> | 11,5     | ISO 179/2D |
| Rockwell hardness                    |                   | 95       | ISO 20392  |

### Thermal properties

| Property                                                | Unit                             | Value | Standard |
|---------------------------------------------------------|----------------------------------|-------|----------|
| Linear coefficient of thermal expansion (23–80 °C)      | 10 <sup>-4</sup> K <sup>-1</sup> | 0,70  |          |
| Heat deflection temperature A (1,80 N/mm <sup>2</sup> ) | °C                               | 132   | ISO 75   |
| B (0,45 N/mm <sup>2</sup> )                             | °C                               | 142   | ISO 75   |

### Acoustic properties

| Property          | Unit        | Value |
|-------------------|-------------|-------|
| Thickness (mm) 6  | Rw-value dB | 29    |
| Thickness (mm) 8  | Rw-value dB | 31    |
| Thickness (mm) 10 | Rw-value dB | 32    |
| Thickness (mm) 12 | Rw-value dB | 34    |
| Thickness (mm) 15 | Rw-value dB | 35    |
| Thickness (mm) 17 | Rw-value dB | 36    |

### Flammability

Warrington Fire Institute, test according to BS 476, part 7, Class 1Y: "The flaming material fell down to the floor of the laboratory where it self extinguished after 30 seconds."

Conclusion: Hammerglass will eventually melt, but does not contribute to spread of flames.

### Delivery program

|                  |                                                                                                                              |
|------------------|------------------------------------------------------------------------------------------------------------------------------|
| Thickness:       | 6, 8, 10, 12, 15, 17 and 20 mm.                                                                                              |
| Standard sheets: | 2000x3000 mm, available up to 2000x6000 mm.                                                                                  |
| Standard colour: | Clear. Available in most colours, both opaque and opal.                                                                      |
| Special feature: | IR-absorbing. Absorbs up to 50% of solar IR-radiation.<br>Available as standard in 6 and 8 mm green, and 12 mm gray (smoke). |

All sheets are available as one side coated, with or without silk printing. Printed sheets are coated after printing.