



TECHNICAL DATASHEET

**GREEN CAST®**

Recycled acrylic GS sheets

| PROPERTY                     | UNIT              | VALUE                     | STANDARD           | VARIABLE                   |
|------------------------------|-------------------|---------------------------|--------------------|----------------------------|
| <b>General</b>               |                   |                           |                    |                            |
| Thickness tolerance          | mm                | +/- (0,4 + 10% thickness) |                    |                            |
| Density                      | g/cm <sup>3</sup> | 1,19                      | ISO 1183           |                            |
| Water absorption             | %                 | 0,3                       | ISO R 62/DIN 53495 | 24 hours, 4 mm thickness   |
| Water absorption             | %                 | 0,5                       | ISO R 62/DIN 53495 | 8 days, 4 mm thickness     |
| Max. water absorption        | %                 | 1,75                      | Internal           | 1200 hours, 3 mm thickness |
| <b>Mechanical</b>            |                   |                           |                    |                            |
| Poisson's ratio              |                   | 0,39                      | ISO 527-1          | 4 mm thickness             |
| Tensile strength             | MPa               | 76                        | ISO 527-2/1B/5     | 23°C, 4 mm thickness       |
| Modulus of elasticity        | MPa               | 3300                      | ISO 527-2/1B/1     | 23°C, 4 mm thickness       |
| Elongation at break          | %                 | 6                         | ISO 527-2/1B/5     | 23°C, 4 mm thickness       |
| Flexural strength            | MPa               | 130                       | ISO 178            | 4 mm thickness             |
| Izod notched impact strength | kJ/m <sup>2</sup> | 1,4                       | ISO 180/1A         | 4 mm thickness             |
| Charpy impact strength       | kJ/m <sup>2</sup> | 12                        | ISO 179/1          | 4 mm thickness             |
| Rockwell hardness            | M scale           | 100                       | ISO 2039-2         | 4 mm thickness             |
| Compressive yield stress     | MPa               | 130                       | ISO 604            | 4 mm thickness             |
| <b>Electrical</b>            |                   |                           |                    |                            |
| Dielectric strength          | kV/mm             | 20 to 25                  | DIN 53481          |                            |
| Volume resistivity           | Ω*cm              | >10 <sup>15</sup>         | DIN 53482          |                            |
| Dielectric constant          |                   | 3,7                       | DIN 53483          | to 50 Hz                   |

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| <b>Electrical</b>                         |             |            |                            |   |
| Dielectric constant                       |             | 2,6        | DIN 53483                  | to 1 Mhz,<br>3 to 10<br>mm<br>thickness |
| <b>Optical</b>                            |             |            |                            |   |
| Transmittance                             | %           | > 92       | ISO 4892-1/DIN 5036        | 3 to 10<br>mm<br>thickness              |
| Haze                                      | %           | < 0,5      | ASTM D 1003                | co-<br>lourless                         |
| Refractive index                          |             | 1,492      | ISO 4892/<br>DIN 53491     | co-<br>lourless                         |
| <b>Thermal</b>                            |             |            |                            |   |
| Coëfficiënt of linear expansion           | mm/<br>m/°C | 0,065      | ISO EN 2155-1              |   |
| Thermal conductivity                      | W/m/ °C     | 0,17       | DIN 52612                  |   |
| Specific heat                             | J/g/°C      | 1,35       | ASTM C 351                 |   |
| Vicat softening temperature               | °C          | > 108      | ISO R 306<br>Method<br>B50 |   |
| Heat deflection temp. under load (HDT)    | °C          | 102        | ISO 75/A                   |   |
| Dimensional change at heating (shrinkage) | %           | 2,5        |                            |   |
| Permanent service temperature             | °C          | 80         |                            |   |
| <b>Thermoforming</b>                      |             |            |                            |   |
| Forming oven temperature                  | °C          | 130 to 190 |                            |   |
| Max. heating temperature                  | °C          | 200        |                            |   |
| Max. linear shrinkage after heating       | %           | 2          |                            | < 3 mm<br>thickness                     |
| <b>Fire classification</b>                |             |            |                            |   |
| Ignition temperature DE                   | °C          | ≈ 450      | DIN 51794                  |   |
| Fire rating DE                            |             | B2         | DIN 4102                   |   |
| Fire rating FR                            |             | M4         | NF P 9250                  |   |

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| Fire rating UK               |      | class 3           | BS 476 Part.7   |          |
| Fire rating EU               |      | E                 | EN 13501-1-2009 |          |
| Fire rating USA              |      | HB                | UL 94           |          |
| Mel behavior when burning FR |      | Non dripping 3 mm | NF P 92505      |          |