



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>      |      |       |                     |   |
| Light transmission  | %    | >92   | ISO 4892-1/DIN 5036 | clear                                   |
| Light transmission  | %    | 32    | white opal          |   |
| Light transmission  | %    | 4     | white               |   |
| Light transmission  | %    | 0     | black               |   |
| Light transmission  | %    | 72    | fluorescent yellow  |   |
| Light transmission  | %    | 37    | fluorescent orange  |   |
| Light transmission  | %    | 31    | fluorescent red     |   |
| Light transmission  | %    | 87    | fluorescent green   |   |
| Light transmission  | %    | 86    | fluorescent blue    |   |
| Light transmission  | %    | 91    | tinted glass look   |   |
| Light transmission  | %    | 38    | tinted orange       |   |
| Light transmission  | %    | 84    | tinted yellow       |   |
| Light transmission  | %    | 13    | tinted red          |   |
| Light transmission  | %    | 61    | tinted green        |   |
| Light transmission  | %    | 8     | tinted blue         |   |
| Light transmission  | %    | 55    | tinted brown        |   |
| Light transmission  | %    | 50    | tinted grey         |   |
| Light transmission  | %    | 92    | frosted             |   |
| Light transmission  | %    | 11    | opal orange         |   |
| Light transmission  | %    | 31    | opal yellow         |   |
| Light transmission  | %    | 6     | opal red            |   |
| Light transmission  | %    | 12    | opal magenta        |   |
| Light transmission  | %    | 22    | opal green          |   |
| Light transmission  | %    | 6     | opal blue           |   |
| Haze                | %    | < 0,5 | ASTM D 1003         | clear                                   |

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| <b>Optical</b>                            |             |                   |                            |                     |
| Refractive index                          |             | 1,492             | ISO 4892/<br>DIN<br>53491  | clear               |
| <b>Thermal</b>                            |             |                   |                            |                     |
| Coëfficiënt of linear expansion           | mm/<br>m/°C | 0,065             | ISO EN<br>2155-1           |                     |
| Thermal conductivity                      | W/m/ °C     | 0,17              | DIN<br>52612               |                     |
| Specific heat                             | J/g/°C      | 1,35              | ASTM C<br>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<br>51794               |                     |
| Fire rating DE                            |             | B2                | DIN 4102                   |                     |
| Fire rating FR                            |             | M4                | NF P<br>9250               |                     |
| Fire rating UK                            |             | class 3           | BS 476<br>Part.7           |                     |
| Fire rating EU                            |             | E                 | EN<br>13501-1-<br>2009     |                     |
| Fire rating USA                           |             | HB                | UL 94                      |                     |
| Mel behavior when burning FR              |             | Non dripping 3 mm | NF P<br>92505              |                     |

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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      |          |