

# DATASHEET

## ACRYLIC (CAST)

Perspex cell cast acrylic sheet is supplied with double-sided, non-thermoformable masking. The showface masking is printed with the Perspex logo.

### Applications

- Exterior signage
- Displays
- Automotive
- Window glazing

### Availability

- Perspex Cell Cast Acrylic sheet is available in clear, opal, and many colours, and in a range of thicknesses, size, and special grades.

### Typical Properties

| General Properties                         | Method   | Unit                      | Test Result              |
|--|--|---------------------------|--------------------------|
| <b>Physical Properties</b>                 |  |                           |                          |
| Relative Density                           | ISO 1183   | g/cm <sup>3</sup>         | 1.19                     |
| Rockwell Hardness                          | ISO 2039-2   | M scale                   | 102                      |
| Water Absorption                           | ISO 62   | %                         | 0.2                      |
| Flammability                               | BS476 Part 7<br>DIN 4102<br>NFP 92-507<br>UL 94<br>ISO 11925-2 | Class<br>-<br>-<br>-<br>- | 3<br>B2<br>M4<br>HB<br>E |
| <b>Optical Properties</b>                  |  |                           |                          |
| Light Transmission                         | ASTM D 1003  | % (3mm)                   | >92                      |
| Refractive Index                           | ISO 489 A  | -                         | 1.49                     |
| <b>Thermal Properties</b>                  |  |                           |                          |
| Vicat Softening Point                      | ISO 306 A  | °C                        | >110                     |
| Coefficient of Thermal Expansion (Linear)  | ASTM D 696   | X10(-5). K (-1)           | 7.7                      |
| Maximum Working Temperature                | -  | °C                        | 80-85                    |
| Specific Heat                              | ASTM C 351   | Cal/g °C                  | 0.35                     |
| Thermal Conductivity Coefficient (K Value) | -  | W m m-2 °C                | 0.189                    |
| Heat Transfer Coefficient (U Value)        |  |                           |                          |
| - 3mm                                      | -  | W m-2 °C                  | 5.2                      |
| - 5mm                                      | -  | W m-2 °C                  | 4.9                      |
| <b>Mechanical Properties</b>               |  |                           |                          |
| Tensile Strength                           | ISO 527 (5mm)  | MPa                       | 75                       |
| Elongation at Break                        | ISO 527 (5mm)  | %                         | 4                        |
| Flexural Strength                          | ISO 178 (2mm)  | MPa                       | 116                      |
| Flexural Modulus                           | ISO 178 (2mm)  | MPa                       | 3210                     |

|                                      |            |                     |             |
|--------------------------------------|------------|---------------------|-------------|
| Impact Strength – Charpy - Unnotched | ISO 179    | kJ M(-2)            | 12          |
| Poisson's Ratio                      | ISO 179    | kJ M(-2)            | 0.38        |
| <b>Sound Insulation Properties</b>   |            |                     |             |
| Sound Reduction Index                |            |                     |             |
| - 3mm Single Pane                    | -          | Db                  | 18          |
| - 6mm Single Pane                    | -          | Db                  | 22          |
| - 2 x 3mm Panes (20mm air gap)       | -          | Db                  | 25          |
| - 2 x 6mm Panes (20mm air gap)       | -          | db                  | 31          |
| <b>Electrical Properties</b>         |            |                     |             |
| Surface Resistivity                  | IEC 93     | $\Omega.m^{-2}$     | >10(14)     |
| Electrical Strength                  | IEC 243    | kV.mm <sup>-1</sup> | 15          |
| Arc Resistance                       | ASTM D495  | -                   | No tracking |
| Dielectric Constant                  |            |                     |             |
| - 60 cycles                          | ASTM D 150 | -                   | 4           |
| - 103 cycles                         |            |                     | 3           |
| - 106 cycles                         |            |                     | 3           |
| Power Factor                         |            |                     |             |
| - 60 cycles                          | ASTM D 150 | -                   | 0.06        |
| - 103 cycles                         |            |                     | 0.04        |
| - 106 cycles                         |            |                     | 0.02        |