



# Perspex® Cell Cast Acrylic (Complete)

## Technical Data Sheet

### 1. Range

Perspex® cell cast acrylic sheet is available in clear, opal and many colours in a range of thicknesses, sizes and special grades.

### 2. Masking

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

### 3. Table of Properties

Values quoted for the properties of Perspex® cast sheet are the results of tests on representative samples and do not constitute specifications.

| Property                                   | Test Method        | Unit                                 | Value              |
|--------------------------------------------|--------------------|--------------------------------------|--------------------|
| <b>General</b>                             |                    |                                      |                    |
| 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                               | BS 476 Part 7      | Class                                | 3                  |
|                                            | DIN 4102           | -                                    | B2                 |
|                                            | NFP 92-507         | -                                    | M4                 |
|                                            | UL94               | -                                    | HB                 |
|                                            | ISO 11925-2        | -                                    | E                  |
| <b>Optical Properties</b>                  |                    |                                      |                    |
| Light Transmission                         | ASTM D1003         | % (3 mm)                             | > 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 D696          | x 10 <sup>-5</sup> . K <sup>-1</sup> | 7.7                |
| Maximum Working Temperature                | -                  | °C                                   | 80 - 85            |
| Specific Heat                              | ASTM C351          | Cal/g °C                             | 0.35               |
| Thermal Conductivity Coefficient (K Value) | -                  | W m m <sup>-2</sup> °C               | 0.189              |
| Heat Transfer Coefficient (U Value)        | -                  | W m <sup>-2</sup> °C                 | 5.2                |
| - 3 mm single pane                         | -                  | W m <sup>-2</sup> °C                 | 4.9                |
| - 5 mm single pane                         | -                  | W m <sup>-2</sup> °C                 | 4.9                |
| <b>Mechanical Properties</b>               |                    |                                      |                    |
| Tensile Strength                           | ISO 527 (5 mm/min) | MPa                                  | 75                 |
| Elongation at Break                        | ISO 527 (5 mm/min) | %                                    | 4                  |
| Flexural Strength                          | ISO 178 (2 mm/min) | MPa                                  | 116                |
| Flexural Modulus                           | ISO 178 (2 mm/min) | MPa                                  | 3210               |
| Impact Strength – Charpy (unnotched)       | ISO 179            | kJ M <sup>-2</sup>                   | 12                 |
| Poisson's Ratio                            | ISO 179            | kJ M <sup>-2</sup>                   | 0.38               |
| <b>Sound Insulation Properties</b>         |                    |                                      |                    |
| Sound Reduction Index                      | -                  | db                                   | 18                 |
| - 3 mm single pane                         | -                  | db                                   | 22                 |
| - 6 mm single pane                         | -                  | db                                   | 25                 |
| - 2 x 3 mm panes (20 mm air gap)           | -                  | db                                   | 31                 |
| - 2 x 6 mm panes (20 mm air gap)           | -                  | db                                   | 31                 |
| <b>Electrical Properties</b>               |                    |                                      |                    |
| Surface Resistivity                        | IEC 93             | Ω.m-2                                | > 10 <sup>14</sup> |
| Electrical Strength                        | IEC 243            | kV.mm-1                              | 15                 |
| Arc Resistance                             | ASTM D495          | -                                    | No tracking        |



|                     |           |   |      |
|---------------------|-----------|---|------|
| Dielectric Constant | ASTM D150 | - | 4    |
| - 60 cycles         |           | - | 3    |
| - 103 cycles        |           | - | 3    |
| - 106 cycles        |           | - |      |
| Power Factor        | ASTM D150 | - | 0.06 |
| - 60 cycles         |           | - | 0.04 |
| - 103 cycles        |           | - | 0.02 |
| - 106 cycles        |           | - |      |

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