

## Technical Data Sheet



### ALCOM LDDC PMMA 1000 UV GY1196-20

|                        |                                                                          |
|------------------------|--------------------------------------------------------------------------|
| Base Polymer           | Polymethylmethacrylate                                                   |
| Filler/Additive System | UV stabilised, special filler                                            |
| Special Features       | translucent, light scattering, injection moulding grade, impact modified |
| Market Segment         | Lighting, electrical and electronic                                      |
| Application Area       | light transparent components, gardening tools                            |
| Typical Applications   | display elements, operating elements                                     |

|                               |                                                                                                                                       |
|-------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|
| Pre-Drying Conditions         | 80 °C in a dry air (dessiccant) dryer<br>for 2-3 h<br>80 °C in an air circulating dryer<br>for 4-6 h<br>max. moisture content <0,02 % |
| Processing Injection Moulding | melt temperature 220-260 °C<br>mould temperature 50-70 °C                                                                             |
| Storage                       | dry, protected from light                                                                                                             |

| Properties                              | Value     | Dimension              | Test Norm   |
|-----------------------------------------|-----------|------------------------|-------------|
| <b>Mechanical Properties</b>            |           |                        |             |
| Flexural Modulus                        | 1800      | MPa                    | ISO 178     |
| Flexural Stress (3.5% Strain)           | 50        | MPa                    | ISO 178     |
| Tensile Modulus                         | 1700      | MPa                    | ISO 527     |
| Tensile Stress at Yield                 | 44        | MPa                    | ISO 527     |
| Tensile Elongation at Yield             | 5.1       | %                      | ISO 527     |
| Tensile Elongation at Break             | 25        | %                      | ISO 527     |
| Impact Strength (Charpy, 23°C)          | 85        | kJ/m <sup>2</sup>      | ISO 179/1eU |
| Impact Strength (Charpy, -40°C)         | 23        | kJ/m <sup>2</sup>      | ISO 179/1eU |
| Notched Impact Strength (Charpy, 23°C)  | 6         | kJ/m <sup>2</sup>      | ISO 179/1eA |
| Notched Impact Strength (Charpy, -40°C) | 1.5       | kJ/m <sup>2</sup>      | ISO 179/1eA |
| <b>Thermal Properties</b>               |           |                        |             |
| Vicat B50                               | 88        | °C                     | ISO 306     |
| HDT / A (1,8 MPa)                       | 74        | °C                     | ISO 75-1/-2 |
| <b>Rheological Properties</b>           |           |                        |             |
| Melt Index (MVR)                        | 5         | cm <sup>3</sup> /10min | ISO 1133    |
| MVR temperature                         | 230       | °C                     | -           |
| MVR load                                | 3.8       | kg                     | -           |
| Shrinkage (24h)                         | 0.5 - 0.8 | %                      | ISO 294-4   |
| <b>Physical Properties</b>              |           |                        |             |
| Density                                 | 1160      | kg/m <sup>3</sup>      | ISO 1183    |

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#### Flammability

|                                |        |       |              |
|--------------------------------|--------|-------|--------------|
| Flammability (1.5 mm)          | HB     | class | UL 94        |
| Glow Wire (GWFI, 650°C, 1.0mm) | passed | -     | DIN EN 60695 |
| Glow Wire (GWFI, 650°C, 2.0mm) | passed | -     | DIN EN 60695 |

#### Optical Properties

|                                                   |      |   |           |
|---------------------------------------------------|------|---|-----------|
| Total Transmission T(Y) (d=1,0mm, A, 2°)          | 29   | % | ISO 13468 |
| Total Transmission T(Y) (d=2,0mm, A, 2°)          | 9.5  | % | ISO 13468 |
| Haze T(Y) (d=1,0 mm, A, 2°)                       | 95.5 | % | ISO 13468 |
| Haze T(Y) (d=2,0 mm, A, 2°)                       | 95.5 | % | ISO 13468 |
| Half Power Angle T(Y) (d=1,0mm, A, 2°, high res.) | 19   | ° | -         |
| Half Power Angle T(Y) (d=2,0mm, A, 2°, high res.) | 43   | ° | -         |