

Technical Data Sheet

PMMA Alloy M1600

PRODUCT DESCRIPTION:

M1600 is a PMMA alloy with high gloss, high toughness, super high weather resistance and excellent anti-scratch performance.

FEATURES:

- High gloss
- High toughness

APPLICATION:

- Auto Grille
- Rear view mirror housing

| Properties ¹ | Standard | Condition | Unit | Typical Value ² |
|--|-----------|-------------------|-------------------|----------------------------|
| Physical | | | | |
| Density | ISO 1183 | g/cm ³ | 23°C | 1.13 |
| Mold Shrinkage | ISO 294 | 23°C, 48hr | % | 0.4 - 0.6 |
| Melt Flow Rate | ISO 1133 | 220°C, 10kg | g/10 minutes | 5 |
| Mechanical | | | | |
| Tensile Strength at Yield | ISO 527 | 50mm/min | MPa | 48 |
| Flexural Strength ³ | ISO 178 | 2mm/min | MPa | 57 |
| Flexural Modulus | ISO 178 | 2mm/min | MPa | 1900 |
| Notched Charpy Impact | ISO 179 | 4J, 23°C | kJ/m ² | 9 |
| Notched Charpy Impact | ISO 179 | 4J, -30°C | kJ/m ² | 2.5 |
| Rockwell Hardness | ISO 2039 | 23°C | R-scale | 108 |
| Thermal | | | | |
| Heat Deflection Temperature ⁴ | ISO 75 | 120°C/hr, 1.80MPa | °C | 80 |
| Vicat Softening Temperature | ISO 306 | 50°C/hr, 5kg | °C | 96 |
| Other Properties | | | | |
| Flammability | UL-94 | Class | 1.6mm | HB |
| Volume resistivity | IEC 60093 | Ohm-cm | / | >1.E+15 |
| Surface resistivity | IEC 60093 | Ohm | / | >1.E+15 |

| Processing Parameters | | Value | Unit |
|---------------------------------------|--------|-----------|------|
| Pre-treatment | | | |
| Drying Temperature | | 80 ~ 90 | °C |
| Drying Time | | 3 ~ 4 | hour |
| Maximum moisture content | | ≤0.02 | % |
| General Guidelines¹ | | | |
| Barrel Temperature | Rear | 220 ~ 240 | °C |
| | Middle | 230 ~ 250 | °C |
| | Front | 240 ~ 260 | °C |
| Nozzle | | 240 ~ 260 | °C |
| Melt Temperature | | 240 ~ 260 | °C |
| Mold Temperature | | 60 ~ 90 | °C |
| Back Pressure | | 1 ~ 5 | MPa |
| Screw Speed | | 30 ~ 50 | rpm |

Note1 :

1. Values are measured at 23°C and in RH of 50% on injection molded specimens.
2. Typical values for uncolored products, not specifications, and may vary slightly with different colors.
3. Flexural strength is tested with fixed deflection.
4. HDT: specimens are unannealed.

Note2 :

1. The general guidelines are only for reference. Exact settings have to follow the product and machine conditions.

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