



## Material Data Sheet: **DURAFORM AF**

**Properties:** Parts that require the feel of cast aluminum. A rigid composite with a high resistance to heat.

### TECHNICAL DATA

#### General Properties

| MEASUREMENT    | METHOD/CONDITION | VALUE:                 |
|----------------|------------------|------------------------|
| Appearance     | Visual           | Light grey metallic    |
| Density (tap)  | @ 25°C (77°F)    | 0.89 g/cm <sup>3</sup> |
| Density (bulk) | @ 25°C (77°F)    | 0.69 g/cm <sup>3</sup> |

#### Mechanical Properties

| MEASUREMENT                      | METHOD/CONDITION | VALUE:             |
|----------------------------------|------------------|--------------------|
| Tensile Strength                 | ASTM D 638       | 35 MPa (5060 PSI)  |
| Tensile Modulus                  | ASTM D 638       | 3960 MPa (574 KSI) |
| Elongation at Break (%)          | ASTM D 638       | 1.5%               |
| Flexural Strength                | ASTM D 790       | 44 MPa (6290 PSI)  |
| Flexural Modulus                 | ASTM D 790       | 3517 MPa (510 KSI) |
| Impact Strength (Unnotched Izod) | ASTM D 256       | 130 J/m            |
| Hardness                         | Shore D          | 75                 |

#### Thermal Properties

| MEASUREMENT                       | METHOD/CONDITION               | VALUE:                        |
|-----------------------------------|--------------------------------|-------------------------------|
| Heat Deflection Temperature (HDT) | ASTM D 648                     |                               |
|                                   | @ 0.45 MPa/66 PSI              | 180°C (356°F)                 |
|                                   | @ 1.82 MPa/264 PSI             | 137°C (279°F)                 |
| Co-efficient of Thermal Expansion | ASTM E 831<br>TMA (35 - 172°C) | 109 x 10 <sup>-6</sup> m/m °C |
| Glass Transition (Tg)             | DSC                            | 40°C (104°F)                  |

#### Electrical Properties

| MEASUREMENT         | METHOD/CONDITION | VALUE:                        |
|---------------------|------------------|-------------------------------|
| Volume Resistivity  | ASTM D257        | 1.6 x 10 <sup>13</sup> ohm-cm |
| Surface Resistivity | ASTM D257        | 6.0 x 10 <sup>13</sup> ohm    |
| Dielectric Constant | ASTM D150        | 14.5                          |
| Dielectric Strength | ASTM D149        | 1.8 x 10 <sup>2</sup> v/mm    |

#### Chemical Resistance

Alkalines, hydrocarbons, fuels and solvents.

Detailed test conditions are available upon request. Test samples were produced on a HiQ™ SLS® system, using new material.