## Polymethyl Methacrylate
### Aramco PMMA R1504UM

**Product Description**

Aramco PMMA R1504UM is a polymethyl methacrylate general-purpose extrusion resin and possesses excellent extrusion molding properties.

**Typical Applications**

Extrusion sheets for the manufacturing of signage and displays, sound barriers, construction applications and light guide panels for general LED lighting. Profile Extrusion products such as pipes and rods.

<table>
<thead>
<tr>
<th>Optical properties</th>
<th>Unit</th>
<th>Test Method</th>
<th>Value(1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Refractive Index</td>
<td>---</td>
<td>ISO 489</td>
<td>1.49</td>
</tr>
<tr>
<td>Total Luminous Transmittance</td>
<td>%</td>
<td>ISO 13468-1</td>
<td>92</td>
</tr>
<tr>
<td>Haze</td>
<td>%</td>
<td>ISO 14782</td>
<td>&lt; 0.5</td>
</tr>
</tbody>
</table>

**Thermal Properties**

- Coefficient of Linear Expansion: $1/ ^\circ C$, ISO 11359-2, $7 \times 10^{-5}$
- Vicat Softening Temperature (VST): $^\circ C$, ISO 306 (BS50), 104
- Deflection Temperature Under Load 1.80 MPa (annealed): $^\circ C$, ISO 75-2Af, 94
- Melt Flow Rate (230°C/3.8kg): g/10min, ISO 1133, 1.5

**Mechanical Properties**

- Tensile Strength at break: MPa, ISO 527-2, 74
- Tensile Strain at break: %, ISO 527-2, 5
- Flexural Strength: MPa, ISO 178, 120
- Flexural Modulus: MPa, ISO 178, 3100
- Charpy Impact Strength (notched): kJ/m², ISO 179 (1eA), 1.4
- Rockwell Hardness Scale M: ISO 2039-2, 100

**Electrical Properties**

- Surface Resistivity: $\Omega$, IEC 60093, $>10^{16}$
- Volume Resistivity: $\Omega$ cm, IEC 60093, $>10^{15}$
- Insulation Resistance: $\Omega$, IEC 60167, $>10^{15}$
- Dielectric Strength: kV/mm, IEC 60243-1, 20
- Dielectric Constant (1MHz): ---, IEC 60250, 3.1

**Other Properties**

- Specific Gravity: ---, ISO 1183, 1.19
- Mold Shrinkage: %, ISO 294-4, 0.2 - 0.6
- Water Absorption: %, ISO 62, 0.3
- Flammability: ---, UL 94, HB

(1) Typical values only, not to be construed as specification limits

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**Processing conditions:** Typical processing conditions are as follows:

<table>
<thead>
<tr>
<th>Recommended Extrusion Molding Conditions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Screw L/D</td>
</tr>
<tr>
<td>Hopper Side</td>
</tr>
<tr>
<td>Cylinder Temp. °C</td>
</tr>
<tr>
<td>Center Side</td>
</tr>
<tr>
<td>Die Side</td>
</tr>
<tr>
<td>Die Temp. °C</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Recommended Annealing Conditions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temp. °C</td>
</tr>
<tr>
<td>Time/h</td>
</tr>
</tbody>
</table>

**Storage and handling:** Aramco PMMA R1504UM should be stored in accordance with state and local regulations. In case of spillage, remove pellets immediately to prevent potential slipping hazard. Aramco PMMA R1504UM should be kept away from direct sunlight, water and moisture and be stored at ambient temperature.

**Regulations:** Detailed information is provided in Safety Data Sheet and for additional specific information, please contact Saudi Aramco Products Trading Company for certificates.