



POLYREX® PH-88

CHI MEI CORPORATION - High Impact Polystyrene

Tuesday, November 5, 2019

General Information

General

| | | | |
|---------------------|--|-----------------------------|-----------------|
| Material Status | • Commercial: Active | | |
| Availability | • Africa & Middle East • Asia Pacific | • Europe • Latin America | • North America |
| Features | • High Impact Resistance | | |
| RoHS Compliance | • RoHS Compliant | | |
| Resin ID (ISO 1043) | • >PS-HI< | | |

ASTM & ISO Properties ¹

| Physical | Nominal Value | Unit | Test Method |
|--|---------------|------------------------|-------------|
| Density / Specific Gravity ² | 1.05 | | ASTM D792 |
| Density (73°F) | 1.03 | g/cm ³ | ISO 1183 |
| Melt Mass-Flow Rate (200°C/5.0 kg) | 6.0 | g/10 min | ASTM D1238 |
| Melt Volume-Flow Rate (MVR) (200°C/5.0 kg) | 5.50 | cm ³ /10min | ISO 1133 |
| Molding Shrinkage | 0.40 to 0.70 | % | ISO 294-4 |

| Mechanical | Nominal Value | Unit | Test Method |
|---|---------------|------|--------------|
| Tensile Stress (Yield) | 3770 | psi | ISO 527-2/50 |
| Tensile Strength ³ (Break) | 3410 | psi | ASTM D638 |
| Tensile Stress (Break) | 3480 | psi | ISO 527-2/50 |
| Tensile Elongation ³ (Break) | 40 | % | ASTM D638 |
| Tensile Strain (Break) | 40 | % | ISO 527-2/50 |
| Flexural Modulus ⁴ | 280000 | psi | ASTM D790 |
| Flexural Modulus ⁵ | 305000 | psi | ISO 178 |
| Flexural Strength ⁴ | 5400 | psi | ASTM D790 |
| Flexural Stress ⁵ | 5370 | psi | ISO 178 |

| Impact | Nominal Value | Unit | Test Method |
|--------------------------------|---------------|-----------------------|-------------|
| Charpy Notched Impact Strength | | | ISO 179 |
| -22°F | 3.1 | ft·lb/in ² | |
| 73°F | 5.2 | ft·lb/in ² | |
| Notched Izod Impact | | | ASTM D256 |
| 73°F, 0.126 in | 1.8 | ft·lb/in | |
| 73°F, 0.252 in | 1.6 | ft·lb/in | |
| Notched Izod Impact Strength | | | ISO 180/1A |
| -22°F | 2.9 | ft·lb/in ² | |
| 73°F | 5.2 | ft·lb/in ² | |

| Hardness | Nominal Value | Unit | Test Method |
|-----------------------------|---------------|------|-------------|
| Rockwell Hardness (L-Scale) | 60 | | ASTM D785 |

| Thermal | Nominal Value | Unit | Test Method |
|---|---------------|------|-------------|
| Deflection Temperature Under Load | | | ASTM D648 |
| 264 psi, Unannealed | 176 | °F | |
| Heat Deflection Temperature (264 psi, Unannealed) | 165 | °F | ISO 75-2/A |
| Deflection Temperature Under Load (264 psi, Annealed) | 201 | °F | ASTM D648 |

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| Thermal | Nominal Value | Unit | Test Method |
|---|------------------|----------|-------------------------|
| Heat Deflection Temperature (264 psi, Annealed) | 192 | °F | ISO 75-2/A |
| Vicat Softening Temperature | 208 | °F | ASTM D1525 ⁶ |
| Vicat Softening Temperature | | | |
| -- | 205 | °F | ISO 306/A50 |
| -- | 194 | °F | ISO 306/B50 |
| CLTE - Flow | 2.2E-5 to 3.3E-5 | in/in/°F | ISO 11359-2 |
| Flammability | Nominal Value | Unit | Test Method |
| Flame Rating (0.06 in) | HB | | UL 94 |

Processing Information

| Injection | Nominal Value | Unit |
|--------------------|---------------|------|
| Drying Temperature | 176 | °F |
| Drying Time | 2.0 to 3.0 | hr |
| Rear Temperature | 320 to 356 | °F |
| Middle Temperature | 356 to 392 | °F |
| Front Temperature | 356 to 392 | °F |
| Mold Temperature | 104 to 158 | °F |

Notes

¹ Typical properties: these are not to be construed as specifications.

² 23°C

³ 0.24 in/min

⁴ 0.11 in/min

⁵ 0.079 in/min

⁶ Rate A (50°C/h), Loading 1 (10 N)