

STYRON™ 5050

High Impact Polystyrene Resin

Trinseo

Message:

STYRON™ 5050 is a high-impact polystyrene resin offering a unique balance combining high flow with excellent appearance, good toughness, and high boss strength and stiffness. It is designed for gas-assist injection molding process and paint-free applications.

Main Characteristics

High flow

Uniform appearance

Gas-assist molding

Applications

TV cabinets

Complies with:

U.S. FDA 21 CFR 177.1640

Consult the regulations for complete details.

| General Information | | | |
|---------------------|------------------------|--|--|
| UL YellowCard | E73656-249591 | | |
| Features | Good Stiffness | | |
| | Good Strength | | |
| | Good Toughness | | |
| | High Flow | | |
| | High Impact Resistance | | |
| Uses | Television Housings | | |
| Agency Ratings | FDA 21 CFR 177.1640 | | |
| Forms | Pellets | | |
| Processing Method | Extrusion | | |
| | Injection Molding | | |

| Physical | Nominal Value | Unit | Test Method |
|--|---------------|-------------------|-------------|
| Specific Gravity | 1.04 | g/cm ³ | ASTM D792 |
| Melt Mass-Flow Rate (MFR) (200°C/5.0 kg) | 14 | g/10 min | ASTM D1238 |
| Molding Shrinkage - Flow | 0.40 to 0.70 | % | ASTM D955 |

| Mechanical | Nominal Value | Unit | Test Method |
|------------------------------|---------------|------|-------------|
| Tensile Strength | | | ASTM D638 |
| Yield, Compression Molded | 13.8 | MPa | ASTM D638 |
| Yield, Injection Molded | 20.0 | MPa | |
| Ultimate, Compression Molded | 16.0 | MPa | |
| Ultimate, Injection Molded | 18.0 | MPa | |
| Tensile Elongation | | | |
| Break, Compression Molded | 35 | % | |
| Break, Injection Molded | 40 | % | |

| | | | |
|-------------------------------------|---------------|------|-------------|
| Flexural Modulus | | | ASTM D790 |
| Compression Molded | 1810 | MPa | |
| Injection Molded | 2010 | MPa | |
| Flexural Strength | | | ASTM D790 |
| Compression Molded | 29.6 | MPa | |
| Injection Molded | 37.2 | MPa | |
| Impact | Nominal Value | Unit | Test Method |
| Notched Izod Impact | | | ASTM D256 |
| Compression Molded | 96 | J/m | |
| Injection Molded | 120 | J/m | |
| Thermal | Nominal Value | Unit | Test Method |
| Deflection Temperature Under Load | | | ASTM D648 |
| 1.8 MPa, Unannealed | 70.0 | °C | |
| 1.8 MPa, Annealed | 90.0 | °C | |
| Vicat Softening Temperature | 98.9 | °C | ASTM D1525 |
| Flammability | Nominal Value | | Test Method |
| Flame Rating ¹ (1.47 mm) | HB | | UL 94 |
| NOTE | | | |

1.

This rating not intended to reflect hazards presented by this or any other material under actual fire conditions.

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