

STYRON A-TECH™ 1180

Polystyrene Resin

Trinseo

Message:

STYRON A-TECH™ 1180 advanced technology polystyrene resin is a high-impact resin with a unique combination of high gloss, high heat, excellent stiffness and good practical toughness. It is designed for injection molding applications.

Main Characteristics:

High gloss

High heat

High stiffness

Good practical toughness

Applications:

Air-conditioner

Refrigerator accessories

Complies with:

U.S. FDA 21 CFR 177.1640

Consult the regulation for complete details.

| General Information | | | |
|--|------------------------|-------------------|-------------|
| UL YellowCard | E73656-249610 | | |
| Features | Good Toughness | | |
| | High Gloss | | |
| | High Impact Resistance | | |
| | High Stiffness | | |
| Agency Ratings | FDA 21 CFR 177.1640 | | |
| Forms | Pellets | | |
| Processing Method | 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) | 3.0 | 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 | 28.3 | MPa | |
| Yield, Injection Molded | 33.8 | MPa | |
| Ultimate, Compression Molded | 21.4 | MPa | |
| Ultimate, Injection Molded | 31.0 | MPa | |
| Tensile Elongation | | | ASTM D638 |
| Break, Compression Molded | 30 | % | |
| Break, Injection Molded | 55 | % | |
| Flexural Modulus | | | ASTM D790 |
| Compression Molded | 1800 | MPa | |
| Injection Molded | 2070 | MPa | |

| | | | |
|-------------------------------------|---------------|----------|-------------|
| Flexural Strength | | | ASTM D790 |
| Compression Molded | 50.3 | MPa | |
| Injection Molded | 60.0 | MPa | |
| Impact | Nominal Value | Unit | Test Method |
| Notched Izod Impact | | | ASTM D256 |
| 23°C, Compression Molded | 80 | J/m | |
| 23°C, Injection Molded | 110 | J/m | |
| Thermal | Nominal Value | Unit | Test Method |
| Deflection Temperature Under Load | | | ASTM D648 |
| 1.8 MPa, Unannealed | 75.0 | °C | |
| 1.8 MPa, Annealed | 98.9 | °C | |
| Vicat Softening Temperature | 106 | °C | ASTM D1525 |
| CLTE - Flow | 7.6E-5 | cm/cm/°C | ASTM D696 |
| Flammability | Nominal Value | | Test Method |
| Flame Rating ¹ (1.50 mm) | HB | | UL 94 |
| Optical | Nominal Value | | Test Method |
| Gardner Gloss (60°) | 95 | | ASTM D523 |
| NOTE | | | |

1.

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

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Susheng Import & Export Trading Co.,Ltd.

Tel: +86 21 5895 8519

Phone: +86 13424755533

Email: sales@su-jiao.com

No. 215, Lianhe North Road, Fengxian District, Shanghai, China



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