

Pinnacle PP 3220

Polypropylene Impact Copolymer

Pinnacle Polymers

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Technical Data

Product Description

20 MELT FLOW HIGH IMPACT COPOLYMER FOR INJECTION MOLDING

Pinnacle Polymers Polypropylene 3220 is made via UNIPOL™ PP technology, which utilizes gas-phase fluidized bed reactors with a high activity catalyst system to ensure uniform physical properties and lot-to-lot consistency.

This product is intended for injection molding of automotive and consumer product applications. Also contains a long-term heat aging additive system.

The 3220 product provides:

- Excellent balance of stiffness and impact strength
- Excellent long term heat aging properties
- Excellent color and processing stability
- Superior weld-line strength

Pinnacle's 3220 polypropylene as marketed by Pinnacle Polymers Company, in natural, uncolored pellet form is covered under US FDA Food Contact Notification 864. As such, this polymer complies with the requirements of CFR Title 21 and can be used in contact with all food types under Conditions of Use A-H.

General

| | |
|-----------------------------|--|
| Material Status | • Commercial: Active |
| Literature ¹ | • Technical Datasheet (English) • Technical Information - FDA (English) |
| UL Yellow Card ² | • E130336-221941 |
| Search for UL Yellow Card | • Pinnacle Polymers • Pinnacle PP |
| Availability | • Europe • North America |
| Additive | • Heat Stabilizer |
| Features | • Food Contact Acceptable • Heat Aging Resistant • Good Color Stability • Heat Stabilized • Impact Copolymer • Good Processing Stability • High Impact Resistance • Weldable |
| Uses | • Automotive Applications • Consumer Applications |
| Agency Ratings | • FDA FCN 864 • FDA Food Contact A-H ³ • UL |
| Appearance | • Natural Color |
| Forms | • Pellets |
| Processing Method | • Injection Molding |

| Physical | Nominal Value (English) | Nominal Value (SI) | Test Method |
|---|-------------------------|-------------------------|-------------|
| Density | 0.900 g/cm ³ | 0.900 g/cm ³ | ASTM D1505 |
| Melt Mass-Flow Rate (MFR) (230°C/2.16 kg) | 20 g/10 min | 20 g/10 min | ASTM D1238 |
| Molding Shrinkage - Flow | 0.014 in/in | 1.4 % | ASTM D955 |

| Mechanical | Nominal Value (English) | Nominal Value (SI) | Test Method |
|---|-------------------------|--------------------|-------------|
| Tensile Strength ⁵ | | | ASTM D638 |
| Yield, 0.126 in (3.20 mm), Injection Molded | 3510 psi | 24.2 MPa | |
| Tensile Elongation ⁵ | | | ASTM D638 |
| Yield, 0.126 in (3.20 mm), Injection Molded | 7.0 % | 7.0 % | |
| Flexural Modulus - 1% Secant ⁶ | | | ASTM D790A |
| 0.126 in (3.20 mm), Injection Molded | 168000 psi | 1160 MPa | |



| Impact | Nominal Value (English) | Nominal Value (SI) | Test Method |
|--|----------------------------|------------------------|-------------|
| Notched Izod Impact ⁷ 73°F (23°C), 0.126 in (3.20 mm), Injection Molded | 2.6 ft·lb/in | 140 J/m | ASTM D256 |
| Notched Izod Impact (Area) ⁷ 73°F (23°C), 0.126 in (3.20 mm), Injection Molded | 6.66 ft·lb/in ² | 14.0 kJ/m ² | ASTM D256 |
| Gardner Impact ⁸ (-22°F (-30°C)) | 177 in·lb | 20.0 J | ASTM D5420 |
| Thermal | Nominal Value (English) | Nominal Value (SI) | Test Method |
| Deflection Temperature Under Load 66 psi (0.45 MPa), Unannealed | 203 °F | 95.0 °C | ASTM D648 |

Notes

- ¹ These links provide you with access to supplier literature. We work hard to keep them up to date; however you may find the most current literature from the supplier.
- ² A UL Yellow Card contains UL-verified flammability and electrical characteristics. UL Prospector continually works to link Yellow Cards to individual plastic materials in Prospector, however this list may not include all of the appropriate links. It is important that you verify the association between these Yellow Cards and the plastic material found in Prospector. For a complete listing of Yellow Cards, visit the UL Yellow Card Search.
- ³ CFR Title 21
- ⁴ Typical properties: these are not to be construed as specifications.
- ⁵ Type I, 2.0 in/min (51 mm/min)
- ⁶ Type I, 0.050 in/min (1.3 mm/min)
- ⁷ Type I
- ⁸ Method G, Geometry GC

