Maxxam™ PP5410 B1

Polypropylene Homopolymer

Key Characteristics

Product Description
PolyOne's Maxxam™ family of polypropylene- and polyethylene-based products covers a wide range of applications, markets and performance requirements. Standard grades are compounded with calcium carbonate, glass and talc to provide a desired balance of properties including stiffness, durability, impact resistance and heat resistance. Custom grades are available with features such as UV stabilizers, heat stabilizers, custom color, high impact, etc.

General			
Material Status	• Commercial: Active		
Regional Availability	• Africa & Middle East • Asia Pacific	• Europe • Latin America	• North America
Filler / Reinforcement	• Glass Fiber		
Features	• Excellent Processability	• High Stiffness	
Uses	• Automotive Applications		
Appearance	• Black		
Processing Method	• Injection Molding		

Technical Properties [1]

Physical	Typical Value (English)	Typical Value (SI)	Test Method
Density / Specific Gravity	1.00	1.00	ASTM D792
Melt Mass-Flow Rate (MFR) (230°C/2.16 kg)	8.0 g/10 min	8.0 g/10 min	ASTM D1238
Mechanical	**Typical Value (English)**	**Typical Value (SI)**	**Test Method**
Tensile Strength (Yield, 73°F (23°C))	7540 psi	52.0 MPa	ASTM D638
Tensile Elongation (Break, 73°F (23°C))	3.0 %	3.0 %	ASTM D638
Flexural Modulus (73°F (23°C))	384000 psi	2650 MPa	ASTM D790
Impact	**Typical Value (English)**	**Typical Value (SI)**	**Test Method**
Notched Izod Impact (73°F (23°C))	1.1 ft·lb/in	60 J/m	ASTM D256
Thermal	**Typical Value (English)**	**Typical Value (SI)**	**Test Method**
Deflection Temperature Under Load			ASTM D648
66 psi (0.45 MPa), Unannealed	280 °F	138 °C	
Flammability	**Typical Value (English)**	**Typical Value (SI)**	**Test Method**
Burning Rate (0.126 in (3.20 mm))	< 3.9 in/min	< 100 mm/min	FMVSS 302

Processing Information

Injection	Typical Value (English)	Typical Value (SI)
Rear Temperature	419 to 473 °F	215 to 245 °C
Middle Temperature	428 to 482 °F	220 to 250 °C
Front Temperature	437 to 491 °F	225 to 255 °C
Nozzle Temperature	446 to 500 °F	230 to 260 °C
Mold Temperature	59 to 149 °F	15 to 65 °C

Injection Notes

- Purge Temperature: 260°C (500°F)
- Injection Speed: Maximum setting before flash or burn marks appear.
- Change to Pack Position: At 95% full part.
- Pack Pressure: Enough to fill out remaining 5% without flash or sink.
- Pack Time: Equal to gate freeze time.
- Hold Time: Longest possible without delaying plasticizing.
- Cooling Time: Until ejector does not leave an indentation.

These are the recommended starting conditions for injection molding PolyOne's glass filled polypropylene compounds. This product does not have to be dried, but for critical appearance parts, pre-drying for at least 1 hour at a temperature of 85°C (180°F) is recommended.

Due to the complex nature of the injection molding process and the vast differences in equipment and tooling, it is strongly recommended that processors make any adjustments to these conditions that are deemed necessary to produce acceptable finished parts, and optimize processing. Long residence time may require lower barrel set points.

Notes

[1] Typical values are not to be construed as specifications.

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