

## 4211

### 11 MELT FLOW HIGH IMPACT COPOLYMER FOR INJECTION MOLDING

#### Product Description and Applications:

Pinnacle Polymers Polypropylene 4211 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, appliance, lawn and garden products, consumer and industrial applications. Provides an excellent base stock for compounding of filled and reinforced grades.

It is characterized by its easy mold flow and high impact at both room and sub-ambient conditions.

#### Features:

The 4211 product provides:

- Wet/Dry environment resistance
- Superior balance of stiffness and impact strength
- Excellent color and processing stability
- Long Term Heat Stability

Pinnacle's 4211 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.

### Typical Properties

Property	Traditional Units	SI Units	ASTM Test
Melt Flow Rate	11 g/10 min.	11 g/10 min.	D1238 <sup>1</sup>
Density at 23°C	0.9 g/cm <sup>3</sup>	900 kg/m <sup>3</sup>	D1505
Shrinkage	0.013 in/in	0.013 mm/mm	D955
Heat Deflection Temperature ( 0.455MPa/66psi)	185°F	85°C	D648
Tensile yield strength, at 51 mm/min	3400 psi	23.5 MPa	D638 <sup>2</sup>
Yield Elongation, at 51mm/min	7%	7%	D638 <sup>2</sup>
Flexural modulus (1% secant) at 1.27 mm/min	150,000 psi	1035 MPa	D790A <sup>2</sup>
Notched Izod breaks, at 73°F/23°C	100% No-breaks	100% No-breaks	D256 <sup>2</sup>
Notched Izod impact strength, at 73°F/23°C	≥10 ft-lb/in	≥534 J/m ≥52 kJ/m <sup>2</sup>	D256 <sup>2</sup>
Gardner Impact strength at -22°F/-30°C	320 in-lb	35.2 J	D5420 <sup>3</sup>

<sup>1</sup> Condition L 230/2.16

<sup>2</sup> ASTM Type I specimen, 3.2 mm thick (injection molded per ASTM D4101-92a)

<sup>3</sup> Method G, Geometry GC

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FDA and SDS documents are available on our website at: <http://www.pinnaclepolymers.com/datasds.php>