



## Pinnacle PP 2180H

### Pinnacle Polymers - Polypropylene Impact Copolymer

Tuesday, November 5, 2019

#### General Information

##### Product Description

80 MELT FLOW MEDIUM IMPACT COPOLYMER POLYPROPYLENE FOR INJECTION MOLDING

Pinnacle Polymers Polypropylene 2180H 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 controlled rheology copolymer is intended for use in thin wall injection molded packaging, housewares and consumer products applications. High Melt Flow dramatically improves cycle-times without forfeiting impact. Contains nucleator and antistat.

The 2180H product provides:

- High stiffness
- Excellent impact at 23°C and -30°C
- Very high melt flow
- Excellent mold release
- Superior processability
- Excellent lot-to-lot consistency

Pinnacle's 2180H polypropylene is covered under US FDA Food Contact Notification 864. As such, this polymer can be used in contact with all food types under Conditions of Use A-H, as described in 21 CFR 176.170, Tables 1 and 2. This polymer also complies with 21 CFR 177.1520(c), items 3.1(a) and 3.2(a).

#### General

Material Status	• Commercial: Active		
Availability	• Europe	• North America	
Additive	• Antistatic	• Nucleating Agent	
Features	• Antistatic • Controlled Rheology • Food Contact Acceptable • Good Mold Release	• Good Processability • High Flow • High Stiffness • Impact Copolymer	• Low Temperature Impact Resistance • Medium Impact Resistance • Nucleated
Uses	• Consumer Applications	• Household Goods	• Thin-walled Packaging
Agency Ratings	• FDA 21 CFR 176.170 Table 1 & 2, Cond A-H	• FDA 21 CFR 177.1520(c) 3.1a	• FDA 21 CFR 177.1520(c) 3.2a
Forms	• Pellets		
Processing Method	• Injection Molding		

#### ASTM & ISO Properties<sup>1</sup>

Physical	Nominal Value	Unit	Test Method
Density	0.900	g/cm <sup>3</sup>	ASTM D1505
Melt Mass-Flow Rate (230°C/2.16 kg)	74 to 86	g/10 min	ASTM D1238
Molding Shrinkage - Flow	0.014	in/in	ASTM D955
Mechanical	Nominal Value	Unit	Test Method
Tensile Strength <sup>2</sup> (Yield, 0.126 in, Injection Molded)	> 2900	psi	ASTM D638
Tensile Elongation <sup>2</sup> (Yield, 0.126 in, Injection Molded)	5.0	%	ASTM D638
Flexural Modulus - 1% Secant <sup>3</sup> (0.126 in, Injection Molded)	> 155000	psi	ASTM D790A
Impact	Nominal Value	Unit	Test Method
Notched Izod Impact <sup>4</sup> (73°F, 0.126 in, Injection Molded)	> 1.8	ft-lb/in	ASTM D256

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Impact	Nominal Value	Unit	Test Method
Notched Izod Impact (Area) <sup>4</sup> 73°F, 0.126 in, Injection Molded	> 4.47	ft·lb/in <sup>2</sup>	ASTM D256
Gardner Impact <sup>5</sup> (-22°F)	124	in·lb	ASTM D5420
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load (66 psi, Unannealed)	223	°F	ASTM D648

### Notes

<sup>1</sup> Typical properties: these are not to be construed as specifications.
<sup>2</sup> Type I, 2.0 in/min
<sup>3</sup> Type I, 0.050 in/min
<sup>4</sup> Type I
<sup>5</sup> Method G, Geometry GC