

CERTENE™ PHM-20

Polypropylene Homopolymer
Muehlstein

Message:

PHM-20 is a certified prime grade Polypropylene designed for injection molding of thin-walled lightweight articles. PHM-20 combines good balance of medium-high flow processability with good tensile strength, high stiffness, good LTHS, short cycling, and excellent ESCR. PHM-20 applications include lightweight containers, medical ware, caps and closures, and housewares. PHM-20 recommended processing temperature is between 220° to 240°C with mold at 20°-50°C. PHM-20 complies with FDA regulation 21CFR 177.1520 and with most international regulations concerning the use of Polypropylene in contact with food. Specific certificates are available upon request.

General Information			
Features	Rigidity, high		
	High ESCR (Stress Cracking Resistance)		
	High tensile strength		
	Homopolymer		
	Workability, good		
	Fast molding cycle		
	High liquidity		
	Compliance of Food Exposure		
Uses	Thin wall container		
	Shield		
	Household goods		
	Medical/nursing supplies		
Agency Ratings	FDA 21 CFR 177.1520		
Forms	Particle		
Processing Method	Injection molding		
Physical	Nominal Value	Unit	Test Method
Density	0.905	g/cm ³	ASTM D1505
Melt Mass-Flow Rate (MFR) (230°C/2.16 kg)	20	g/10 min	ASTM D1238
Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness (R-Scale)	94		ASTM D785
Mechanical	Nominal Value	Unit	Test Method
Tensile Strength ¹ (Yield, Injection Molded)	36.5	MPa	ASTM D638
Tensile Elongation ² (Yield, Injection Molded)	8.0	%	ASTM D638
Flexural Modulus - 1% Secant ³ (Injection Molded)	1650	MPa	ASTM D790
Impact	Nominal Value	Unit	Test Method
Notched Izod Impact (23°C, Injection Molded)	27	J/m	ASTM D256

Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load (0.45 MPa, Unannealed, Injection Molded)	106	°C	ASTM D648
Vicat Softening Temperature	152	°C	ASTM D1525

Additional Information

All specimens were injection molded according to ASTM D2146 Type 1.

Injection	Nominal Value	Unit
Processing (Melt) Temp	104 - 116	°C
Mold Temperature	-6.67 - 10.0	°C

NOTE

1. 50 mm/min
2. 50 mm/min
3. 1.3 mm/min

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