



MARPOL® HDM 540

Marco Polo International, LLC - High Density Polyethylene

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General Information

Product Description

MARPOL® HDM 540 is a high-flow "freezer" grade resin that exhibits enhanced cold temperature impact performance, enhanced processing, and thermal stability with good color and organoleptic properties.

Recommended Applications: Rigid food containers such as 4-, 5- and 6- quart ice cream containers that are produced in fast cycling multi-cavity stack molds.

General

Material Status	• Commercial: Active		
Availability	• Africa & Middle East • Asia Pacific	• Europe • Latin America	• North America
Features	• Food Contact Acceptable • Good Color Stability • Good Organoleptic Properties	• Good Processability • Good Thermal Stability • High Flow	• Low Temperature Impact Resistance • Low Temperature Resistant
Uses	• Food Containers	• Low Temperature Applications	• Rigid Food Packaging
Agency Ratings	• FDA 21 CFR 177.1520(c) 3.1a		
Processing Method	• Extrusion	• Injection Molding	

ASTM & ISO Properties¹

Physical	Nominal Value	Unit	Test Method
Density	0.948	g/cm ³	ASTM D1505
Apparent (Bulk) Density	0.59 to 0.62	g/cm ³	ASTM D1895
Melt Mass-Flow Rate (190°C/2.16 kg)	40	g/10 min	ASTM D1238
Mechanical	Nominal Value	Unit	Test Method
Tensile Strength ² (Break)	21.8	MPa	ASTM D638
Tensile Elongation ² (Break)	5.4	%	ASTM D638
Flexural Modulus - 1% Secant ³	985	MPa	ASTM D790
Impact	Nominal Value	Unit	Test Method
Notched Izod Impact (23°C)	23	J/m	ASTM D256
Unnotched Izod Impact (-18°C)	360	J/m	ASTM D4812
Hardness	Nominal Value	Unit	Test Method
Durometer Hardness (Shore D)	62		ASTM D2240
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load 0.45 MPa, Unannealed	63.9	°C	ASTM D648
Vicat Softening Temperature	121	°C	ASTM D1525
Peak Melting Temperature	127	°C	ASTM D3418

Notes

- ¹ Typical properties: these are not to be construed as specifications.
- ² Type IV, 50 mm/min
- ³ 13 mm/min