



MARPOL® COPP 4.NB

Marco Polo International, LLC - Polypropylene Impact Copolymer

Saturday, December 23, 2023

General Information

Product Description

MARPOL COPP 4.NB is an impact copolymer resin designed for consumer and industrial products requiring very high impact resistance.

General

Material Status	• Commercial: Active		
Availability	• Africa & Middle East • Asia Pacific	• Europe • Latin America	• North America
Features	• Balanced Stiffness/Toughness • Impact Copolymer	• Medium Flow • Ultra High Impact Resistance	
Uses	• Appliance Components • Battery Cases	• Consumer Applications • Industrial Applications	• Rigid Packaging • Toys
Forms	• Pellets		
Processing Method	• Injection Molding		

ASTM & ISO Properties¹

Physical	Nominal Value	Unit	Test Method
Density	0.900	g/cm ³	ASTM D1505
Melt Mass-Flow Rate (230°C/2.16 kg)	4.0	g/10 min	ASTM D1238
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus	1200	MPa	ISO 527-1/1
Tensile Strength ² (Yield)	23.7	MPa	ASTM D638
Tensile Stress (Yield)	23.0	MPa	ISO 527-2/50
Tensile Elongation ² (Yield)	6.0	%	ASTM D638
Tensile Strain (Yield)	5.6	%	ISO 527-2/50
Flexural Modulus - 1% Secant			
-- ³	1210	MPa	ASTM D790A
-- ⁴	1300	MPa	ASTM D790B
Flexural Modulus ⁵	1140	MPa	ISO 178
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength			ISO 179/1eA
-30°C	6.8	kJ/m ²	
23°C	57	kJ/m ²	
Notched Izod Impact (23°C)	No Break		ASTM D256A
Notched Izod Impact Strength			ISO 180/1A
-40°C	9.0	kJ/m ²	
-18°C	11	kJ/m ²	
23°C	53	kJ/m ²	
Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness	84		ASTM D785

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Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load 0.45 MPa, Unannealed	90.6	°C	ASTM D648
Deflection Temperature Under Load 0.45 MPa, Unannealed	82.0	°C	ISO 75-2/Bf
Deflection Temperature Under Load (0.45 MPa, Annealed)	112	°C	ASTM D648
Deflection Temperature Under Load 1.8 MPa, Unannealed	50.2	°C	ISO 75-2/A

Notes

¹ Typical properties: these are not to be construed as specifications.

² 51 mm/min

³ 1.3 mm/min

⁴ 13 mm/min

⁵ 2.0 mm/min