



# MARPOL® COPP 20.3

Marco Polo International, LLC - Polypropylene Impact Copolymer

Wednesday, December 13, 2023

## General Information

### Product Description

MARPOL COPP 20.3 is a high crystallinity, high impact copolymer resin with medium melt flow rate and excellent processing attributes. It is designed to optimize cycle times by improving mold release on injection molded parts.

### General

Material Status	• Commercial: Active		
Availability	• Africa & Middle East • Asia Pacific	• Europe • Latin America	• North America
Additive	• Antistatic • Nucleating Agent		
Features	• Antistatic • Balanced Stiffness/Toughness • Excellent Processability • Fast Molding Cycle	• Good Mold Release • High Impact Resistance • Highly Crystalline • Impact Copolymer	• Medium Flow • Nucleated
Uses	• Appliances • Compounding • Consumer Applications	• Crates • Industrial Applications • Packaging	• Tool/Tote Box
Appearance	• Natural Color		
Forms	• Pellets		
Processing Method	• Compounding	• 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)	19	g/10 min	ASTM D1238
Mechanical	Nominal Value	Unit	Test Method
Tensile Strength <sup>2</sup> (Yield)	23.8	MPa	ASTM D638
Tensile Stress (Yield)	23.1	MPa	ISO 527-2/50
Tensile Elongation <sup>2</sup> (Yield)	4.5	%	ASTM D638
Tensile Strain (Yield)	4.2	%	ISO 527-2/50
Flexural Modulus - 1% Secant			
-- <sup>3</sup>	1280	MPa	ASTM D790A
-- <sup>4</sup>	1480	MPa	ASTM D790B
Flexural Modulus <sup>5</sup>	1280	MPa	ISO 178

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Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength			ISO 179/1eA
-30°C	7.4	kJ/m <sup>2</sup>	
-20°C	7.6	kJ/m <sup>2</sup>	
0°C	9.0	kJ/m <sup>2</sup>	
23°C	14	kJ/m <sup>2</sup>	
Notched Izod Impact (23°C)	160	J/m	ASTM D256A
Notched Izod Impact Strength			ISO 180/1A
-40°C	7.1	kJ/m <sup>2</sup>	
-20°C	7.8	kJ/m <sup>2</sup>	
23°C	14	kJ/m <sup>2</sup>	
Gardner Impact <sup>6</sup> (-29°C, 3.18 mm)	22.3	J	ASTM D5420
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			ASTM D648
0.45 MPa, Unannealed	105	°C	
Deflection Temperature Under Load			ISO 75-2/B
0.45 MPa, Unannealed	88.3	°C	
Deflection Temperature Under Load			ISO 75-2/A
1.8 MPa, Unannealed	50.0	°C	

### Notes

<sup>1</sup> Typical properties: these are not to be construed as specifications.

<sup>2</sup> 51 mm/min

<sup>3</sup> 1.3 mm/min

<sup>4</sup> 13 mm/min

<sup>5</sup> 2.0 mm/min

<sup>6</sup> Geometry GC