

SABIC® PP 83MF10

Polypropylene Impact Copolymer

Saudi Basic Industries Corporation (SABIC)

Message:

This grade combines a very high impact strength, even at low temperatures, with a high stiffness and moderate flow properties. It is suitable for injection moulding of technical components and containers exposed to heavy loads and needing a high toughness. It is also suitable for extrusion applications like thin sheet, corrugated board and profiles. It is also available in an UV-stabilized version.

The product mentioned herein is in particular not tested and therefore not validated for use in pharmaceutical/medical applications.

General Information	
Features	Block Copolymer
	Good Flow
	High Stiffness
	Low Temperature Impact Resistance
	Ultra High Impact Resistance
	Ultra High Toughness
Uses	Containers
	Corrugated Sheet
	Profiles
	Sheet
UL File Number	E111275
Forms	Pellets
Processing Method	Extrusion
	Injection Molding

Physical	Nominal Value	Unit	Test Method
Specific Gravity	0.905	g/cm ³	ASTM D792, ISO 1183
Melt Mass-Flow Rate (MFR) (230°C/2.16 kg)	1.8	g/10 min	ASTM D1238, ISO 1133
Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness (R-Scale)	80		ASTM D785
Shore Hardness (Shore D)	61		ISO 868
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus			
1% Secant ¹	1250	MPa	ASTM D638
--	1200	MPa	ISO 527-2/1A/1
Tensile Strength			
Yield ²	23.0	MPa	ASTM D638
Yield	23.0	MPa	ISO 527-2/1A/50

Tensile Elongation			
Yield ³	6.0	%	ASTM D638
Yield	5.0	%	ISO 527-2/1A/50
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength			ISO 179/1eA
-20°C	10	kJ/m ²	
0°C	40	kJ/m ²	
23°C	75	kJ/m ²	
Notched Izod Impact			
-20°C	130	J/m	ASTM D256A
0°C	No Break		ASTM D256A, ISO 180/1A
23°C	No Break		ASTM D256A, ISO 180/1A
-20°C	12	kJ/m ²	ISO 180/1A
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			
0.45 MPa, Unannealed	90.0	°C	ASTM D648
0.45 MPa, Unannealed ⁴	85.0	°C	ISO 75-2/Bf
1.8 MPa, Unannealed	60.0	°C	ASTM D648
1.8 MPa, Unannealed ⁵	55.0	°C	ISO 75-2/Af
Vicat Softening Temperature			
--	148	°C	ASTM D1525, ISO 306/A120 5 ⁶
--	68.0	°C	ASTM D1525, ISO 306/B120 6 ⁷
NOTE			
1.	5.0 mm/min		
2.	50 mm/min		
3.	50 mm/min		
4.	testbar 80*10*4mm		
5.	testbar 80*10*4mm		
6.	Rate B (120°C/h), Loading 1 (10 N)		
7.	Rate B (120°C/h), Loading 2 (50 N)		

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