Product Comparison

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Technical Data

Product Description

Bormed™ RF830MO	Bormed RF830MO is a resin intended for evaluation for use in Healthcare applications. Bormed RF830MO is a transparent polypropylene random copolymer, modified with a nucleating agent, suitable for articles which need post sterilisation with radiation. Bormed RF830MO is characterized by easy processability, high transparency, high gloss and a good stiffness-impact balance. Products moulded from this grade and radiated with the dose of 25 kGy have a shelf-life of 5 years, if properly stored. Material can also be sterilised with ethylene oxide and steam. Applications Bormed RF830MO has been evaluated according to different regulations and norms. Typical applications are mentioned below for Medical devices or Pharmaceutical & Diagnostic packaging. However, Borealis should be consulted for final approval to evaluate the use of Bormed RF830MO . • Disposable non pre-filled syringes • Needle hubs • Catheter connections • Laboratory disposable • Diagnostic products • Blood collection tubes This grade may only be used for the applications listed in the Product Datasheet and only to the extent that the application is within the scope of the tests set out in the Statement on Compliance to Regulations on Medical Use for that grade. If an application is not listed in the Product Datasheet, the grade can be used for such application only after express written consent of the Borealis Marketing Manager, Healthcare. Borealis prohibits the use of any healthcare grade product in an implantable device that is introduced into the human body by surgical intervention and that is intended to remain in place following surgical procedure.
Generic PP Random Copolymer	This data represents typical values that have been calculated from all products classified as: Generic PP Random Copolymer This information is provided for comparative purposes only.

General	Bormed™ RF830MO	Generic PP Random Copolymer
Manufacturer / Supplier	• Borealis AG	• Generic
Generic Symbol	• PP Random Copolymer	• PP Random Copolymer
Material Status	• Commercial: Active	• Commercial: Active
Literature [1]	• Technical Datasheet (English)	--
Search for UL Yellow Card	• Borealis AG	--
Availability	• Africa & Middle East • Asia Pacific • Europe • Latin America • North America	• Africa & Middle East • Asia Pacific • Europe • Latin America • North America
Features	• Chemical Resistant • Ethylene Oxide Sterilizable • Excellent Printability • Good Impact Resistance • Good Processability • Good Stiffness • High Clarity • High Flow • High Gloss • Radiation Sterilizable • Random Copolymer	--

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General	Bormed™ RF830MO	Generic PP Random Copolymer
Uses	• Caps • Closures • Disposable Hospital Goods • Labware • Medical/Healthcare Applications • Tubing	--
Appearance	• Clear/Transparent	--
Forms	• Pellets	--
Processing Method	• Injection Molding	--

Physical	Bormed™ RF830MO	Generic PP Random Copolymer	Unit	Test Method
Density / Specific Gravity				
--	--	0.898 to 0.900	g/cm³	ASTM D792
--	0.905	0.898 to 0.907	g/cm³	ISO 1183
--	--	0.900	g/cm³	ASTM D1505
Melt Mass-Flow Rate (MFR)				
230°C/2.16 kg	--	0.23 to 38	g/10 min	ASTM D1238
230°C/2.16 kg	20	0.20 to 40	g/10 min	ISO 1133
Spiral Flow	--	46.0 to 83.7	cm	
Molding Shrinkage				
Flow	--	1.2 to 1.8	%	ASTM D955
--	1.0 to 2.0	--	%	
--	--	1.2 to 1.8	%	ISO 294-4

Mechanical	Bormed™ RF830MO	Generic PP Random Copolymer	Unit	Test Method
Tensile Modulus				
--	--	677 to 1270	MPa	ASTM D638
--	--	672 to 1250	MPa	ISO 527-1
--	1150	--	MPa	ISO 527-1/1
Tensile Strength				
Yield	--	24.5 to 32.1	MPa	ASTM D638
Yield	--	19.9 to 31.3	MPa	ISO 527-2
Yield	28.0	--	MPa	ISO 527-2/50
Break	--	17.1 to 36.5	MPa	ASTM D638
Break	--	14.5 to 31.2	MPa	ISO 527-2
--	--	23.4 to 45.0	MPa	ASTM D638
Tensile Elongation				
Yield	--	8.7 to 14	%	ASTM D638
Yield	--	9.7 to 14	%	ISO 527-2
Yield	12	--	%	ISO 527-2/50
Break	--	9.0 to 510	%	ASTM D638
Break	--	37 to 510	%	ISO 527-2
Nominal Tensile Strain at Break	--	200 to 500	%	ISO 527-2
Flexural Modulus				
--	--	663 to 1210	MPa	ASTM D790
--	1100	565 to 1340	MPa	ISO 178

Mechanical	Bormed™ RF830MO	Generic PP Random Copolymer	Unit	Test Method
Flexural Stress	--	6.50 to 38.3	MPa	ISO 178
Coefficient of Friction	--	0.15 to 1.0		ASTM D1894
Films	**Bormed™ RF830MO**	**Generic PP Random Copolymer**	**Unit**	**Test Method**
Film Thickness - Tested	--	50 to 80	µm	
Secant Modulus				
MD	--	456 to 790	MPa	ASTM D882
--	--	170 to 610	MPa	ISO 527-3
Tensile Strength				
MD : Yield	--	19.4 to 20.2	MPa	ASTM D882
Yield	--	15.0 to 35.0	MPa	ISO 527-3
MD : Break	--	30.8 to 40.4	MPa	ASTM D882
Break	--	28.5 to 39.8	MPa	ISO 527-3
--	--	29.4 to 50.4	MPa	ISO 527-3
Tensile Elongation				
MD : Yield	--	6.3 to 16	%	ASTM D882
MD : Break	--	690 to 760	%	ASTM D882
Break	--	490 to 650	%	ISO 527-3
Impact	**Bormed™ RF830MO**	**Generic PP Random Copolymer**	**Unit**	**Test Method**
Charpy Notched Impact Strength				
--	--	1.0 to 9.8	kJ/m²	ISO 179
23°C	6.0	--	kJ/m²	ISO 179/1eA
Charpy Unnotched Impact Strength	--	1.0 to 64	kJ/m²	ISO 179
Notched Izod Impact				
--	--	15 to 93	J/m	ASTM D256
--	--	1.3 to 8.0	kJ/m²	ISO 180
Notched Izod Impact (Area)	--	1.53 to 15.1	kJ/m²	ASTM D256
Unnotched Izod Impact	--	12 to 200	J/m	ASTM D4812
Gardner Impact	--	35.6 to 36.2	J	ASTM D5420
Hardness	**Bormed™ RF830MO**	**Generic PP Random Copolymer**	**Unit**	**Test Method**
Rockwell Hardness				
--	--	76 to 95		ASTM D785
--	--	70 to 99		ISO 2039-2
Durometer Hardness				
--	--	52 to 67		ASTM D2240
--	--	58 to 68		ISO 868
Thermal	**Bormed™ RF830MO**	**Generic PP Random Copolymer**	**Unit**	**Test Method**
Deflection Temperature Under Load				
0.45 MPa, Unannealed	--	68.3 to 96.8	°C	ASTM D648
0.45 MPa, Unannealed [3]	80.0	--	°C	ISO 75-2/B
0.45 MPa, Unannealed	--	54.5 to 97.3	°C	ISO 75-2/B
1.8 MPa, Unannealed	--	48.0 to 85.0	°C	ASTM D648
1.8 MPa, Unannealed	--	47.6 to 52.9	°C	ISO 75-2/A

Thermal	Bormed™ RF830MO	Generic PP Random Copolymer	Unit	Test Method
Vicat Softening Temperature				
--	--	118 to 136	°C	ASTM D1525
--	--	65.2 to 136	°C	ISO 306
Melting Temperature				
--	--	131 to 148	°C	
--	--	133 to 146	°C	DSC
--	--	140 to 150	°C	ISO 11357-3
--	--	131 to 153	°C	ASTM D3418
--	--	132 to 154	°C	ISO 3146

Optical	Bormed™ RF830MO	Generic PP Random Copolymer	Unit	Test Method
Gloss	--	90 to 91		ASTM D523
Gloss	--	71 to 140		ASTM D2457
Haze	--	0.200 to 26.4	%	ASTM D1003
Yellowness Index	--	-10 to 4.0	YI	ASTM D1925

Injection	Bormed™ RF830MO	Generic PP Random Copolymer	Unit
Drying Temperature	--	79 to 90	°C
Drying Time	--	2.0 to 3.1	hr
Rear Temperature	--	199 to 225	°C
Middle Temperature	--	215 to 225	°C
Front Temperature	--	215 to 227	°C
Processing (Melt) Temp	220 to 250	209 to 240	°C
Mold Temperature	30 to 40	28 to 50	°C
Injection Rate	Moderate-Fast	--	
Holding Pressure	20.0 to 50.0	--	MPa

Injection Notes

Generic PP Random Copolymer	This data represents typical values that have been calculated from all products classified as: Generic PP Random Copolymer This information is provided for comparative purposes only.

Extrusion	Bormed™ RF830MO	Generic PP Random Copolymer	Unit
Cylinder Zone 1 Temp.	--	194 to 206	°C
Cylinder Zone 2 Temp.	--	194 to 206	°C
Cylinder Zone 3 Temp.	--	195 to 206	°C
Cylinder Zone 4 Temp.	--	195 to 206	°C
Cylinder Zone 5 Temp.	--	194 to 223	°C
Melt Temperature	--	200 to 221	°C
Die Temperature	--	200 to 260	°C

Extrusion Notes

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Notes

[1] These links provide you with access to supplier literature. We work hard to keep them up to date; however you may find the most current literature from the supplier.

[2] Typical properties: these are not to be construed as specifications.

[3] Injection molded specimen

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