



Rynite® 830ER BK503

THERMOPLASTIC POLYESTER RESIN

Rynite® 830ER BK503 is a 30% Glass Reinforced, Polyethylene Terephthalate Developed for Encapsulation Applications

Product information

Resin Identification	PET-IGF30	ISO 1043
Part Marking Code	>PET-IGF30<	ISO 11469

Rheological properties

Moulding shrinkage, parallel	0.1 %	ISO 294-4, 2577
Moulding shrinkage, normal	0.6 %	ISO 294-4, 2577

Typical mechanical properties

Tensile Modulus	11000 MPa	ISO 527-1/-2
Stress at break	170 MPa	ISO 527-1/-2
Strain at break	2.2 %	ISO 527-1/-2
Charpy impact strength, 23°C	60.9 kJ/m ²	ISO 179/1eU
Charpy notched impact strength, 23°C	9.9 kJ/m ²	ISO 179/1eA
Poisson's ratio	0.34 -	

Thermal properties

Melting temperature, 10°C/min	250 °C	ISO 11357-1/-3
Temp. of deflection under load, 1.8 MPa	225 °C	ISO 75-1/-2
Temp. of deflection under load, 0.45 MPa	247 °C	ISO 75-1/-2
RTI, electrical, 0.75mm	140 °C	UL 746B
RTI, electrical, 1.5mm	140 °C	UL 746B
RTI, electrical, 3mm	140 °C	UL 746B
RTI, impact, 0.75mm	140 °C	UL 746B
RTI, impact, 1.5mm	140 °C	UL 746B
RTI, impact, 3mm	140 °C	UL 746B
RTI, strength, 0.75mm	140 °C	UL 746B
RTI, strength, 1.5mm	140 °C	UL 746B
RTI, strength, 3mm	140 °C	UL 746B

Flammability

Burning Behav. at 1.5mm nom. thickn.	HB class	IEC 60695-11-10
Thickness tested	1.5 mm	IEC 60695-11-10
UL recognition	yes -	UL 94
Burning Behav. at thickness h	HB class	IEC 60695-11-10
Thickness tested	0.85 mm	IEC 60695-11-10
UL recognition	yes -	UL 94
Glow Wire Flammability Index, 3mm	825 °C	IEC 60695-2-12



Rynite® 830ER BK503

THERMOPLASTIC POLYESTER RESIN

Glow Wire Ignition Temperature, 3mm	800 °C	IEC 60695-2-13
FMVSS Class	B -	ISO 3795 (FMVSS 302)
Burning rate, Thickness 1 mm	<80 mm/min	ISO 3795 (FMVSS 302)

Electrical properties

Relative permittivity, 100Hz	4.3 -	IEC 62631-2-1
Relative permittivity, 1MHz	3.9 -	IEC 62631-2-1
Dissipation factor, 100Hz	20 E-4	IEC 62631-2-1
Dissipation factor, 1MHz	148 E-4	IEC 62631-2-1
Volume resistivity	>1E13 Ohm.m	IEC 62631-3-1
Surface resistivity	1E14 Ohm	IEC 62631-3-2
Electric strength	36 kV/mm	IEC 60243-1
Comparative tracking index	250 -	IEC 60112
Electric Strength, Short Time, 23°C, 2mm	23 kV/mm	IEC 60243-1

Other properties

Density	1590 kg/m ³	ISO 1183
---------	------------------------	----------

Injection

Drying Recommended	yes
Drying Temperature	120 °C
Drying Time, Dehumidified Dryer	4 - 6 h
Processing Moisture Content	≤0.02 ^[1] %
Melt Temperature Optimum	285 °C
Min. melt temperature	280 °C
Max. melt temperature	300 °C
Max. screw tangential speed	0.2 m/s
Mold Temperature Optimum	140 °C
Min. mould temperature	120 °C
Max. mould temperature	140 ^[2] °C
Hold pressure range	≥80 MPa
Hold pressure time	4 s/mm
Back pressure	As low as possible
Ejection temperature	170 °C

[1]: At levels above 0.02%, strength and toughness will decrease, even though parts may not exhibit surface defects.

[2]: (6mm - 1mm thickness)

Additional Information

Injection molding When lower mold temperatures are used, the initial warpage and shrinkage will be lower, but the surface appearance will be poorer and the dimensional change may be greater when parts are subsequently heated.



Rynite[®] 830ER BK503

THERMOPLASTIC POLYESTER RESIN

Revised: 2020-07-21

Page: 3 of 3

dupont.com

The information set forth herein is furnished free of charge, is based on technical data that DuPont believes to be reliable, and represents typical values that fall within the normal range of properties. This information relates only to the specific material designated and may not be valid for such material used in combination with other materials or in other processes. It is intended for use by persons having technical skill, at their own discretion and risk. This information should not be used to establish specification limits nor used alone as the basis of design. Handling precaution information is given with the understanding that those using it will satisfy themselves that their particular conditions of use present no health or safety hazards and comply with applicable law. Since conditions of product use and disposal are outside our control, we make no warranties, express or implied, and assume no liability in connection with any use of this information. As with any product, evaluation under end-use conditions prior to specification is essential. Nothing herein is to be taken as a license to operate or a recommendation to infringe on patents.

CAUTION: Do not use DuPont materials in medical applications involving implantation in the human body or contact with internal body fluids or tissues unless the material has been provided from DuPont under a written contract or other acknowledgement that is consistent with the DuPont policy regarding medical applications and expressly acknowledges the contemplated use. For further information, please contact your DuPont representative.

DuPont's sole warranty is that our products will meet our standard sales specifications in effect at the time of shipment. Your exclusive remedy for breach of such warranty is limited to refund of purchase price or replacement of any product shown to be other than as warranted. TO THE FULLEST EXTENT PERMITTED BY APPLICABLE LAW, DUPONT SPECIFICALLY DISCLAIMS ANY OTHER EXPRESS OR IMPLIED WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE, MERCHANTABILITY, OR NON-INFRINGEMENT. DUPONT DISCLAIMS LIABILITY FOR ANY SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES.

DuPont™, the DuPont Oval Logo, and all trademarks and service marks denoted with ™, SM or ® are owned by affiliates of DuPont de Nemours, Inc. unless otherwise noted.

© 2021 DuPont. All rights reserved.