

Rynite® FR543 BK507 (PRELIMINARY)

THERMOPLASTIC POLYESTER RESIN

Rynite® FR543 BK507 is a 43% Glass Reinforced, Flame Retardant, Polyethylene Terephthalate

Product information

Resin Identification	PET- GF43FR(17)	ISO 1043
Part Marking Code	>PET-GF43FR(17)<	ISO 11469

Rheological properties

Moulding shrinkage, parallel	0.2 %	ISO 294-4, 2577
Moulding shrinkage, normal	0.8 %	ISO 294-4, 2577
Melt viscosity , @ 1000 sec-1, 280°C	200 Pa.s	ISO 11443

Typical mechanical properties

Tensile modulus	15600 MPa	ISO 527-1/-2
Tensile stress at break, 5mm/min	160 MPa	ISO 527-1/-2
Tensile strain at break, 5mm/min	1.5 %	ISO 527-1/-2
Elongation at break	1.6 %	ASTM D 638
Flexural modulus	16500 MPa	ISO 178
Flexural strength	280 MPa	ISO 178
Charpy notched impact strength, 23°C	10.5 kJ/m ²	ISO 179/1eA
Poisson's ratio	0.33	

Thermal properties

Melting temperature, 10°C/min	254 °C	ISO 11357-1/-3
Glass transition temperature, 10°C/min	90 °C	ISO 11357-1/-3
RTI, electrical, 0.75mm	155 °C	UL 746B
RTI, electrical, 1.5mm	155 °C	UL 746B
RTI, electrical, 3.0mm	155 °C	UL 746B
RTI, impact, 0.75mm	155 °C	UL 746B
RTI, impact, 1.5mm	155 °C	UL 746B
RTI, impact, 3.0mm	155 °C	UL 746B
RTI, strength, 0.75mm	155 °C	UL 746B
RTI, strength, 1.5mm	155 °C	UL 746B
RTI, strength, 3.0mm	155 °C	UL 746B

Flammability

Burning Behav. at 1.5mm nom. thickn.	V-0 class	IEC 60695-11-10
Thickness tested	1.5 mm	IEC 60695-11-10
UL recognition	yes	UL 94
Burning Behav. at thickness h	V-0 class	IEC 60695-11-10
Thickness tested	0.8 mm	IEC 60695-11-10
UL recognition	yes	UL 94
Glow Wire Flammability Index, 3.0mm	960 °C	IEC 60695-2-12
Glow Wire Ignition Temperature, 3.0mm	960 °C	IEC 60695-2-13
FMVSS Class	B	ISO 3795 (FMVSS 302)

Rynite® FR543 BK507 (PRELIMINARY)

THERMOPLASTIC POLYESTER RESIN

Burning rate, Thickness 1 mm <80 mm/min ISO 3795 (FMVSS 302)

Electrical properties

Comparative tracking index 225 IEC 60112
Comparative tracking index, 23°C 2 PLC UL 746A

Physical/Other properties

Humidity absorption, 2mm 0.1 % Sim. to ISO 62
Density 1790 kg/m³ 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 280 °C
Min. melt temperature 270 °C
Max. melt temperature 290 °C
Screw tangential speed ≤0.2 m/s
Mold Temperature Optimum 110 °C
Min. mould temperature 100 °C
Max. mould temperature 120^[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)

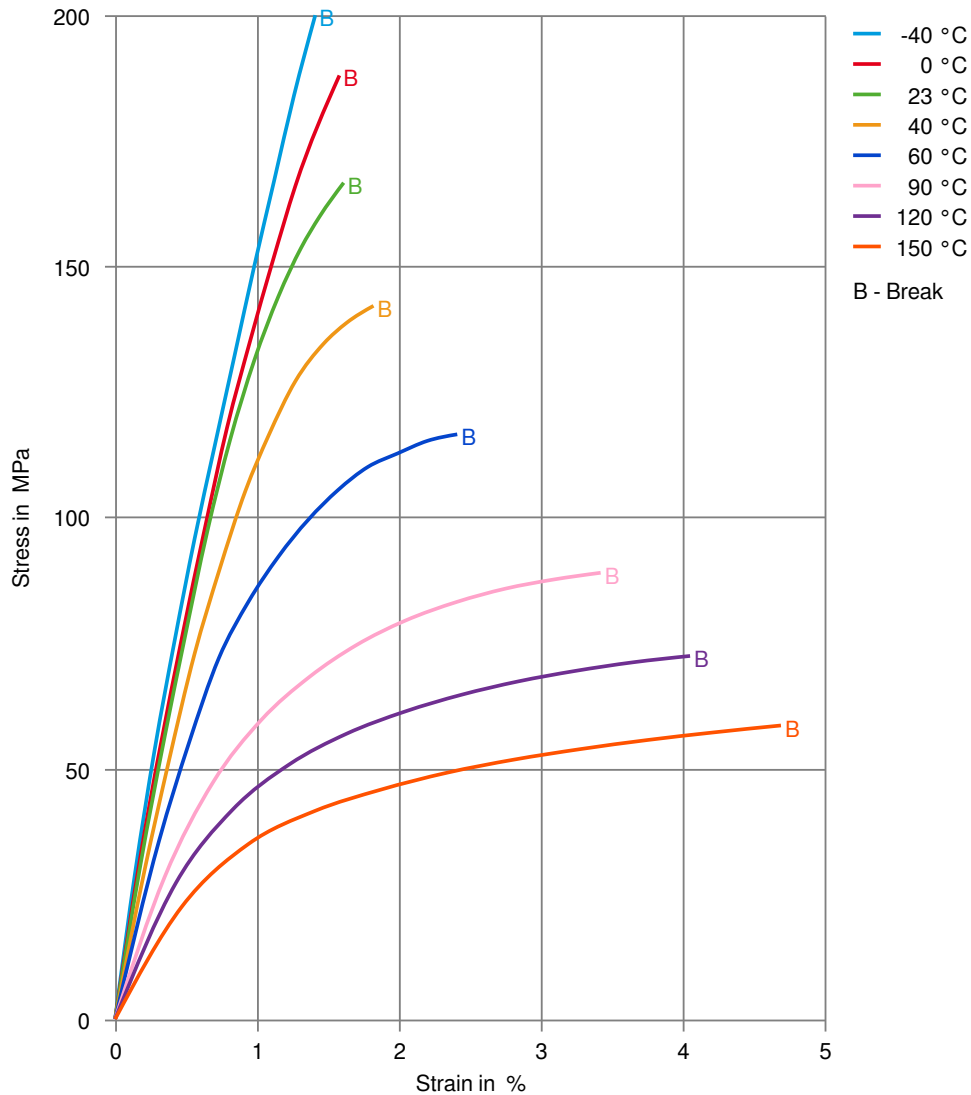
Characteristics

Processing	Injection Moulding
Delivery form	Pellets
Additives	Flame retardant
Special characteristics	Flame retardant, Heat stabilised or stable to heat, Low Warpage

Rynite® FR543 BK507 (PRELIMINARY)

THERMOPLASTIC POLYESTER RESIN

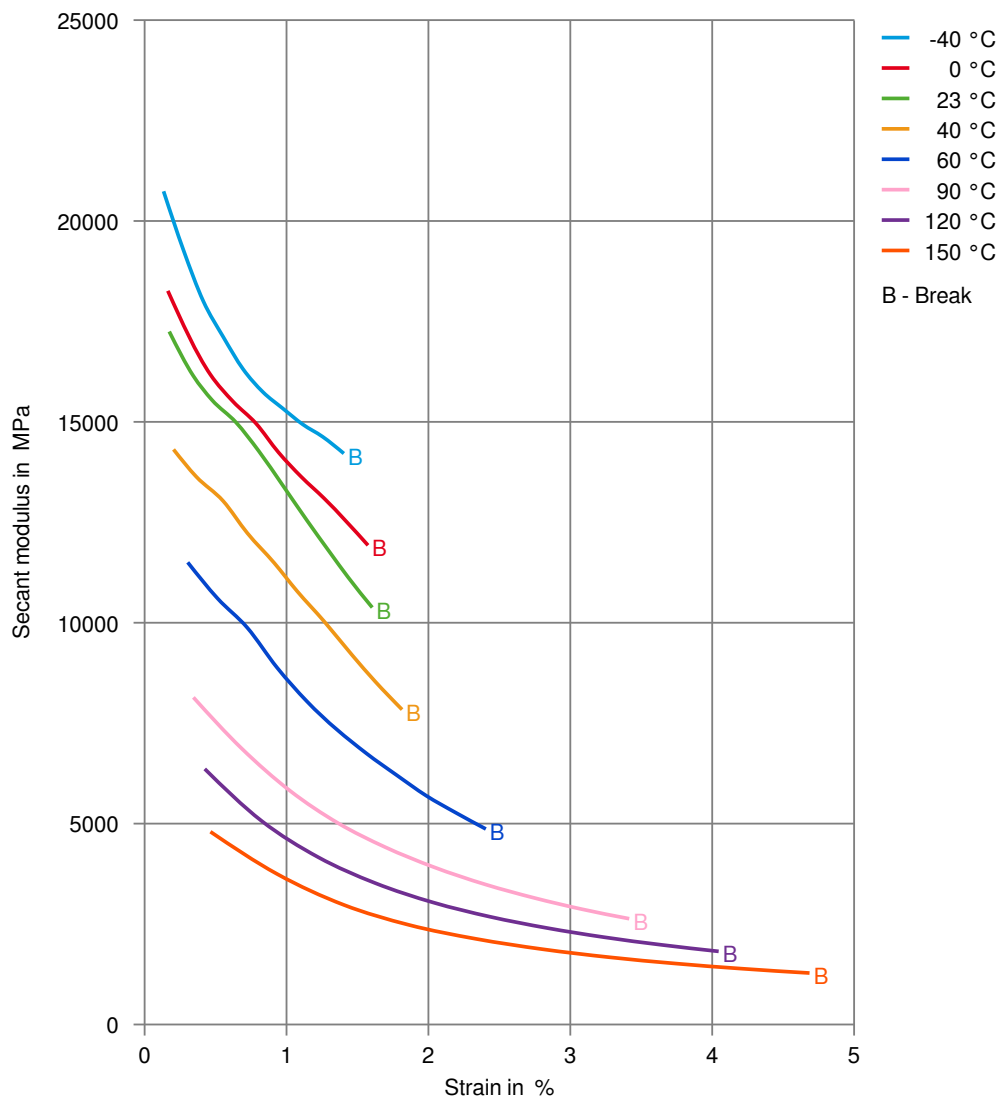
Stress-strain
(measured on Rynite® FR543 NC010)



Rynite® FR543 BK507 (PRELIMINARY)

THERMOPLASTIC POLYESTER RESIN

Secant modulus-strain
(measured on Rynite® FR543 NC010)



Printed: 2025-05-30

Page: 4 of 4

Revised: 2025-04-22 Source: Celanese Materials Database

The above data are preliminary and are subject to change as additional data are developed on subsequent lots.

NOTICE TO USERS: Values shown are based on testing of laboratory test specimens and represent data that fall within the standard range of properties for natural material. These values alone do not represent a sufficient basis for any part design and are not intended for use in establishing maximum, minimum, or ranges of values for specification purposes. Colourants or other additives may cause significant variations in data values. Properties of moulded parts can be influenced by a wide variety of factors including, but not limited to, material selection, additives, part design, processing conditions and environmental exposure. Other than those products expressly identified as medical grade (including by MT® product designation or otherwise), Celanese's products are not intended for use in medical or dental implants. Regardless of any such product designation, any determination of the suitability of a particular material and part design for any use contemplated by the users and the manner of such use is the sole responsibility of the users, who must assure themselves that the material as subsequently processed meets the needs of their particular product or use. To the best of our knowledge, the information contained in this publication is accurate; however, we do not assume any liability whatsoever for the accuracy and completeness of such information. The information contained in this publication should not be construed as a promise or guarantee of specific properties of our products. It is the sole responsibility of the users to investigate whether any existing patents are infringed by the use of the materials mentioned in this publication. Moreover, there is a need to reduce human exposure to many materials to the lowest practical limits in view of possible adverse effects. To the extent that any hazards may have been mentioned in this publication, we neither suggest nor guarantee that such hazards are the only ones that exist. We recommend that persons intending to rely on any recommendation or to use any equipment, processing technique or material mentioned in this publication should satisfy themselves that they can meet all applicable safety and health standards. We strongly recommend that users seek and adhere to the manufacturer's current instructions for handling each material they use, and entrust the handling of such material to adequately trained personnel only. Please call the telephone numbers listed for additional technical information. Call Customer Services for the appropriate Materials Safety Data Sheets (MSDS) before attempting to process our products.

© 2025 Celanese or its affiliates. All rights reserved. Celanese®, registered C-ball design and all other trademarks identified herein with ®, TM, SM, unless otherwise noted, are trademarks of Celanese or its affiliates. Fortron is a registered trademark of Fortron Industries LLC.