

Rynite® 940 NC010

THERMOPLASTIC POLYESTER RESIN

Common features of Rynite® thermoplastic polyester include mechanical and physical properties such as excellent balance of strength and stiffness, dimensional stability, creep resistance, heat resistance, high surface gloss and good inherent electrical properties at elevated temperature. It can be processed over a broad temperature range and has excellent flow properties.

Rynite® thermoplastic polyester resins are typically used in demanding applications in the automotive, electrical and electronics, appliances where they successfully replace metals and thermosets, as well as other thermoplastic polymers.

Rynite® 940 NC010 is a 40% mica/glass reinforced modified polyethylene terephthalate resin with low warpage, high stiffness and strength, and excellent electrical properties.

Product information

Resin Identification	PET-(GF+MD)4 0	ISO 1043
Part Marking Code	>PET-(GF+MD)40<	ISO 11469

Rheological properties

Moulding shrinkage, parallel	0.2 %	ISO 294-4, 2577
Moulding shrinkage, normal	0.7 %	ISO 294-4, 2577
Postmoulding shrinkage, normal, 48h at 80°C	0.2 %	ISO 294-4
Postmoulding shrinkage, parallel, 48h at 80°C	0.05 %	ISO 294-4

Typical mechanical properties

Tensile modulus	12000 MPa	ISO 527-1/-2
Tensile stress at break, 5mm/min	110 MPa	ISO 527-1/-2
Tensile strain at break, 5mm/min	2 %	ISO 527-1/-2
Flexural modulus	12000 MPa	ISO 178
Flexural strength	200 MPa	ISO 178
Compressive strength	180 MPa	ISO 604
Charpy impact strength, 23°C	30 kJ/m ²	ISO 179/1eU
Charpy notched impact strength, 23°C	7 kJ/m ²	ISO 179/1eA
Hardness, Rockwell, R-scale	115	ISO 2039-2
Poisson's ratio	0.33	

Thermal properties

Melting temperature, 10°C/min	250 °C	ISO 11357-1/-3
Temperature of deflection under load, 1.8 MPa	220 °C	ISO 75-1/-2
Temperature of deflection under load, 0.45 MPa	240 °C	ISO 75-1/-2
Coefficient of linear thermal expansion (CLTE), parallel	25 E-6/K	ISO 11359-1/-2
Coefficient of linear thermal expansion (CLTE), normal	60 E-6/K	ISO 11359-1/-2

Flammability

Glow Wire Flammability Index, 1.0mm	750 °C	IEC 60695-2-12
Glow Wire Flammability Index, 2.0mm	775 °C	IEC 60695-2-12
Glow Wire Flammability Index, 3.0mm	960 °C	IEC 60695-2-12
Glow Wire Ignition Temperature, 1.0mm	750 °C	IEC 60695-2-13
Glow Wire Ignition Temperature, 2.0mm	775 °C	IEC 60695-2-13

Rynite® 940 NC010

THERMOPLASTIC POLYESTER RESIN

Glow Wire Ignition Temperature, 3.0mm	875 °C	IEC 60695-2-13
Glow Wire Temperature, No Flame, 1mm	750 °C	IEC 60335-1
Glow Wire Temperature, No Flame, 2mm	775 °C	IEC 60335-1
Glow Wire Temperature, No Flame, 3mm	850 °C	IEC 60335-1
FMVSS Class	B	ISO 3795 (FMVSS 302)
Burning rate, Thickness 1 mm	22 mm/min	ISO 3795 (FMVSS 302)

Electrical properties

Relative permittivity, 100Hz	3.8	IEC 62631-2-1
Relative permittivity, 1MHz	3.7	IEC 62631-2-1
Dissipation factor, 100Hz	70 E-4	IEC 62631-2-1
Dissipation factor, 1MHz	150 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	38 kV/mm	IEC 60243-1

Physical/Other properties

Humidity absorption, 2mm	0.1 %	Sim. to ISO 62
Water absorption, 2mm	0.75 %	Sim. to ISO 62
Density	1640 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
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
Special characteristics	Low Warpage

Rynite® 940 NC010

THERMOPLASTIC POLYESTER RESIN

Printed: 2025-05-30

Page: 3 of 3

Revised: 2024-08-23 Source: Celanese Materials Database

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.