



Rynite® 935 NC010

Celanese Corporation - THERMOPLASTIC POLYESTER RESIN

Friday, January 24, 2025

General Information

Product Description

35% Glass/Mica Reinforced Polyethylene Terephthalate

General

Material Status	• Commercial: Active		
Regional Availability	• Africa & Middle East • Asia Pacific	• Europe • Latin America	• North America
Filler / Reinforcement	• Glass Fiber/Mineral, 35% Filler by Weight		
Additive	• Mold Release		
Features	• Low Warpage		
Automotive Specifications	• FORD WSK-M4D779-A2	• GM GMP.PET.003	
Forms	• Pellets		
Processing Method	• Injection Molding		
Part Marking Code (ISO 11469)	• >PET-(MD+GF)35<		
Resin ID (ISO 1043)	• PET-(MD+GF)35		

ASTM & ISO Properties ¹

Physical	Typical Value (English)	Typical Value (SI)	Test Method
Density	1.58 g/cm ³	1.58 g/cm ³	ISO 1183
Molding Shrinkage			ISO 294-4
Across Flow	0.70 %	0.70 %	
Flow	0.30 %	0.30 %	
Water Absorption			ISO 62
Saturation, 73°F (23°C), 0.0787 in (2.00 mm)	0.83 %	0.83 %	
Equilibrium, 73°F (23°C), 0.0787 in (2.00 mm), 50% RH	0.13 %	0.13 %	
Mechanical	Typical Value (English)	Typical Value (SI)	Test Method
Tensile Modulus	1.48E+6 psi	10200 MPa	ISO 527-1
Tensile Stress (Break)	12300 psi	85.0 MPa	ISO 527-2/5
Tensile Strain (Break)	2.0 %	2.0 %	ISO 527-2/5
Tensile Creep Modulus			ISO 899-1
1 hr	1.36E+6 psi	9350 MPa	
1000 hr	1.12E+6 psi	7690 MPa	
Flexural Modulus	1.32E+6 psi	9100 MPa	ISO 178
Compressive Stress	20300 psi	140 MPa	ISO 604
Poisson's Ratio	0.34	0.34	

Copyright ©, 2025, Formerra, LLC. All the information in this literature is for general information purpose only. Formerra makes no representations, guarantees, or warranties of any kind with respect to the information contained in this literature, including its accuracy, completeness, reliability, suitability for particular applications, or the results obtained or obtainable using the information. Some of the information arises from laboratory work with small-scale equipment which may not provide a reliable indication of performance or properties obtained or obtainable on larger-scale equipment. Values reported as "typical" or stated without a range do not state minimum or maximum properties; consult your sales representative for pricing, property ranges and min/max specifications. Processing conditions can cause material properties to shift from the values stated in the information. Formerra makes no warranties or guarantees respecting suitability of either Formerra's products or the information for your process or end-use application. You have the responsibility to conduct full-scale end-product performance testing to determine suitability in your application, and you assume all risk and liability arising from your use of the information and/or use or handling of any product. FORMERRA MAKES NO WARRANTIES, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, either with respect to the information or products reflected by the information. This literature or any other provided literature shall NOT operate as permission, recommendation, or inducement to practice any patented invention without permission of the patent owner. Any action you take upon the information you find in this literature is strictly at your own risk. Formerra will not be liable for any losses and/or damages in connection with the use of this literature. By using this literature, you hereby consent to this disclaimer and agree to its terms.

Rynite® 935 NC010

Celanese Corporation - THERMOPLASTIC POLYESTER RESIN

Impact	Typical Value (English)	Typical Value (SI)	Test Method
Charpy Notched Impact Strength			ISO 179/1eA
-22°F (-30°C)	1.9 ft·lb/in ²	4.0 kJ/m ²	
73°F (23°C)	2.9 ft·lb/in ²	6.0 kJ/m ²	
Charpy Unnotched Impact Strength			ISO 179/1eU
-22°F (-30°C)	9.5 ft·lb/in ²	20 kJ/m ²	
73°F (23°C)	12 ft·lb/in ²	25 kJ/m ²	
Hardness	Typical Value (English)	Typical Value (SI)	Test Method
Rockwell Hardness			ISO 2039-2
M-Scale	75	75	
R-Scale	115	115	
Thermal	Typical Value (English)	Typical Value (SI)	Test Method
Deflection Temperature Under Load			
66 psi (0.45 MPa), Unannealed	455 °F	235 °C	ISO 75-2/B
264 psi (1.8 MPa), Unannealed	392 °F	200 °C	ISO 75-2/A
Vicat Softening Temperature	401 °F	205 °C	ISO 306/B50
Melting Temperature ²	486 °F	252 °C	ISO 11357-3
CLTE			ISO 11359-2
Flow	8.9E-6 in/in/°F	1.6E-5 cm/cm/°C	
Flow : -40 to 73°F (-40 to 23°C)	1.4E-5 in/in/°F	2.6E-5 cm/cm/°C	
Transverse	2.9E-5 in/in/°F	5.2E-5 cm/cm/°C	
Transverse : -40 to 73°F (-40 to 23°C)	2.9E-5 in/in/°F	5.3E-5 cm/cm/°C	
Thermal Conductivity ³	1.8 Btu·in/hr/ft ² /°F	0.26 W/m/K	ISO 22007-2
Effective Thermal Diffusivity - Flow	2.17E-10 in ² /s	2.17E-10 in ² /s	ISO 22007-4
Electrical	Typical Value (English)	Typical Value (SI)	Test Method
Surface Resistivity	1.0E+14 ohms	1.0E+14 ohms	IEC 62631-3-2
Volume Resistivity	1.0E+13 ohms·m	1.0E+13 ohms·m	IEC 62631-3-1
Electric Strength	990 V/mil	39 kV/mm	IEC 60243-1
Relative Permittivity			IEC 62631-2-1
100 Hz	4.50	4.50	
1 MHz	4.10	4.10	
Dissipation Factor			IEC 62631-2-1
100 Hz	0.030	0.030	
1 MHz	0.014	0.014	
Comparative Tracking Index	300 V	300 V	IEC 60112
Flammability	Typical Value (English)	Typical Value (SI)	Test Method
Burning Rate ⁴ (0.0394 in (1.00 mm))	< 3.1 in/min	< 80 mm/min	ISO 3795
Flame Rating			UL 94
0.030 in (0.75 mm)	HB	HB	IEC 60695-11-10,
0.06 in (1.5 mm)	HB	HB	-20
Glow Wire Ignition Temperature			IEC 60695-2-13
0.030 in (0.75 mm)	1470 °F	800 °C	
0.06 in (1.5 mm)	1470 °F	800 °C	
0.12 in (3.0 mm)	1560 °F	850 °C	
Oxygen Index	21 %	21 %	ISO 4589-2

Copyright ©, 2025, Formerra, LLC. All the information in this literature is for general information purpose only. Formerra makes no representations, guarantees, or warranties of any kind with respect to the information contained in this literature, including its accuracy, completeness, reliability, suitability for particular applications, or the results obtained or obtainable using the information. Some of the information arises from laboratory work with small-scale equipment which may not provide a reliable indication of performance or properties obtained or obtainable on larger-scale equipment. Values reported as "typical" or stated without a range do not state minimum or maximum properties; consult your sales representative for pricing, property ranges and min/max specifications. Processing conditions can cause material properties to shift from the values stated in the information. Formerra makes no warranties or guarantees respecting suitability of either Formerra's products or the information for your process or end-use application. You have the responsibility to conduct full-scale end-product performance testing to determine suitability in your application, and you assume all risk and liability arising from your use of the information and/or use or handling of any product. FORMERRA MAKES NO WARRANTIES, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, either with respect to the information or products reflected by the information. This literature or any other provided literature shall NOT operate as permission, recommendation, or inducement to practice any patented invention without permission of the patent owner. Any action you take upon the information you find in this literature is strictly at your own risk. Formerra will not be liable for any losses and/or damages in connection with the use of this literature. By using this literature, you hereby consent to this disclaimer and agree to its terms.

Rynite® 935 NC010

Celanese Corporation - THERMOPLASTIC POLYESTER RESIN

Flammability	Typical Value (English)	Typical Value (SI)	Test Method
FMVSS Flammability	B	B	FMVSS 302
Glow Wire Temperature - No Flame			IEC 60335-1
29.5 mil (750.0 µm)	1382 °F	750 °C	
39.4 mil (1.00 mm)	1382 °F	750 °C	
59.1 mil (1.50 mm)	1382 °F	750 °C	
0.12 in (3.00 mm)	1562 °F	850 °C	
Fill Analysis	Typical Value (English)	Typical Value (SI)	Test Method
Melt Density	1.32 g/cm ³	1.32 g/cm ³	
Ejection Temperature	338 °F	170 °C	
Specific Heat Capacity of Melt	0.428 Btu/lb/°F	1790 J/kg/°C	ISO 22007-4
Thermal Conductivity of Melt	2.2 Btu-in/hr/ft ² /°F	0.32 W/m/K	ISO 22007-2
Additional Information	Typical Value (English)	Typical Value (SI)	Test Method
Fogging - G-value (condensate)	0.10 mg	0.10 mg	ISO 6452

Processing Information

Injection	Typical Value (English)	Typical Value (SI)
Drying Temperature	248 °F	120 °C
Drying Time - Desiccant Dryer	4.0 to 6.0 hr	4.0 to 6.0 hr
Suggested Max Moisture	< 0.020 %	< 0.020 %
Processing (Melt) Temp	536 to 572 °F	280 to 300 °C
Melt Temperature, Optimum	545 °F	285 °C
Mold Temperature	212 to 248 °F	100 to 120 °C
Mold Temperature, Optimum	230 °F	110 °C
Holding Pressure	> 11600 psi	> 80.0 MPa
Back Pressure	As low as possible	As low as possible
Drying Recommended	yes	yes
Hold Pressure Time	4.00 s/mm	4.00 s/mm
Screw Tangential Speed	< 472 in/min	< 12 m/min

Notes

¹ Typical properties: these are not to be construed as specifications.

² 10°C/min

³ Flow

⁴ FMVSS 302

Copyright ©, 2025, Formerra, LLC. All the information in this literature is for general information purpose only. Formerra makes no representations, guarantees, or warranties of any kind with respect to the information contained in this literature, including its accuracy, completeness, reliability, suitability for particular applications, or the results obtained or obtainable using the information. Some of the information arises from laboratory work with small-scale equipment which may not provide a reliable indication of performance or properties obtained or obtainable on larger-scale equipment. Values reported as "typical" or stated without a range do not state minimum or maximum properties; consult your sales representative for pricing, property ranges and min/max specifications. Processing conditions can cause material properties to shift from the values stated in the information. Formerra makes no warranties or guarantees respecting suitability of either Formerra's products or the information for your process or end-use application. You have the responsibility to conduct full-scale end-product performance testing to determine suitability in your application, and you assume all risk and liability arising from your use of the information and/or use or handling of any product. FORMERRA MAKES NO WARRANTIES, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, either with respect to the information or products reflected by the information. This literature or any other provided literature shall NOT operate as permission, recommendation, or inducement to practice any patented invention without permission of the patent owner. Any action you take upon the information you find in this literature is strictly at your own risk. Formerra will not be liable for any losses and/or damages in connection with the use of this literature. By using this literature, you hereby consent to this disclaimer and agree to its terms.