Rynite® 530 NC010

DuPont Performance Polymers - THERMOPLASTIC POLYESTER RESIN

Wednesday, January 29, 2020

General Information

Product Description			
30% Glass Reinforced Polyethylene Terephthalate			
General			
Material Status	• Commercial: Active		
Regional Availability	• Africa & Middle East • Asia Pacific	• Europe • Latin America	• North America
Filler / Reinforcement	• Glass Fiber, 30% Filler by Weight		
Additive	• Mold Release		
RoHS Compliance	• Contact Manufacturer		
Automotive Specifications	• ASTM D5927 TPES021 G30	• FORD WSK-M4D726-A1 Color: Natural	• GM GMP.PET.002
Forms	• Pellets		
Processing Method	• Injection Molding		
Part Marking Code (ISO 11469)	• >PET-GF30<		
Resin ID (ISO 1043)	• PET-GF30		

ASTM & ISO Properties [1]

Physical	Typical Value (English)		Typical Value (SI)		Test Method
Density	1.56	g/cm³	1.56	g/cm³	ISO 1183
Molding Shrinkage					ISO 294-4
Across Flow	0.80	%	0.80	%	
Across Flow : 176°F (80°C), 48 hr	0.45	%	0.45	%	
Flow	0.20	%	0.20	%	
Flow : 176°F (80°C), 48 hr	0.10	%	0.10	%	
Water Absorption					ISO 62
24 hr, 73°F (23°C)	0.050	%	0.050	%	
Saturation, 73°F (23°C), 0.0787 in (2.00 mm)	0.70	%	0.70	%	
Equilibrium, 73°F (23°C), 0.0787 in (2.00 mm), 50% RH	0.20	%	0.20	%	
Viscosity Number	55.0	cm³/g	55.0	cm³/g	ISO 307
Mechanical	**Typical Value (English)**		**Typical Value (SI)**		**Test Method**
Tensile Modulus	1.60E+6	psi	11000	MPa	ISO 527-2
Tensile Stress (Break)	22900	psi	158	MPa	ISO 527-2
Tensile Strain (Break)	2.5	%	2.5	%	ISO 527-2
Tensile Creep Modulus					ISO 899-1
1 hr	1.57E+6	psi	10800	MPa	
1000 hr	1.28E+6	psi	8800	MPa	
Flexural Modulus	1.30E+6	psi	8950	MPa	ISO 178
Flexural Stress	33400	psi	230	MPa	ISO 178
Compressive Stress	33400	psi	230	MPa	ISO 604
Poisson's Ratio	0.34		0.34		

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Impact	Typical Value	(English)	Typical Value	(SI)	Test Method
Charpy Notched Impact Strength					ISO 179/1eA
-40°F (-40°C)	4.8	ft·lb/in²	10	kJ/m²	
-22°F (-30°C)	5.2	ft·lb/in²	11	kJ/m²	
73°F (23°C)	5.2	ft·lb/in²	11	kJ/m²	
Charpy Unnotched Impact Strength					ISO 179/1eU
-22°F (-30°C)	21	ft·lb/in²	45	kJ/m²	
73°F (23°C)	29	ft·lb/in²	60	kJ/m²	
Hardness	**Typical Value**	**(English)**	**Typical Value**	**(SI)**	**Test Method**
Rockwell Hardness					ISO 2039-2
M-Scale	100		100		
R-Scale	120		120		
Ball Indentation Hardness (H 961/30)	32100	psi	221	MPa	ISO 2039-1
Thermal	**Typical Value**	**(English)**	**Typical Value**	**(SI)**	**Test Method**
Heat Deflection Temperature					
66 psi (0.45 MPa), Unannealed	473	°F	245	°C	ISO 75-2/B
264 psi (1.8 MPa), Unannealed	435	°F	224	°C	ISO 75-2/A
Vicat Softening Temperature	446	°F	230	°C	ISO 306/B50
Melting Temperature [2]	486	°F	252	°C	ISO 11357-3
CLTE					ISO 11359-2
Flow	5.6E-6	in/in/°F	1.0E-5	cm/cm/°C	
Flow : -40 to 73°F (-40 to 23°C)	1.2E-5	in/in/°F	2.2E-5	cm/cm/°C	
Flow : 131 to 320°F (55 to 160°C)	2.2E-6	in/in/°F	4.0E-6	cm/cm/°C	
Transverse	4.5E-5	in/in/°F	8.1E-5	cm/cm/°C	
Transverse : -40 to 73°F (-40 to 23°C)	3.7E-5	in/in/°F	6.7E-5	cm/cm/°C	
Transverse : 131 to 320°F (55 to 160°C)	5.9E-5	in/in/°F	1.1E-4	cm/cm/°C	
Thermal Conductivity	2.0	Btu·in/hr/ft²/°F	0.29	W/m/K	
Effective Thermal Diffusivity	1.30E-7	m²/s	1.30E-7	m²/s	
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	810	V/mil	32	kV/mm	IEC 60243-1
Relative Permittivity					IEC 62631-2-1
1 MHz	3.80		3.80		
100 Hz	4.20		4.20		
Dissipation Factor					IEC 62631-2-1
1 MHz	7.0E-3		7.0E-3		
100 Hz	0.013		0.013		
Comparative Tracking Index (CTI)	PLC 2		PLC 2		UL 746
Comparative Tracking Index	250	V	250	V	IEC 60112
Flammability	**Typical Value**	**(English)**	**Typical Value**	**(SI)**	**Test Method**
Burning Rate [3] (0.0394 in (1.00 mm))	1.5	in/min	38	mm/min	ISO 3795
Flame Rating					UL 94 IEC 60695-11-10, -20
0.030 in (0.75 mm)	HB		HB		
0.06 in (1.5 mm)	HB		HB		
Oxygen Index	20	%	20	%	ISO 4589-2
FMVSS Flammability	B		B		FMVSS 302

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Flammability	Typical Value	(English)	Typical Value	(SI)	Test Method
Fogging - G-value (condensate)	0.0	g	0.0	g	ISO 6452
Fill Analysis	**Typical Value**	**(English)**	**Typical Value**	**(SI)**	
Ejection Temperature	338	°F	170	°C	
Additional Information	**Typical Value**	**(English)**	**Typical Value**	**(SI)**	**Test Method**
Emission of Organic Compounds	16.0	µgC/g	16.0	µgC/g	VDA 277
Odor	3.00		3.00		VDA 270

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	248 to 284	°F	120 to 140	°C
Mold Temperature, Optimum	266	°F	130	°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
Maximum 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] FMVSS 302