

Zytel® 70G30HSLR NC010

NYLON RESIN
DuPont Performance Polymers

Message:
30% Glass Reinforced, Heat Stabilized, Hydrolysis Resistant, Polyamide 66

General Information				
UL YellowCard		E41938-234406		
Filler / Reinforcement		Glass fiber reinforced material, 30% filler by weight		
Additive		heat stabilizer		
		Lubricant		
		demoulding		
Features		Hydrolysis resistance		
		Thermal Stability		
RoHS Compliance		Contact manufacturer		
Forms		Particle		
Processing Method		Injection molding		
Multi-Point Data		Coefficient of Thermal Expansion vs. Temperature (ISO 11403-1)		
		Isothermal Stress vs. Strain (ISO 11403-1)		
		Secant Modulus vs. Strain (ISO 11403-1)		
		Shear Modulus vs. Temperature, Dynamic (ISO 11403-1)		
		Shear Stress vs. Shear Rate (ISO 11403-1)		
		Tensile Fatigue (Wöhler) (ISO 11403-2)		
		Tensile Modulus vs. Temperature, Dynamic (ISO 11403-1)		
		Viscosity vs. Shear Rate (ISO 11403-2)		
Part Marking Code (ISO 11469)		>PA66-GF30		
Resin ID (ISO 1043)		PA66-GF30		
Physical	Dry	Conditioned	Unit	Test Method
Density	1.37	--	g/cm ³	ISO 1183
Molding Shrinkage				ISO 294-4
Transverse flow	1.1	--	%	ISO 294-4
Flow	0.30	--	%	ISO 294-4
Water Absorption				ISO 62
Saturated, 23°C, 2.00mm	6.0	--	%	ISO 62
Balance, 23°C, 2.00mm, 50% RH	1.9	--	%	ISO 62
Mechanical	Dry	Conditioned	Unit	Test Method

Tensile Modulus	10000	7000	MPa	ISO 527-2
Tensile Stress (Break)	200	130	MPa	ISO 527-2
Tensile Strain (Break)	3.3	5.0	%	ISO 527-2
Tensile Creep Modulus				ISO 899-1
1 hr	--	6800	MPa	ISO 899-1
1000 hr	--	5100	MPa	ISO 899-1
Impact	Dry	Conditioned	Unit	Test Method
Charpy Notched Impact Strength				ISO 179/1eA
-30°C	10	10	kJ/m ²	ISO 179/1eA
23°C	13	15	kJ/m ²	ISO 179/1eA
Charpy Unnotched Impact Strength				ISO 179/1eU
-30°C	70	70	kJ/m ²	ISO 179/1eU
23°C	80	90	kJ/m ²	ISO 179/1eU
Notched Izod Impact				ISO 180/1A
-30°C	12	10	kJ/m ²	ISO 180/1A
23°C	12	14	kJ/m ²	ISO 180/1A
Thermal	Dry	Conditioned	Unit	Test Method
Heat Deflection Temperature				
0.45 MPa, not annealed	261	--	°C	ISO 75-2/B
1.8 MPa, not annealed	253	--	°C	ISO 75-2/A
Glass Transition Temperature ¹	80.0	20.0	°C	ISO 11357-2
Vicat Softening Temperature	250	--	°C	ISO 306/B50
Melting Temperature ²	262	--	°C	ISO 11357-3
Linear thermal expansion coefficient				ISO 11359-2
Flow	2.6E-5	--	cm/cm/°C	ISO 11359-2
Flow: -40 to 23°C	2.6E-5	--	cm/cm/°C	ISO 11359-2
Flow: 55 to 160°C	1.3E-5	--	cm/cm/°C	ISO 11359-2
Lateral	8.0E-5	--	cm/cm/°C	ISO 11359-2
Horizontal: -40 to 23°C	7.0E-5	--	cm/cm/°C	ISO 11359-2
Horizontal: 55 to 160°C	1.3E-4	--	cm/cm/°C	ISO 11359-2
Effective Thermal Diffusivity	1.10E-7	--	m ² /s	
FMVSS Flammability	SE/B	--		FMVSS 302
Fogging				ISO 6452
F-value (refraction)	95	--	%	ISO 6452
G-value (condensate)	3.0E-4	--	g	ISO 6452
Specific Heat Capacity of Melt	2290	--	J/kg/°C	

Thermal Conductivity of Melt	0.21	--	W/m/K	
Emission of Organic Compounds	3.20	--	µgC/g	VDA 277
Odor	4.50	--		VDA 270
Thermal Desorption Analysis of Organic Emissions	5.00	--	µg/g	VDA 278
Melt Temperature, Optimum	295		°C	
Mold Temperature, Optimum	100		°C	
Drying Recommended	yes			
Hold Pressure Time	3.00		s/mm	
Maximum Screw Tangential Speed	200		mm/sec	
Electrical	Dry	Conditioned	Unit	Test Method
Surface Resistivity	--	1.0E+13	ohms	IEC 60093
Volume Resistivity	> 1.0E+15	1.0E+11	ohms·cm	IEC 60093
Dielectric Strength	38	32	kV/mm	IEC 60243-1
Relative Permittivity				IEC 60250
100 Hz	4.30	11.0		IEC 60250
1 MHz	4.10	4.60		IEC 60250
Dissipation Factor				IEC 60250
100 Hz	7.0E-3	0.46		IEC 60250
1 MHz	0.015	0.065		IEC 60250
Comparative Tracking Index (CTI) (3.00 mm)	PLC 1	--		UL 746
Comparative Tracking Index	450	--	V	IEC 60112
Flammability	Dry	Conditioned	Unit	Test Method
Burning Rate ³ (1.00 mm)	24	--	mm/min	ISO 3795
Flame Rating				UL 94, IEC 60695-11-10, -20
0.75 mm	HB	--		UL 94, IEC 60695-11-10, -20
1.5 mm	HB	--		UL 94, IEC 60695-11-10, -20
Oxygen Index	24	--	%	ISO 4589-2
Fill Analysis	Dry	Conditioned	Unit	Test Method
Melt Density	1.20	--	g/cm ³	
Ejection Temperature	210	--	°C	
Injection	Dry	Unit		
Drying Temperature	80		°C	
Drying Time - Desiccant Dryer	2.0 - 4.0		hr	

Suggested Max Moisture	0.20	%
Processing (Melt) Temp	285 - 305	°C
Mold Temperature	70 - 120	°C
Holding Pressure	50.0 - 100	MPa

NOTE		
1.	10°C/min	
2.	10°C/min	
3.	FMVSS 302	

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