

NORYL™ RESIN V03550

REGION AMERICAS

DESCRIPTION

NORYL V03550 is a 35% milled fibre reinforced, injection moldable grade. Designed for good dimensional stability and low warpage, this resin also uses non-chlorinated, non-brominated FR additives to achieve a V0 UL94 rating at 2.0 mm. NORYL V03550 is may be an excellent material candidate for application requiring low warpage and flame resistance.

TYPICAL PROPERTY VALUES

Revision 20250306

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL			
Tensile Stress, yld, Type I, 5 mm/min	70	MPa	ASTM D638
Tensile Stress, brk, Type I, 5 mm/min	70	MPa	ASTM D638
Tensile Strain, yld, Type I, 5 mm/min	3.5	%	ASTM D638
Tensile Strain, brk, Type I, 5 mm/min	3.5	%	ASTM D638
Tensile Modulus, 5 mm/min	4200	MPa	ASTM D638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	115	MPa	ASTM D790
Flexural Modulus, 1.3 mm/min, 50 mm span	4400	MPa	ASTM D790
Tensile Stress, yield, 5 mm/min	65	MPa	ISO 527
Tensile Stress, break, 5 mm/min	65	MPa	ISO 527
Tensile Strain, yield, 5 mm/min	3	%	ISO 527
Tensile Strain, break, 5 mm/min	3	%	ISO 527
Tensile Modulus, 1 mm/min	5000	MPa	ISO 527
Flexural Stress, break, 2 mm/min	105	MPa	ISO 178
Flexural Modulus, 2 mm/min	4700	MPa	ISO 178
Ball Indentation Hardness, H358/30	147	MPa	ISO 2039-1
IMPACT			
Izod Impact, notched, 23°C	55	J/m	ASTM D256
Izod Impact, notched, -30°C	50	J/m	ASTM D256
Instrumented Dart Impact Total Energy, 23°C	19	J	ASTM D3763
Izod Impact, unnotched 80*10*4 +23°C	30	kJ/m ²	ISO 180/1U
Izod Impact, unnotched 80*10*4 -30°C	30	kJ/m ²	ISO 180/1U
Charpy 23°C, Unnotch Edgew 80*10*4 sp=62mm	30	kJ/m ²	ISO 179/1eU
Charpy -30°C, Unnotch Edgew 80*10*4 sp=62mm	30	kJ/m ²	ISO 179/1eU
THERMAL			
Vicat Softening Temp, Rate B/50	161	°C	ASTM D1525
HDT, 1.82 MPa, 3.2mm, unannealed	148	°C	ASTM D648
CTE, -40°C to 40°C, flow	4.8E-05	1/°C	ASTM E831
CTE, -40°C to 40°C, xflow	4.8E-05	1/°C	ASTM E831
Thermal Conductivity	0.29	W/m-°C	ISO 8302
CTE, 23°C to 80°C, flow	4.E-05	1/°C	ISO 11359-2
CTE, 23°C to 80°C, xflow	5.E-05	1/°C	ISO 11359-2
Ball Pressure Test, 125°C +/- 2°C	PASSES	-	IEC 60695-10-2
Ball Pressure Test, approximate maximum	150	°C	IEC 60695-10-2
Vicat Softening Temp, Rate A/50	165	°C	ISO 306

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Vicat Softening Temp, Rate B/50	155	°C	ISO 306
Vicat Softening Temp, Rate B/120	160	°C	ISO 306
HDT/Be, 0.45MPa Edgew 120*10*4 sp=100mm	150	°C	ISO 75/Be
HDT/Ae, 1.8 MPa Edgew 120*10*4 sp=100mm	145	°C	ISO 75/Ae
Relative Temp Index, Elec	50	°C	UL 746B
Relative Temp Index, Mech w/impact	50	°C	UL 746B
Relative Temp Index, Mech w/o impact	50	°C	UL 746B
PHYSICAL			
Specific Gravity	1.35	-	ASTM D792
Mold Shrinkage on Tensile Bar, flow	0.3 – 0.5	%	SABIC method
Mold Shrinkage, flow, 3.2 mm	0.3 – 0.5	%	SABIC method
Melt Flow Rate, 300°C/5.0 kgf	8.5	g/10 min	ASTM D1238
Density	1.35	g/cm³	ISO 1183
Water Absorption, (23°C/saturated)	0.2	%	ISO 62-1
Moisture Absorption (23°C / 50% RH)	0.06	%	ISO 62
Melt Volume Rate, MVR at 300°C/10.0 kg	15	cm³/10 min	ISO 1133
ELECTRICAL			
Volume Resistivity	1.E+15	Ω.cm	IEC 60093
Surface Resistivity, ROA	>1.E+15	Ω	IEC 60093
Dielectric Strength, in oil, 0.8 mm	33	kV/mm	IEC 60243-1
Dielectric Strength, in oil, 1.6 mm	26	kV/mm	IEC 60243-1
Dielectric Strength, in oil, 3.2 mm	15	kV/mm	IEC 60243-1
Relative Permittivity, 1 MHz	3	-	IEC 60250
Dissipation Factor, 50/60 Hz	0.005	-	IEC 60250
Dissipation Factor, 1 MHz	0.003	-	IEC 60250
Relative Permittivity, 50/60 Hz	3.1	-	IEC 60250
FLAME CHARACTERISTICS			
UL Recognized, 94V-1 Flame Class Rating	1.5	mm	UL 94
UL Recognized, 94V-0 Flame Class Rating	2	mm	UL 94
Glow Wire Flammability Index 960°C, passes at	3.2	mm	IEC 60695-2-12
Oxygen Index (LOI)	34	%	ISO 4589
INJECTION MOLDING			
Drying Temperature	110 – 120	°C	
Drying Time	2 – 4	Hrs	
Melt Temperature	280 – 310	°C	
Nozzle Temperature	280 – 300	°C	
Front - Zone 3 Temperature	300 – 320	°C	
Middle - Zone 2 Temperature	280 – 300	°C	
Rear - Zone 1 Temperature	260 – 280	°C	
Hopper Temperature	80 – 100	°C	
Mold Temperature	100 – 130	°C	



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