NORYL™ RESIN FP3060

REGION EUROPE

DESCRIPTION

NORYL™ FP3060 resin is a non-reinforced blend of polyphenylene ether (PPE) + high impact polystyrene (HIPS). This injection moldable grade contains non-brominated, non-chlorinated flame retardant with a UL94 flame rating of V0 at 2.5mm and V0 at 2.5mm. NORYL FP3060 resin was designed to have very good dimensional stability with high flow and exhibits good rheological properties, high heat resistance, hydrolysis resistance, and very low density. The combination of these properties makes this material an excellent candidate for Flat Panel TV enclosure applications.

TYPICAL PROPERTY VALUES

Revision 20190925

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL			
Tensile Stress, yld, Type I, 50 mm/min	54	MPa	ASTM D 638
Tensile Stress, brk, Type I, 50 mm/min	55	MPa	ASTM D 638
Tensile Strain, yld, Type I, 50 mm/min	3	%	ASTM D 638
Tensile Strain, brk, Type I, 50 mm/min	12	%	ASTM D 638
Tensile Modulus, 50 mm/min	2200	MPa	ASTM D 638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	84	MPa	ASTM D 790
Flexural Modulus, 1.3 mm/min, 50 mm span	2400	MPa	ASTM D 790
Tensile Stress, yield, 50 mm/min	55	MPa	ISO 527
Tensile Stress, break, 50 mm/min	42	MPa	ISO 527
Tensile Strain, yield, 50 mm/min	3	%	ISO 527
Tensile Strain, break, 50 mm/min	11	%	ISO 527
Tensile Modulus, 1 mm/min	2420	MPa	ISO 527
Flexural Stress, yield, 2 mm/min	82	MPa	ISO 178
Flexural Modulus, 2 mm/min	2530	MPa	ISO 178
IMPACT			
Izod Impact, notched, 23°C	78	J/m	ASTM D 256
Izod Impact, notched 80*10*4 +23°C	6	kJ/m²	ISO 180/1A
Izod Impact, notched 80*10*4 -30°C	5	kJ/m²	ISO 180/1A
Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm	6	kJ/m²	ISO 179/1eA
THERMAL			
Vicat Softening Temp, Rate B/50	105	°C	ASTM D 1525
HDT, 1.82 MPa, 3.2mm, unannealed	80	°C	ASTM D 648
CTE, -40°C to 40°C, flow	8.3E-05	1/°C	ASTM E 831
CTE, -40°C to 40°C, xflow	8.E-05	1/°C	ASTM E 831
CTE, -40°C to 40°C, flow	8.3E-05	1/°C	ISO 11359-2
CTE, -40°C to 40°C, xflow	8.E-05	1/°C	ISO 11359-2
Vicat Softening Temp, Rate B/50	91	°C	ISO 306
Vicat Softening Temp, Rate B/120	93	°C	ISO 306
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	74	°C	ISO 75/Af
Relative Temp Index, Elec (1)	65	°C	UL 746B
Relative Temp Index, Mech w/impact (1)	65	°C	UL 746B
Relative Temp Index, Mech w/o impact (1)	65	°C	UL 746B

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PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
PHYSICAL			
Specific Gravity	1.1	-	ASTM D 792
Melt Flow Rate, 200°C/3.8 kgf	42	g/10 min	ASTM D 1238
Density	1.1	g/cm³	ISO 1183
Water Absorption, (23°C/sat)	0.13	%	ISO 62
Moisture Absorption (23°C / 50% RH)	0.02	%	ISO 62
Melt Volume Rate, MVR at 280°C/1.2 kg	20	cm³/10 min	ISO 1133
Melt Volume Rate, MVR at 280°C/2.16 kg	41	cm³/10 min	ISO 1133
FLAME CHARACTERISTICS (1)			
UL Yellow Card Link	E45329-100064745	-	-
UL Recognized, 94V-0 Flame Class Rating	≥2.5	mm	UL 94
UL Recognized, 94V-1 Flame Class Rating	≥1.5	mm	UL 94
INJECTION MOLDING			
Drying Temperature	65 – 75	°C	
Drying Time	2 – 3	hrs	
Melt Temperature	250 – 285	°C	
Nozzle Temperature	240 – 270	°C	
Front - Zone 3 Temperature	250 – 285	°C	
Middle - Zone 2 Temperature	230 – 260	°C	
Rear - Zone 1 Temperature	200 – 220	°C	
Hopper Temperature	60 – 80	°C	
Mold Temperature	40 – 65	°C	

(1) UL Ratings shown on the technical datasheet might not cover the full range of thicknesses and colors. For details, please see the UL Yellow Card.

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