



NORYL™ Resin FP3060

Europe-Africa-Middle East: COMMERCIAL

NORYL FP3060 is an unfilled, injection moldable modified polyphenylene ether resin. Designed for good dimensional stability and high flow, this resin also uses non-chlorinated, non-brominated FR additives to achieve a V1 UL94 rating at 1.5 mm and V0@ 2.5mm with a specific density of 1.1 g/cm³. NORYL FP3060 may be an excellent material candidate for Flat Panel TV enclosure applications requiring good rheological properties, heat resistance, hydrolysis resistance, low density and thin wall flame resistance.

TYPICAL PROPERTIES ¹	TYPICAL VALUE	Unit	Standard
MECHANICAL			
Tensile Stress, yld, Type I, 50 mm/min	550	kgf/cm ²	ASTM D 638
Tensile Stress, brk, Type I, 50 mm/min	560	kgf/cm ²	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	22400	kgf/cm ²	ASTM D 638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	850	kgf/cm ²	ASTM D 790
Flexural Modulus, 1.3 mm/min, 50 mm span	24400	kgf/cm ²	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	7	cm-kgf/cm	ASTM D 256
Izod Impact, notched 80*10*4 +23°C	6	kJ/m ²	ISO 180/1A
Izod Impact, notched 80*10*4 -30°C	5	kJ/m ²	ISO 180/1A
Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm	6	kJ/m ²	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



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TYPICAL PROPERTIES ¹	TYPICAL VALUE	Unit	Standard
THERMAL			
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
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/cm ³	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	cm ³ /10 min	ISO 1133
Melt Volume Rate, MVR at 280°C/2.16 kg	41	cm ³ /10 min	ISO 1133
FLAME CHARACTERISTICS			
UL Compliant, 94V-1 Flame Class Rating (3)(4)	1.5	mm	UL 94 by SABIC-IP
UL Compliant, 94V-0 Flame Class Rating (3)(4)	2.5	mm	UL 94 by SABIC-IP



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PROCESSING PARAMETERS	TYPICAL VALUE	Unit
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