NORYL™ RESIN EM6100

REGION ASIA

DESCRIPTION

NORYL™ EM6100 is a non-reinforced blend of polyphenylene ether (PPE) + high impact polystyrene (HIPS). This grade exhibits a balance of flow/heat/impact, dimensional stability, along with paint adhesion. NORYL EM6100 resin is suitable for the automotive interior market in applications such as HVAC housings and radio components. MS-DB424, WSBM4D844-A9, GMP.PPE.007.

TYPICAL PROPERTY VALUES

Revision 20191010

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL			
Tensile Stress, break	40	MPa	ASTM D 638
Tensile Stress, yld, Type I, 50 mm/min	43	MPa	ASTM D 638
Tensile Strain, yield	3	%	ASTM D 638
Tensile Strain, brk, Type I, 50 mm/min	65	%	ASTM D 638
Tensile Modulus, 5 mm/min	1900	MPa	ASTM D 638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	67	MPa	ASTM D 790
Flexural Stress, yld, 2.6 mm/min, 100 mm span	66	MPa	ASTM D 790
Flexural Modulus, 1.3 mm/min, 50 mm span	2100	MPa	ASTM D 790
Flexural Modulus, 2.6 mm/min, 100 mm span	2000	MPa	ASTM D 790
Tensile Stress, yield	42	MPa	ISO 527
Tensile Stress, break	40	MPa	ISO 527
Tensile Strain, yield	2.8	%	ISO 527
Tensile Strain, break	60	%	ISO 527
Tensile Modulus, 1 mm/min	2050	MPa	ISO 527
Flexural Stress	65	MPa	ISO 178
Flexural Modulus	2100	MPa	ISO 178
IMPACT			
Izod Impact, notched, 23°C	453	J/m	ASTM D 256
Izod Impact, notched, -30°C	250	J/m	ASTM D 256
Instrumented Impact Energy @ peak, 23°C	36	J	ASTM D 3763
Instrumented Impact Energy @ peak, -30	24	J	ASTM D 3763
Instrumented Impact Total Energy, 23°C	42	J	ASTM D 3763
Izod Impact, notched 80*10*4 +23°C	33	kJ/m²	ISO 180/1A
Izod Impact, notched 80*10*4 -30°C	15	kJ/m²	ISO 180/1A
Charpy Impact, notched, 23°C	33	kJ/m²	ISO 179/2C
Charpy Impact, notched, -30°C	19	kJ/m²	ISO 179/2C
THERMAL			
HDT, 0.45 MPa, 3.2 mm, unannealed	124	°C	ASTM D 648
HDT, 1.82 MPa, 3.2mm, unannealed	106	°C	ASTM D 648
HDT, 1.82 MPa, 6.4 mm, unannealed	115	°C	ASTM D 648
CTE, 0°C to 100°C, flow	1.17E-04	1/°C	ASTM E 831
Vicat Softening Temp, Rate B/50	119	°C	ISO 306
Vicat Softening Temp, Rate B/120	123	°C	ISO 306

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PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
HDT/Bf, 0.45 MPa Flatw 80*10*4 sp=64mm	126	°C	ISO 75/Bf
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	110	°C	ISO 75/Af
PHYSICAL			
Specific Gravity	1.05	-	ASTM D 792
Water Absorption, 24 hours	0.2	%	ASTM D 570
Mold Shrinkage, flow, 3.2 mm	0.5 – 0.7	%	SABIC method
Melt Flow Rate, 280°C/5.0 kgf	15	g/10 min	ASTM D 1238
Melt Volume Rate, MVR at 280°C/5.0 kg	15	cm³/10 min	ISO 1133
INJECTION MOLDING			
Drying Temperature	95 – 105	°C	
Drying Time	3 – 4	hrs	
Drying Time (Cumulative)	8	hrs	
Maximum Moisture Content	0.02	%	
Melt Temperature	265 – 295	°C	
Nozzle Temperature	265 – 295	°C	
Front - Zone 3 Temperature	255 – 295	°C	
Middle - Zone 2 Temperature	245 – 290	°C	
Rear - Zone 1 Temperature	230 – 280	°C	
Mold Temperature	65 – 95	°C	
Back Pressure	0.3 – 0.7	MPa	
Screw Speed	20 – 100	rpm	
Shot to Cylinder Size	30 – 70	%	
Vent Depth	0.038 – 0.051	mm	

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