

NORYLTM RESIN EM6100

REGION EUROPE

DESCRIPTION

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

GENERAL INFORMATION	
Features	Hydrolytic Stability, Low Warpage, Amorphous, Low Shrinkage, Low Moisture Absorption, Low Specific Gravity, Dimensional stability, No PFAS intentionally added
Fillers	Unreinforced
Polymer Types	Polyphenylene Ether + PS (PPE+PS)
Processing Techniques	Injection Molding

INDUSTRY	SUB INDUSTRY	
Automotive	Automotive Interiors	

TYPICAL PROPERTY VALUES

Revision 20231109

MECHANICAL (¹) Tensile Stress, break 40 MPa ASTM D638 Tensile Stress, yld, Type I, 50 mm/min 43 MPa ASTM D638 Tensile Strain, pield 3 % ASTM D638 Tensile Strain, brk, Type I, 50 mm/min 1900 MPa ASTM D638 Flexural Stress, yld, 1.3 mm/min, 50 mm span 67 MPa ASTM D638 Flexural Stress, yld, 2.6 mm/min, 100 mm span 66 MPa ASTM D790 Flexural Modulus, 1.3 mm/min, 50 mm span 2100 MPa ASTM D790 Flexural Modulus, 2.6 mm/min, 100 mm span 2000 MPa ASTM D790 Flexural Stress, yled 42 MPa ISO 527 Tensile Stress, yled 40 MPa ISO 527 Tensile Stress, break 40 MPa ISO 527 Tensile Stress, break 60 % ISO 527 Tensile Modulus, 1 mm/min 2050 MPa ISO 527 Flexural Stress 65 MPa ISO 178 Flexural Stress 65 MPa ISO 178	PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Tensile Stress, yld, Type I, 50 mm/min 43 MPa ASTM D638 Tensile Strain, yeld 3 % ASTM D638 Tensile Strain, brk, Type I, 50 mm/min 65 % ASTM D638 Tensile Modulus, 5 mm/min 1900 MPa ASTM D638 Flexural Stress, yld, 1.3 mm/min, 50 mm span 66 MPa ASTM D790 Flexural Modulus, 1.3 mm/min, 50 mm span 2100 MPa ASTM D790 Flexural Modulus, 2.6 mm/min, 100 mm span 2000 MPa ASTM D790 Flexural Modulus, 2.6 mm/min, 100 mm span 42 MPa ASTM D790 Tensile Stress, yled 42 MPa ASTM D790 Tensile Stress, yled 42 MPa ISO 527 Tensile Stress, yled 40 MPa ISO 527 Tensile Stress, yled 50 527 Ensile Stress, yled 50 527 Tensile Stress, yled 60 % ISO 527 50 527 Tensile Stress, yled 50 527 ISO 527 10 50 527 T	MECHANICAL (1)			
Tensile Strain, yield 3 % ASTM D638 Tensile Strain, brk, Type I, 50 mm/min 65 % ASTM D638 Tensile Modulus, 5 mm/min 1900 MPa ASTM D638 Flexural Stress, yld, 1.3 mm/min, 50 mm span 67 MPa ASTM D790 Flexural Stress, yld, 2.6 mm/min, 100 mm span 66 MPa ASTM D790 Flexural Modulus, 1.3 mm/min, 50 mm span 2000 MPa ASTM D790 Flexural Modulus, 2.6 mm/min, 100 mm span 2000 MPa ASTM D790 Tensile Stress, yield 42 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 1 Jm ASTM D36 IMPACT (1) 2100 MPa ASTM D256 Izod Impact, notched, 23°C 453 J/m ASTM D256 Izod Impact, notched, 30°C 250 J	Tensile Stress, break	40	MPa	ASTM D638
Tensile Strain, brk, Type I, 50 mm/min 65 % ASTM D638 Tensile Modulus, 5 mm/min 1900 MPa ASTM D638 Flexural Stress, yld, 1.3 mm/min, 50 mm span 67 MPa ASTM D790 Flexural Stress, yld, 2.6 mm/min, 100 mm span 66 MPa ASTM D790 Flexural Modulus, 1.3 mm/min, 50 mm span 2100 MPa ASTM D790 Flexural Modulus, 2.6 mm/min, 100 mm span 2000 MPa ASTM D790 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 (1) IX ASTM D256 Izod Impact, notched, 23°C 453 J/m ASTM D256 Izod Impact, notched, 30°C 250 J/m	Tensile Stress, yld, Type I, 50 mm/min	43	MPa	ASTM D638
Tensile Modulus, 5 mm/min 1900 MPa ASTM D638 Flexural Stress, yld, 1.3 mm/min, 50 mm span 67 MPa ASTM D790 Flexural Stress, yld, 2.6 mm/min, 100 mm span 66 MPa ASTM D790 Flexural Modulus, 1.3 mm/min, 50 mm span 2000 MPa ASTM D790 Flexural Modulus, 2.6 mm/min, 100 mm span 2000 MPa ASTM D790 Tensile Stress, yield 42 MPa ISO 527 Tensile Stress, break 40 MPa ISO 527 Tensile Strain, yield 2.8 % ISO 527 Tensile Modulus, 1 mm/min 2050 MPa ISO 527 Flexural Stress 66 MPa ISO 178 Flexural Modulus 1 m/ma ASTM D256 IMPACT (1) 1/m ASTM D256 Izod Impact, notched, 23°C 453 J/m ASTM D256 Izod Impact, notched, -30°C 250 J/m ASTM D256 Instrumented Dart Impact Energy @ peak, 23°C 36 J ASTM D3763	Tensile Strain, yield	3	%	ASTM D638
Flexural Stress, yld, 1.3 mm/min, 50 mm span 67 MPa ASTM D790 Flexural Stress, yld, 2.6 mm/min, 100 mm span 66 MPa ASTM D790 Flexural Modulus, 1.3 mm/min, 50 mm span 2100 MPa ASTM D790 Flexural Modulus, 2.6 mm/min, 100 mm span 2000 MPa ASTM D790 Tensile Stress, yield 42 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 50 178 ISO 178 Flexural Modulus 150 178 ISO 178 Impact (1) 2100 MPa ISO 178 Impact (2) 453 J/m ASTM D256 Izod Impact, notched, 30°C 453 J/m ASTM D256 Izod Impact, notched, 30°C 250 J/m ASTM D3763 Instrumented Dart Impact Energy @ peak, 23°C 36 J ASTM D3763	Tensile Strain, brk, Type I, 50 mm/min	65	%	ASTM D638
Flexural Stress, yld, 2.6 mm/min, 100 mm span 66 MPa ASTM D790 Flexural Modulus, 1.3 mm/min, 50 mm span 2100 MPa ASTM D790 Flexural Modulus, 2.6 mm/min, 100 mm span 2000 MPa ASTM D790 Tensile Stress, yield 42 MPa ISO 527 Tensile Stress, break 40 MPa ISO 527 Tensile Strain, yield 2.8 % ISO 527 Tensile Modulus, 1 mm/min 2050 MPa ISO 527 Flexural Stress 65 MPa ISO 178 Flexural Modulus 2100 MPa ISO 178 IMPACT (1) Lod Impact, notched, 23°C 453 J/m ASTM D256 Izod Impact, notched, -30°C 250 J/m ASTM D256 Instrumented Dart Impact Energy @ peak, 23°C 36 J ASTM D3763 Instrumented Dart Impact Energy @ peak, -30°C 24 J ASTM D3763	Tensile Modulus, 5 mm/min	1900	MPa	ASTM D638
Flexural Modulus, 1.3 mm/min, 50 mm span 2100 MPa ASTM D790 Flexural Modulus, 2.6 mm/min, 100 mm span 2000 MPa ASTM D790 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 (1) 453 J/m ASTM D256 Izod Impact, notched, 23°C 250 J/m ASTM D256 Instrumented Dart Impact Energy @ peak, 23°C 36 J ASTM D3763 Instrumented Dart Impact Energy @ peak, -30°C 24 J ASTM D3763	Flexural Stress, yld, 1.3 mm/min, 50 mm span	67	MPa	ASTM D790
Flexural Modulus, 2.6 mm/min, 100 mm span 2000 MPa ASTM D790 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 100 MPa ISO 178 IMPACT (1) 1 ASTM D256 Izod Impact, notched, 23°C 453 J/m ASTM D256 Izod Impact, notched, -30°C 250 J/m ASTM D256 Instrumented Dart Impact Energy @ peak, 23°C 36 J ASTM D3763	Flexural Stress, yld, 2.6 mm/min, 100 mm span	66	MPa	ASTM D790
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 (1) Lizod Impact, notched, 23°C 453 J/m ASTM D256 Izod Impact, notched, -30°C 250 J/m ASTM D256 Instrumented Dart Impact Energy @ peak, 23°C 36 J ASTM D3763 Instrumented Dart Impact Energy @ peak, -30°C 24 J ASTM D3763	Flexural Modulus, 1.3 mm/min, 50 mm span	2100	MPa	ASTM D790
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 (1) Izod Impact, notched, 23°C 453 J/m ASTM D256 Izod Impact, notched, -30°C 250 J/m ASTM D256 Instrumented Dart Impact Energy @ peak, 23°C 36 J ASTM D3763 Instrumented Dart Impact Energy @ peak, -30°C 24 J ASTM D3763	Flexural Modulus, 2.6 mm/min, 100 mm span	2000	MPa	ASTM D790
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 100 MPa ISO 178 IMPACT (1) Izod Impact, notched, 23°C 453 J/m ASTM D256 Izod Impact, notched, -30°C 250 J/m ASTM D256 Instrumented Dart Impact Energy @ peak, 23°C 36 J ASTM D3763 Instrumented Dart Impact Energy @ peak, -30°C 24 J ASTM D3763	Tensile Stress, yield	42	MPa	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 (1) Lizod Impact, notched, 23°C 453 J/m ASTM D256 Izod Impact, notched, -30°C 250 J/m ASTM D256 Instrumented Dart Impact Energy @ peak, 23°C 36 J ASTM D3763 Instrumented Dart Impact Energy @ peak, -30°C 24 J ASTM D3763	Tensile Stress, break	40	MPa	ISO 527
Tensile Modulus, 1 mm/min 2050 MPa ISO 527 Flexural Stress 65 MPa ISO 178 Flexural Modulus 2100 MPa ISO 178 IMPACT (1) Izod Impact, notched, 23°C 453 J/m ASTM D256 Izod Impact, notched, -30°C 250 J/m ASTM D256 Instrumented Dart Impact Energy @ peak, 23°C 36 J ASTM D3763 Instrumented Dart Impact Energy @ peak, -30°C 24 J ASTM D3763	Tensile Strain, yield	2.8	%	ISO 527
Flexural Stress 65 MPa ISO 178 Flexural Modulus 2100 MPa ISO 178 IMPACT (1) Izod Impact, notched, 23°C 453 J/m ASTM D256 Izod Impact, notched, -30°C 250 J/m ASTM D256 Instrumented Dart Impact Energy @ peak, 23°C 36 J ASTM D3763 Instrumented Dart Impact Energy @ peak, -30°C 24 J ASTM D3763	Tensile Strain, break	60	%	ISO 527
Flexural Modulus 2100 MPa ISO 178 IMPACT (1) Izod Impact, notched, 23°C 453 J/m ASTM D256 Izod Impact, notched, -30°C 250 J/m ASTM D256 Instrumented Dart Impact Energy @ peak, 23°C 36 J ASTM D3763 Instrumented Dart Impact Energy @ peak, -30°C 24 J ASTM D3763	Tensile Modulus, 1 mm/min	2050	MPa	ISO 527
IMPACT (1) Izod Impact, notched, 23°C 453 J/m ASTM D256 Izod Impact, notched, -30°C 250 J/m ASTM D256 Instrumented Dart Impact Energy @ peak, 23°C 36 J ASTM D3763 Instrumented Dart Impact Energy @ peak, -30°C 24 J ASTM D3763	Flexural Stress	65	MPa	ISO 178
Izod Impact, notched, 23°C453J/mASTM D256Izod Impact, notched, -30°C250J/mASTM D256Instrumented Dart Impact Energy @ peak, 23°C36JASTM D3763Instrumented Dart Impact Energy @ peak, -30°C24JASTM D3763	Flexural Modulus	2100	MPa	ISO 178
Izod Impact, notched, -30°C Instrumented Dart Impact Energy @ peak, 23°C Instrumented Dart Impact Energy @ peak, -30°C 250 J ASTM D256 ASTM D3763 ASTM D3763	IMPACT (1)			
Instrumented Dart Impact Energy @ peak, 23°C 36 J ASTM D3763 Instrumented Dart Impact Energy @ peak, -30°C 24 J ASTM D3763	Izod Impact, notched, 23°C	453	J/m	ASTM D256
Instrumented Dart Impact Energy @ peak, -30°C 24 J ASTM D3763	Izod Impact, notched, -30°C	250	J/m	ASTM D256
	Instrumented Dart Impact Energy @ peak, 23°C	36	J	ASTM D3763
Instrumented Dart Impact Total Energy, 23°C 42 J ASTM D3763	Instrumented Dart Impact Energy @ peak, -30°C	24	J	ASTM D3763
	Instrumented Dart Impact Total Energy, 23°C	42	J	ASTM D3763



PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
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 (1)			
HDT, 0.45 MPa, 3.2 mm, unannealed	124	°C	ASTM D648
HDT, 1.82 MPa, 3.2mm, unannealed	106	°C	ASTM D648
HDT, 1.82 MPa, 6.4 mm, unannealed	115	°C	ASTM D648
CTE, 0°C to 100°C, flow	1.17E-04	1/°C	ASTM E831
Vicat Softening Temp, Rate B/50	119	°C	ISO 306
Vicat Softening Temp, Rate B/120	123	°C	ISO 306
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
Relative Temp Index, Elec ⁽²⁾	65	°C	UL 746B
Relative Temp Index, Mech w/impact (2)	65	°C	UL 746B
Relative Temp Index, Mech w/o impact (2)	65	°C	UL 746B
PHYSICAL (1)			
Specific Gravity	1.05	-	ASTM D792
Water Absorption, (23°C/24hrs)	0.2	%	ASTM D570
Mold Shrinkage, flow, 3.2 mm ⁽³⁾	0.5 – 0.7	%	SABIC method
Melt Flow Rate, 280°C/5.0 kgf	15	g/10 min	ASTM D1238
Melt Volume Rate, MVR at 280°C/5.0 kg	15	cm³/10 min	ISO 1133
FLAME CHARACTERISTICS (2)			
UL Yellow Card Link	E121562-221232	-	
UL Recognized, 94HB Flame Class Rating	≥1.5	mm	UL 94
INJECTION MOLDING (4)			
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	
Front - Zone 3 Temperature Middle - Zone 2 Temperature	255 – 295 245 – 290	°C	
Middle - Zone 2 Temperature	245 – 290	°C	
Middle - Zone 2 Temperature Rear - Zone 1 Temperature	245 – 290 230 – 280	°C	
Middle - Zone 2 Temperature Rear - Zone 1 Temperature Mold Temperature	245 – 290 230 – 280 65 – 95	°C °C	
Middle - Zone 2 Temperature Rear - Zone 1 Temperature Mold Temperature Back Pressure	245 – 290 230 – 280 65 – 95 0.3 – 0.7	°C °C °C MPa	



- (1) The information stated on Technical Datasheets should be used as indicative only for material selection purposes and not be utilized as specification or used for part or tool design.
- (2) 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.
- (3) Measurements made from laboratory test coupon. Actual shrinkage may vary outside of range due to differences in processing conditions, equipment, part geometry and tool design. It is recommended that mold shrinkage studies be performed with surrogate or legacy tooling prior to cutting tools for new molded article.
- (4) Injection Molding parameters are only mentioned as general guidelines. These may not apply or may need adjustment in specific situations such as low shot sizes, large part molding, thin wall molding and gas-assist molding.

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