NORYL™ RESIN ENG265F

REGION AMERICAS

DESCRIPTION

NORYL ENG265F resin is a non-reinforced blend of polyphenylene ether (PPE) + polystyrene (PS). This material is suitable for profile extrusion and exhibits very good hydrolytic stability, low moisture absorption, good dimensional stability. NORYL ENG265F resin certifies to NSF 61 and is targeted for water management applications such as extruded tubes for reverse osmosis systems.

GENERAL INFORMATION	
Features	Hydrolytic Stability, Low Warpage, Amorphous, Low Shrinkage, Low Corrosivity, Low Moisture Absorption, Low Specific Gravity, Food contact, Potable water safe, Dimensional stability, High stiffness/Strength, No PFAS intentionally added
Fillers	Unreinforced
Polymer Types	Polyphenylene Ether + PS (PPE+PS)
Processing Techniques	Extrusion

INDUSTRY	SUB INDUSTRY
Building and Construction	Water Management

TYPICAL PROPERTY VALUES

Revision 20241015

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL [1]			
Tensile Stress, break	50	MPa	ASTM D638
Tensile Stress, yld, Type I, 50 mm/min	56	MPa	ASTM D638
Tensile Strain, yield	3.3	%	ASTM D638
Tensile Strain, brk, Type I, 50 mm/min	28	%	ASTM D638
Tensile Modulus, 5 mm/min	2400	MPa	ASTM D638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	89	MPa	ASTM D790
Flexural Stress, yld, 2.6 mm/min, 100 mm span	88	MPa	ASTM D790
Flexural Modulus, 1.3 mm/min, 50 mm span	2550	MPa	ASTM D790
Flexural Modulus, 2.6 mm/min, 100 mm span	2450	MPa	ASTM D790
Hardness, Rockwell R	119	-	ASTM D785
Tensile Stress, yield	55	MPa	ISO 527
Tensile Stress, break	50	MPa	ISO 527
Tensile Strain, yield	3.1	%	ISO 527
Tensile Strain, break	27	%	ISO 527
Tensile Modulus, 1 mm/min	2550	MPa	ISO 527
Flexural Stress	95	MPa	ISO 178
Flexural Modulus	2500	MPa	ISO 178
IMPACT [1]			
Izod Impact, notched, 23°C	186	J/m	ASTM D256
Izod Impact, notched, -30°C	114	J/m	ASTM D256
Gardner, -30°C	25	J	ASTM D3029

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Gardner, -40°C	5	J	ASTM D3029
Instrumented Dart Impact Total Energy, 23°C	39	J	ASTM D3763
Izod Impact, notched 80*10*4 +23°C	13	kJ/m²	ISO 180/1A
Izod Impact, notched 80*10*4 -30°C	8	kJ/m²	ISO 180/1A
Charpy Impact, notched, 23°C	13	kJ/m²	ISO 179/2C
Charpy Impact, notched, -30°C	10	kJ/m²	ISO 179/2C
THERMAL [1]			
HDT, 0.45 MPa, 3.2 mm, unannealed	132	°C	ASTM D648
HDT, 1.82 MPa, 3.2mm, unannealed	118	°C	ASTM D648
HDT, 0.45 MPa, 6.4 mm, unannealed	137	°C	ASTM D648
HDT, 1.82 MPa, 6.4 mm, unannealed	126	°C	ASTM D648
CTE, -40°C to 95°C, flow	5.94E-05	1/°C	ASTM E831
Vicat Softening Temp, Rate B/50	137	°C	ISO 306
Vicat Softening Temp, Rate B/120	141	°C	ISO 306
Relative Temp Index, Elec [2]	105	°C	UL 746B
Relative Temp Index, Mech w/impact [2]	90	°C	UL 746B
Relative Temp Index, Mech w/o impact [2]	105	°C	UL 746B
PHYSICAL [1]			
Specific Gravity	1.06	-	ASTM D792
Water Absorption, (23°C/24hrs)	0.06	%	ASTM D570
Mold Shrinkage, flow, 3.2 mm [3]	0.5 – 0.7	%	SABIC method
Melt Flow Rate, 280°C/5.0 kgf	8.5	g/10 min	ASTM D1238
Melt Volume Rate, MVR at 280°C/5.0 kg	8	cm³/10 min	ISO 1133
ELECTRICAL [1]			
Dielectric Strength, in oil, 3.2 mm	19.7	kV/mm	ASTM D149
Relative Permittivity, 50/60 Hz	2.65	-	ASTM D150
Dissipation Factor, 50/60 Hz	0.0004	-	ASTM D150
High Voltage Arc Track Rate {PLC}	4	PLC Code	UL 746A
Comparative Tracking Index (UL) {PLC}	3	PLC Code	UL 746A
High Amp Arc Ignition (HAI), PLC 0	≥1.5	mm	UL 746A
High Amp Arc Ignition (HAI), PLC 4	≥6	mm	UL 746A
Hot-Wire Ignition (HWI), PLC 2	≥1.5	mm	UL 746A
Hot-Wire Ignition (HWI), PLC 4	≥6	mm	UL 746A
Arc Resistance, Tungsten {PLC}	7	PLC Code	ASTM D495
FLAME CHARACTERISTICS [2]			
UL Yellow Card Link	E121562-221150	-	-
UL Recognized, 94HB Flame Class Rating	≥1.5	mm	UL 94
EXTRUSION			
Drying Temperature	105 – 115	°C	
Drying Time	2 – 4	Hrs	
Drying Time (Cumulative)	8	Hrs	
Maximum Moisture Content	–	%	
Melt Temperature	225 – 255	°C	
Barrel - Zone 1 Temperature	205	°C	
Barrel - Zone 2 Temperature	205	°C	

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Barrel - Zone 3 Temperature	225	°C	
Barrel - Zone 4 Temperature	225	°C	
Adapter Temperature	250	°C	
Die Temperature	250	°C	

(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.

DISCLAIMER