

# NORYL™ RESIN EK002

## DESCRIPTION

NORYL EK002 resin is a non-reinforced blend of polyphenylene ether (PPE) + polystyrene (PS). This injection moldable grade exhibits good surface appearance, high ductility, and good impact resistance along with low moisture absorption, creep resistance, dimensional stability, and hydrolytic stability. NORYL EK002 resin is an excellent candidate for a variety of applications.

GENERAL INFORMATION	
Features	Hydrolytic Stability, Low Warpage, Dielectrics, Amorphous, Low Shrinkage, Low Moisture Absorption, Low Specific Gravity, Dimensional stability
Fillers	Unreinforced
Polymer Types	Polyphenylene Ether + PS (PPE+PS)
Processing Techniques	Injection Molding
Regional Availability	Global

## TYPICAL PROPERTY VALUES

Revision 20250211

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
<b>MECHANICAL</b>			
Tensile Stress, yield, 50 mm/min	53	MPa	ISO 527
Tensile Stress, break, 50 mm/min	47	MPa	ISO 527
Tensile Strain, yield, 50 mm/min	4	%	ISO 527
Tensile Strain, break, 50 mm/min	50	%	ISO 527
Tensile Modulus, 1 mm/min	2490	MPa	ISO 527
Flexural Modulus, 2 mm/min	2320	MPa	ISO 178
Flexural Stress, yield, 2 mm/min	87	MPa	ISO 178
Tensile Strain, brk, Type I, 50 mm/min	35	%	ASTM D638
Tensile Strain, yld, Type I, 50 mm/min	4	%	ASTM D638
Tensile Stress, brk, Type I, 50 mm/min	47	MPa	ASTM D638
Tensile Stress, yld, Type I, 50 mm/min	56	MPa	ASTM D638
Tensile Modulus, 5 mm/min	2300	MPa	ASTM D638
Flexural Modulus, 1.3 mm/min, 50 mm span	2460	MPa	ASTM D790
Flexural Stress, yld, 1.3 mm/min, 50 mm span	90	MPa	ASTM D790
<b>IMPACT</b>			
Izod Impact, notched 80*10*4 +23°C	17	kJ/m <sup>2</sup>	ISO 180/1A
Izod Impact, notched 80*10*4 -30°C	10	kJ/m <sup>2</sup>	ISO 180/1A
Izod Impact, unnotched 80*10*4 -30°C	139	kJ/m <sup>2</sup>	ISO 180/1U
Izod Impact, notched, 23°C	214	J/m	ASTM D256
Izod Impact, notched, -30°C	112	J/m	ASTM D256
Izod Impact, unnotched, 23°C	2150	J/m	ASTM D4812
Izod Impact, unnotched, -30°C	1550	J/m	ASTM D4812
Izod Impact, unnotched 80*10*4 +23°C	214	kJ/m <sup>2</sup>	ISO 180/1U
<b>THERMAL</b>			
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	115	°C	ISO 75/Af
HDT, 1.82 MPa, 3.2mm, unannealed	113	°C	ASTM D648

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
HDT, 1.82 MPa, 6.4 mm, unannealed	120	°C	ASTM D648
CTE, -40°C to 40°C, flow	8.E-05	1/°C	ISO 11359-2
CTE, -40°C to 40°C, xflow	8.E-05	1/°C	ISO 11359-2
<b>PHYSICAL</b>			
Moisture Absorption (23°C / 50% RH)	0.03	%	ISO 62
Melt Volume Rate, MVR at 280°C/5.0 kg	12	cm <sup>3</sup> /10 min	ISO 1133
Melt Volume Rate, MVR at 250°C/10.0 kg	12	cm <sup>3</sup> /10 min	ISO 1133
Specific Gravity	1.06	-	ASTM D792
Melt Flow Rate, 250°C/10.0 kgf	7	g/10 min	ASTM D1238
<b>INJECTION MOLDING</b>			
Drying Temperature	105 – 110	°C	
Drying Time	3 – 4	Hrs	
Drying Time (Cumulative)	8	Hrs	
Maximum Moisture Content	0.02	%	
Melt Temperature	280 – 310	°C	
Rear - Zone 1 Temperature	250 – 300	°C	
Middle - Zone 2 Temperature	260 – 305	°C	
Front - Zone 3 Temperature	270 – 310	°C	
Nozzle Temperature	280 – 310	°C	
Mold Temperature	75 – 105	°C	
Back Pressure	0.3 – 0.7	MPa	
Shot to Cylinder Size	30 – 70	%	

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