

NORYL™ RESIN PVX1201

REGION AMERICAS

DESCRIPTION

NORYL PVX1201 resin is a non-reinforced blend of polyphenylene ether (PPE) + polystyrene (PS). This injection moldable grade exhibits low moisture absorption, creep resistance, dimensional stability, and hydrolytic stability.

GENERAL INFORMATION

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

INDUSTRY

Electrical and Electronics

SUB INDUSTRY

Electronic Components, Mobile Phone - Computer - Tablets

TYPICAL PROPERTY VALUES

Revision 20231109

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL ⁽¹⁾			
Tensile Stress, yld, Type I, 50 mm/min	60	MPa	ASTM D638
Tensile Stress, brk, Type I, 50 mm/min	50	MPa	ASTM D638
Tensile Strain, yld, Type I, 50 mm/min	4	%	ASTM D638
Tensile Strain, brk, Type I, 50 mm/min	15	%	ASTM D638
Tensile Modulus, 5 mm/min	2800	MPa	ASTM D638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	100	MPa	ASTM D790
Flexural Modulus, 1.3 mm/min, 50 mm span	2600	MPa	ASTM D790
Tensile Stress, yield, 50 mm/min	60	MPa	ISO 527
Tensile Stress, break, 50 mm/min	50	MPa	ISO 527
Tensile Strain, yield, 50 mm/min	4	%	ISO 527
Tensile Strain, break, 50 mm/min	15	%	ISO 527
Tensile Modulus, 1 mm/min	2700	MPa	ISO 527
Flexural Stress, yield, 2 mm/min	100	MPa	ISO 178
Flexural Modulus, 2 mm/min	2500	MPa	ISO 178
IMPACT ⁽¹⁾			
Izod Impact, notched, 23°C	200	J/m	ASTM D256
Izod Impact, notched, -30°C	100	J/m	ASTM D256
Instrumented Dart Impact Total Energy, 23°C	40	J	ASTM D3763
Izod Impact, notched 80*10*4 +23°C	15	kJ/m ²	ISO 180/1A
Izod Impact, notched 80*10*4 -30°C	10	kJ/m ²	ISO 180/1A
Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm	17	kJ/m ²	ISO 179/1eA
THERMAL ⁽¹⁾			

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Vicat Softening Temp, Rate B/50	128	°C	ASTM D1525
HDT, 1.82 MPa, 3.2mm, unannealed	110	°C	ASTM D648
HDT, 1.82 MPa, 6.4 mm, unannealed	120	°C	ASTM D648
CTE, -40°C to 40°C, flow	7.E-05	1/°C	ASTM E831
CTE, -40°C to 40°C, xflow	7.E-05	1/°C	ASTM E831
CTE, -40°C to 40°C, flow	7.E-05	1/°C	ISO 11359-2
CTE, -40°C to 40°C, xflow	7.E-05	1/°C	ISO 11359-2
Ball Pressure Test, 75°C +/- 2°C	N/A	-	IEC 60695-10-2
Vicat Softening Temp, Rate B/50	128	°C	ISO 306
Vicat Softening Temp, Rate B/120	131	°C	ISO 306
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	120	°C	ISO 75/Af
PHYSICAL ⁽¹⁾			
Specific Gravity	1.11	-	ASTM D792
Mold Shrinkage, flow, 3.2 mm ⁽²⁾	0.5 – 0.7	%	SABIC method
Mold Shrinkage, xflow, 3.2 mm ⁽²⁾	0.5 – 0.7	%	SABIC method
Melt Flow Rate, 280°C/5.0 kgf	14	g/ 10 min	ASTM D1238
Density	1.11	g/cm ³	ISO 1183
Water Absorption, (23°C/saturated)	0.25	%	ISO 62-1
Moisture Absorption (23°C / 50% RH)	0.05	%	ISO 62
Melt Volume Rate, MVR at 280°C/5.0 kg	14	cm ³ /10 min	ISO 1133
FLAME CHARACTERISTICS			
UL Compliant, 94V-1 Flame Class Rating	1.5	mm	UL 94 by SABIC-IP
INJECTION MOLDING ⁽³⁾			
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	
Nozzle Temperature	280 – 310	°C	
Front - Zone 3 Temperature	270 – 310	°C	
Middle - Zone 2 Temperature	260 – 305	°C	
Rear - Zone 1 Temperature	250 – 300	°C	
Mold Temperature	75 – 105	°C	
Back Pressure	0.3 – 0.7	MPa	
Screw Speed	20 – 100	rpm	
Shot to Cylinder Size	30 – 70	%	

(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) 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.

(3) 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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