

Noryl* Resin PX500

Asia Pacific: COMMERCIAL

Noryl PX500 is an unfilled modified polyphenylene ether resin capable of multiple conversion routes. This resin is designed for lower odor during conversion than many standard modified PPE resins. Noryl PX500 provides an exceptional balance of high heat performance and dimensional stability with flow and may be an excellent material candidate for IC tray applications.

Property

TYPICAL PROPERTIES ⁽¹⁾			
MECHANICAL	Value	Unit	Standard
Tensile Stress, yld, Type I, 50 mm/min	71	MPa	ASTM D 638
Tensile Stress, brk, Type I, 50 mm/min	56	MPa	ASTM D 638
Tensile Strain, yld, Type I, 50 mm/min	5.4	%	ASTM D 638
Tensile Strain, brk, Type I, 50 mm/min	35	%	ASTM D 638
Tensile Modulus, 50 mm/min	2400	MPa	ASTM D 638
Flexural Modulus, 1.3 mm/min, 50 mm span	2590	MPa	ASTM D 790
Hardness, Shore D, 30S reading	82	-	ASTM D 2240
Tensile Stress, yield, 50 mm/min	70	MPa	ISO 527
Tensile Stress, break, 50 mm/min	10	MPa	ISO 527
Tensile Strain, yield, 50 mm/min	5.1	%	ISO 527
Tensile Strain, break, 50 mm/min	5.1	%	ISO 527
Tensile Modulus, 1 mm/min	2500	MPa	ISO 527
Flexural Stress, yield, 2 mm/min	110	MPa	ISO 178
Flexural Modulus, 2 mm/min	2530	MPa	ISO 178
IMPACT	Value	Unit	Standard
Izod Impact, notched, 23°C	80	J/m	ASTM D 256
Instrumented Impact Total Energy, 23°C	58	J	ASTM D 3763
Izod Impact, notched 80*10*4 +23°C	8	kJ/m ²	ISO 180/1A
Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm	9	kJ/m ²	ISO 179/1eA
THERMAL	Value	Unit	Standard
Vicat Softening Temp, Rate B/50	192	°C	ASTM D 1525
HDT, 1.82 MPa, 3.2mm, unannealed	170	°C	ASTM D 648
CTE, -40°C to 40°C, flow	7.1E-05	1/°C	ASTM E 831
CTE, -40°C to 40°C, xflow	7.9E-05	1/°C	ASTM E 831
CTE, -40°C to 40°C, flow	7.1E-05	1/°C	ISO 11359-2
CTE, -40°C to 40°C, xflow	7.9E-05	1/°C	ISO 11359-2
Vicat Softening Temp, Rate B/50	192	°C	ISO 306
Vicat Softening Temp, Rate B/120	193	°C	ISO 306
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	169	°C	ISO 75/Af
PHYSICAL	Value	Unit	Standard
Specific Gravity	1.06	-	ASTM D 792
Mold Shrinkage, flow, 3.2 mm	0.8 - 0.9	%	SABIC Method
Mold Shrinkage, xflow, 3.2 mm	0.8 - 0.9	%	SABIC Method
Density	1.06	g/cm ³	ISO 1183
Water Absorption, (23°C/sat)	0.23	%	ISO 62
Moisture Absorption (23°C / 50% RH)	0.06	%	ISO 62
Melt Volume Rate, MVR at 320°C/5.0 kg	21	cm ³ /10 min	ISO 1133

Processing

Parameter	Value	Unit
Injection Molding		
Drying Temperature	110 - 120	°C
Drying Time	3 - 4	hrs
Drying Time (Cumulative)	8	hrs
Maximum Moisture Content	0.02	%
Melt Temperature	300 - 325	°C
Nozzle Temperature	300 - 325	°C
Front - Zone 3 Temperature	290 - 325	°C
Middle - Zone 2 Temperature	275 - 320	°C
Rear - Zone 1 Temperature	265 - 315	°C
Mold Temperature	80 - 110	°C
Back Pressure	0.3 - 0.7	MPa
Screw Speed	20 - 100	rpm
Shot to Cylinder Size	30 - 70	%

Source GMD, last updated:01/28/2008

THESE PROPERTY VALUES ARE NOT INTENDED FOR SPECIFICATION PURPOSES.

PLEASE CHECK WITH YOUR [\(LOCAL SALES OFFICE\)](#) FOR AVAILABILITY IN YOUR REGION

(1) Typical values only. Variations within normal tolerances are possible for various colors. All values are measured after at least 48 hours storage at 23°C/50% relative humidity. All properties, except the melt volume and melt flow rates, are measured on injection molded samples. All samples tested under ISO test standards are prepared according to ISO 294.

(2) Only typical data for selection purposes. Not to be used for part or tool design.

(3) This rating is not intended to reflect hazards presented by this or any other material under actual fire conditions.

(4) Internal measurements according to UL standards.

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