

Noryl* Resin NH7010

Americas: COMMERCIAL

Noryl* NH7010 resin is a modified PPE-PS blend that exhibits an excellent balance of non-halogenated flame retardance, high heat resistance, good flow, and low specific gravity for light weight parts. The resin will be available in custom colors and is suitable for injection molding.

Property

TYPICAL PROPERTIES ⁽¹⁾			
	Value	Unit	Standard
MECHANICAL			
Tensile Stress, yld, Type I, 50 mm/min	68	MPa	ASTM D 638
Tensile Stress, brk, Type I, 50 mm/min	49	MPa	ASTM D 638
Tensile Strain, yld, Type I, 50 mm/min	5.2	%	ASTM D 638
Tensile Strain, brk, Type I, 50 mm/min	41	%	ASTM D 638
Tensile Modulus, 5 mm/min	2250	MPa	ASTM D 638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	102	MPa	ASTM D 790
Flexural Modulus, 1.3 mm/min, 50 mm span	2470	MPa	ASTM D 790
Tensile Stress, yield, 50 mm/min	69	MPa	ISO 527
Tensile Stress, break, 50 mm/min	63	MPa	ISO 527
Tensile Strain, yield, 50 mm/min	4.9	%	ISO 527
Tensile Strain, break, 50 mm/min	8.4	%	ISO 527
Tensile Modulus, 1 mm/min	2500	MPa	ISO 527
Flexural Stress, yield, 2 mm/min	109	MPa	ISO 178
Flexural Modulus, 2 mm/min	2520	MPa	ISO 178
IMPACT			
Izod Impact, notched, 23°C	223	J/m	ASTM D 256
Izod Impact, notched, -30°C	89	J/m	ASTM D 256
Instrumented Impact Total Energy, 23°C	38	J	ASTM D 3763
Izod Impact, notched 80*10*4 +23°C	20	kJ/m ²	ISO 180/1A
Izod Impact, notched 80*10*4 -30°C	8	kJ/m ²	ISO 180/1A
Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm	21	kJ/m ²	ISO 179/1eA
THERMAL			
Vicat Softening Temp, Rate B/50	160	°C	ASTM D 1525
HDT, 1.82 MPa, 3.2mm, unannealed	139	°C	ASTM D 648
CTE, -40°C to 40°C, flow	8.16E-05	1/°C	ASTM E 831
CTE, -40°C to 40°C, xflow	8.15E-05	1/°C	ASTM E 831
CTE, -40°C to 40°C, flow	8.16E-05	1/°C	ISO 11359-2
CTE, -40°C to 40°C, xflow	8.15E-05	1/°C	ISO 11359-2
Vicat Softening Temp, Rate B/50	161	°C	ISO 306
Vicat Softening Temp, Rate B/120	162	°C	ISO 306
HDT/af, 1.8 MPa Flatw 80*10*4 sp=64mm	139	°C	ISO 75/af
Relative Temp Index, Elec	105	°C	UL 746B
Relative Temp Index, Mech w/impact	105	°C	UL 746B
Relative Temp Index, Mech w/o impact	105	°C	UL 746B
PHYSICAL			
Specific Gravity	1.09	-	ASTM D 792
Mold Shrinkage, flow, 3.2 mm	0.5 - 0.8	%	SABIC Method

Melt Flow Rate, 300°C/5.0 kgf	10.1	g/10 min	ASTM D 1238
Density	1.09	g/cm ³	ISO 1183
Water Absorption, (23°C/sat)	0.25	%	ISO 62
Moisture Absorption (23°C / 50% RH)	0.05	%	ISO 62
Melt Volume Rate, MVR at 300°C/5.0 kg	10	cm ³ /10 min	ISO 1133
ELECTRICAL	Value	Unit	Standard
Arc Resistance, Tungsten {PLC}	6	PLC Code	ASTM D 495
Hot Wire Ignition {PLC}	0	PLC Code	UL 746A
High Voltage Arc Track Rate {PLC}	4	PLC Code	UL 746A
Comparative Tracking Index (UL) {PLC}	3	PLC Code	UL 746A
FLAME CHARACTERISTICS	Value	Unit	Standard
UL Compliant, 94V-0 Flame Class Rating (3)(4)	1.5	mm	UL 94 by GE
UL Compliant, 94-5VA Rating (3)(4)	2	mm	UL 94 by GE

Source GMD, last updated:10/03/2007

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:10/03/2007

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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