MID TEMP NYLON (4/6 Nylon)

DESCRIPTION

MID TEMP NYLON (4/6 Nylon) is a 30% glass reinforced alloy of Polyphenylene Ether (PPE) + Polyamide (PA). This injection moldable grade has high stiffness (flexural modulus 8200 MPa), excellent chemical resistance, and high heat resistance. MID TEMP NYLON (4/6 Nylon) resin is an excellent candidate for a wide variety of applications including automotive under the bonnet applications and water meter housings.

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL			
Nominal Stress, yld, Type I, 5 mm/min	151	MPa	ASTM D 638
Nominal Stress, brk, Type I, 5 mm/min	158	MPa	ASTM D 638
Nominal Strain, brk, 5 mm/min	7	%	ASTM D 638
Flexural Stress, yld, 2.6 mm/min, 100 mm span	248	MPa	ASTM D 790
Flexural Modulus, 2.6 mm/min, 100 mm span	8580	MPa	ASTM D 790
Hardness, Rockwell R	120	-	ASTM D 785
IMPACT			
Izod Impact, notched, 23°C	106	J/m	ASTM D 256
Izod Impact, notched, -30°C	80	J/m	ASTM D 256
THERMAL			
Vicat Softening Temp, Rate B/50	248	°C	ASTM D 1525
HDT, 0.45 MPa, 6.4 mm, unannealed	254	°C	ASTM D 648
HDT, 1.82 MPa, 6.4 mm, unannealed	240	°C	ASTM D 648
CTE, -20°C to 150°C, flow	0.0000198 – 0.0000306	1/°C	ASTM E 831
PHYSICAL			
Specific Gravity	1.33	-	ASTM D 792
Density	1.328	g/cm³	ASTM D 792
Water Absorption, 50% RH, equilib	1	%	ASTM D 570
Moisture Absorption, 50% RH, 24 hrs	0.5	%	ASTM D 570
Mold Shrinkage, flow, 3.2 mm	0.2 – 0.3	%	SABIC method
Mold Shrinkage, xflow, 3.2 mm	0.65 – 0.85	%	SABIC method
ELECTRICAL			
Arc Resistance, Tungsten {PLC}	6	PLC Code	ASTM D 495
High Voltage Arc Track Rate {PLC}	1	PLC Code	UL 746A
Comparative Tracking Index (UL) {PLC}	2	PLC Code	UL 746A
High Amp Arc Ignition (HAI), PLC 2	≥1.5	mm	UL 746A
Hot-Wire Ignition (HWI), PLC 0	≥1.5	mm	UL 746A
FLAME CHARACTERISTICS (1)			
UL Yellow Card Link	E121562-220762	-	-
UL Recognized, 94HB Flame Class Rating	≥1.5	mm	UL 94
INJECTION MOLDING			
Drying Temperature	95 – 105	°C	
Drying Time	3 – 4	hrs	

Data are obtained from specimens molded under carefully controlled conditions from representative samples of the compound described herein. Properties may be materially affected by molding techniques applied and by the size and shape of the item molded. No assurance can be implied that all molded articles will have the same properties as those listed.

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Drying Time (Cumulative)	8	hrs	
Maximum Moisture Content	0.07	%	
Minimum Moisture Content	0.02	%	
Melt Temperature	280 – 305	°C	
Nozzle Temperature	280 – 305	°C	
Front - Zone 3 Temperature	275 – 305	°C	
Middle - Zone 2 Temperature	270 – 305	°C	
Rear - Zone 1 Temperature	265 – 305	°C	
Mold Temperature	75 – 120	°C	
Back Pressure	0.3 – 1.4	MPa	
Screw Speed	20 – 100	rpm	
Shot to Cylinder Size	30 – 50	%	
Vent Depth	0.013 – 0.038	mm	

(1) 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.