NORYL™ Resin NH6020 - Europe

(PPE+PS) Saudi Basic Industries Corporation (SABIC)

Product Texts

NORYL™ NH6020 resin is a non-reinforced blend of polyphenylene ether (PPE) + high impact polystyrene (HIPS) designed for high heat resistance and thin-wall FR performance. This injection moldable grade contains non-brominated, non-chlorinated flame retardant and carries a UL94 flame rating of 5VA at 2.5mm and V0 at 0.75mm along with UL746C Outdoor Suitability rating of F1 and RTI of 110C. NORYL NH6020 resin passes VDE/DIN 475 part 815 testing, Ball Pressure Test (BPT) at 125C, GWFI 960C at 1, 2, 3mm, GWIT 825C at 1mm, and CTI >600V making this an excellent candidate for unattended appliance components where EN/IEC 60335 applies.

UL Yellow Card Link E45329-100158888

Processing/Physical Characteristics	Value	Unit	Test Standard
ISO Data			
Melt volume-flow rate, MVR	**11**	cm³/10min	ISO 1133
Temperature	**280**	°C	-
Load	**5**	kg	-
Density of melt	**1050**	kg/m³	-
Thermal conductivity of melt	**0.18**	W/(m K)	-
Spec. heat capacity of melt	**2010**	J/(kg K)	-
Ejection temperature	**138**	°C	-
ASTM Data			
Melt Flow Index, MFI	**13.5**	g/10min	ASTM D 1238
Temperature	**280**	°C	-
Load	**5**	kg	-

Mechanical properties	Value	Unit	Test Standard
ISO Data			
Tensile Modulus	**2740**	MPa	ISO 527
Yield stress	**77**	MPa	ISO 527
Yield strain	**4.6**	%	ISO 527
Stress at break	**56**	MPa	ISO 527
Strain at break	**4.2**	%	ISO 527
Flexural modulus	**2680**	MPa	ISO 178
Charpy notched impact strength, +23°C	**9**	kJ/m²	ISO 179/1eA
Izod notched impact strength, +23°C, 4mm	**8**	kJ/m²	ISO 180/1A
Izod notched impact strength, -30°C, 4mm	**5**	kJ/m²	ISO 180/1A
ASTM Data			
Tensile Modulus	**2740**	MPa	ASTM D 638
Tensile Strength at Yield	**78**	MPa	ASTM D 638
Tensile Strength at Break	**67**	MPa	ASTM D 638
Elongation at Yield	**4.6**	%	ASTM D 638
Elongation at Break	**6.1**	%	ASTM D 638
Flexural Modulus	**3020**	MPa	ASTM D 790
Izod Impact notched, 1/8 in	**49**	J/m	ASTM D 256
Izod Impact notched, Low-Temperature	**36**	J/m	ASTM D 256
Temperature	**-30**	°C	-

Thermal properties	Value	Unit	Test Standard
ISO Data			
Temp. of deflection under load, 1.80 MPa	**124**	°C	ISO 75-1/-2
Vicat softening temperature, B	**141**	°C	ISO 306
Vicat softening temperature, 120°C/h 50N	**151**	°C	ISO 306
Burning behav. at thickness h	**V-0**	class	IEC 60695-11-10
Thickness tested	**0.8**	mm	-
Burning behav. 5V at thickness h	**5VA**	class	IEC 60695-11-20
Thickness tested	**2.5**	mm	-
Glow Wire Flammability Index (GWFI)	**960**	°C	IEC 60695-2-12
Glow Wire Flammability Index (GWFI)	**960**	°C	IEC 60695-2-12
Glow Wire Flammability Index (GWFI)	**960**	°C	IEC 60695-2-12
Glow Wire Ignition Temperature (GWIT)	**825**	°C	IEC 60695-2-13
GWIT - thickness tested (1)	**1**	mm	-
Glow Wire Ignition Temperature (GWIT)	**800**	°C	IEC 60695-2-13

GWIT - thickness tested (2)	**2**	mm	-
Glow Wire Ignition Temperature (GWIT)	**800**	°C	IEC 60695-2-13
GWIT - thickness tested (3)	**3**	mm	-
ASTM Data			
DTUL @ 264 psi	**125**	°C	ASTM D 648
Vicat Temperature	**150**	°C	ASTM D 1525

Electrical properties	**Value**	**Unit**	**Test Standard**
ISO Data			
Dissipation factor, 1MHz	**29**	E-4	IEC 62631-2-1
Volume resistivity	**>1E13**	Ohm*m	IEC 62631-3-1
Comparative tracking index	**600**	-	IEC 60112

Other properties	**Value**	**Unit**	**Test Standard**
Water absorption	**0.18**	%	Sim. to ISO 62
Humidity absorption	**0.06**	%	Sim. to ISO 62
Density	**1140**	kg/m³	ISO 1183
Density	**1140**	kg/m³	ASTM D 792

Processing Recommendation Injection Molding	**Value**	**Unit**	**Test Standard**
Pre-drying - Temperature	**110 - 120**	°C	-
Pre-drying - Time	**2 - 3**	h	-
Melt temperature	**300 - 320**	°C	-
Mold temperature	**100 - 130**	°C	-
Feed temperature	**80 - 100**	°C	-
Zone 1	**260 - 280**	°C	-
Zone 2	**280 - 300**	°C	-
Zone 3	**300 - 320**	°C	-

Characteristics

Processing
Injection Molding

Special Characteristics
Flame retardant

Additives
Flame retarding agent

Regional Availability
Europe