

FLEX NORYL™ Resin WCA105 - Asia

(PPE+TPE)

Saudi Basic Industries Corporation (SABIC)

Product Texts

FLEX NORYL™ WCA105 resin is a flexible, non-reinforced extrudable blend of Polyphenylene Ether (PPE) + Thermoplastic Elastomer (TPE). This material contains non-halogenated flame retardant and performance capable of meeting UL VW-1 requirements, 105C end use temperature rating, and heat deformation performance as defined by UL 1581. FLEX NORYL WCA105 resin is intended for evaluation in wire insulation applications in dark colors. It has a Shore D Hardness reading of 56 and exhibits superior thermal stability, very low water absorption, good electric properties, and low specific gravity. Processing is typically conducted on standard extrusion equipment, and UL 1581 testing is conducted on 2.0mm wire with 0.12mm X 20 stranded copper conductor.

Processing/Physical Characteristics	Value	Unit	Test Standard
ISO Data			
Thermal conductivity of melt	0.21	W/(m K)	-
Spec. heat capacity of melt	2000	J/(kg K)	-
Ejection temperature	78	°C	-
ASTM Data			
Melt Flow Index, MFI	5.1	g/10min	ASTM D 1238
Temperature	250	°C	-
Load	10	kg	-

Mechanical properties	Value	Unit	Test Standard
ISO Data			
Stress at break	23	MPa	ISO 527
Strain at break	50	%	ISO 527
Shore D hardness	56	-	ISO 7619-1
ASTM Data			
Tensile Strength at Break	23	MPa	ASTM D 638
Elongation at Break	85	%	ASTM D 638

Thermal properties	Value	Unit	Test Standard
ISO Data			
Vicat softening temperature, A	102	°C	ISO 306
Coeff. of linear therm. expansion, parallel	95.4	E-6/K	ISO 11359-1/-2
Coeff. of linear therm. expansion, normal	155	E-6/K	ISO 11359-1/-2
Glow Wire Flammability Index (GWFI)	960	°C	IEC 60695-2-12
GWFI - thickness tested (3)	3	mm	-
Glow Wire Ignition Temperature (GWIT)	750	°C	IEC 60695-2-13
GWIT - thickness tested (3)	3	mm	-

Electrical properties	Value	Unit	Test Standard
ISO Data			
Relative permittivity, 1MHz	2.5	-	IEC 62631-2-1
Dissipation factor, 1MHz	38	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
Density	1030	kg/m ³	ASTM D 792

Processing Recommendation Injection Molding	Value	Unit	Test Standard
Screw speed	15 - 40	rpm	-

Characteristics**Additives**

Flame retarding agent

Regional Availability

Asia Pacific

Special Characteristics

Flame retardant