FLEX NORYL™ RESIN WCD944

REGION EUROPE

DESCRIPTION

FLEX NORYL™ WCD944 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 EN 50265-2-1 requirement and is IEC 60754 compliant. FLEX NORYL WCD944 resin is intended for evaluation in wire and cable applications such as optical fiber cable jacketing. It has a Shore A Hardness reading of 95 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.

TYPICAL PROPERTY VALUES

Revision 20190108

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL			
Tensile Stress, brk, Type I, 50 mm/min	18	MPa	ASTM D 638
Tensile Strain, brk, Type I, 50 mm/min	250	%	ASTM D 638
Flexural Modulus, 12.5 mm/min, 100 mm span	160	MPa	ASTM D 790
Hardness, Shore A, 30S reading	94	-	ASTM D 2240
Tensile Stress, break, 50 mm/min	18	MPa	ISO 527
Tensile Strain, break, 50 mm/min	220	%	ISO 527
Flexural Modulus, 12.5 mm/min	140	MPa	ISO 178
PHYSICAL			
Specific Gravity	0.99	-	ASTM D 792
Melt Flow Rate, 250°C/10.0 kgf	16	g/10 min	ASTM D 1238
ELECTRICAL			
Volume Resistivity	6.8E+15	Ohm-cm	ASTM D 257
Comparative Tracking Index	600	V	IEC 60112
FLAME CHARACTERISTICS			
UL Compliant, 94V-0 Flame Class Rating	6	mm	UL 94 by SABIC-IP
Glow Wire Flammability Index 960°C, passes at	3	mm	IEC 60695-2-12
Glow Wire Ignitability Temperature, 3.0 mm	800	°C	IEC 60695-2-13
WIRE AND CABLE - UL 1581 TESTED ON 2.0MM WIRE WITH 0.12MMX20 STRANDED COPPER			
Tensile strength @ break	22	MPa	UL 1581
Tensile elongation @ break	310	%	UL 1581
Tensile strength @ break after 7days @136°C	23	MPa	UL 1581
Tensile elongation @ break after 7days @136°C	235	%	UL 1581
Heat Deformation at 121°C/250g	11	%	UL 1581
Vertical Flame Test	PASSES	-	EN 50265-2-1
WIRE COATING EXTRUSION			
Drying Temperature	75 – 85	°C	
Drying Time	5 – 7	hrs	
Drying Time (Cumulative)	12	hrs	
Maximum Moisture Content	0.02	%	
Extruder Length/Diameter Ratio (L/D)	22:1 to 26:1	-	
Screw Speed	15 – 85	rpm	

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PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Feed Zone Temperature	180 – 220	°C	
Middle Zone Temperatures	220 – 250	°C	
Head Zone Temperature	220 – 250	°C	
Neck Temperature	220 – 250	°C	
Cross-head Temperature	220 – 250	°C	
Die Temperature	220 – 250	°C	
Melt Temperature	220 – 250	°C	
Conductor Pre-heat Temperature	25 – 120	°C	
Screen Pack	150 – 100	-	
Cooling Water Air Gap	100 – 200	mm	
Water Bath Temperature	15 – 60	°C	

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