FLEX NORYL™ RESIN WCD795

REGION ASIA

DESCRIPTION

FLEX NORYL™ WCD795 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 1581 VW-1 requirements. FLEX NORYL WCD795 resin is intended for evaluation in AC cable jacket applications that require UL62 SVE and NISPE configurations at 90C or 105C temperature rating and black color. It has a Shore A Hardness reading of 79 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 20191015

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL			
Tensile Stress, brk, Type I, 50 mm/min	14	MPa	ASTM D 638
Tensile Strain, brk, Type I, 50 mm/min	240	%	ASTM D 638
Flexural Modulus, 12.5 mm/min, 100 mm span	30	MPa	ASTM D 790
Hardness, Shore A, 30S reading	79	-	ASTM D 2240
Tensile Stress, break, 50 mm/min	14	MPa	ISO 527
Tensile Strain, break, 50 mm/min	215	%	ISO 527
Flexural Modulus, 12.5 mm/min	30	MPa	ISO 178
IMPACT			
Brittleness Temperature	<-40	°C	ASTM D 746
PHYSICAL			
Specific Gravity	1.02	-	ASTM D 792
Melt Flow Rate, 250°C/10.0 kgf	11	g/10 min	ASTM D 1238
ELECTRICAL			
Volume Resistivity	1.4E+16	Ohm-cm	ASTM D 257
Relative Permittivity, 1 MHz	2.6	-	ASTM D 150
Dissipation Factor, 1 MHz	0.007	-	ASTM D 150
Dielectric strength in oil, 2.0mm	24.5	kV/mm	IEC 60243-1
Comparative Tracking Index	600	V	IEC 60112
FLAME CHARACTERISTICS			
Smoke Density on 0.5mm plaque, Non-flame, Ds, max	70	-	ASTM E 662
Smoke Density on 0.5mm plaque, Flame, Ds, max	117	-	ASTM E 662
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
Oxygen Index (LOI)	27	%	ISO 4589
WIRE AND CABLE - UL 1581 TESTED ON 2.0MM WIRE WITH 0.12MMX20 STRANDED COPPER			
Tensile strength @ break	23	MPa	UL 1581
Tensile elongation @ break	310	%	UL 1581
Tensile strength @ break after 7days @136°C	21	MPa	UL 1581
Tensile elongation @ break after 7days @136°C	246	%	UL 1581
Heat Deformation at 121°C/250g	8	%	UL 1581
VW-1	Pass	-	UL 1581

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PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
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	
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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