FLEX NORYL™ RESIN WCP921

REGION ASIA

DESCRIPTION

FLEX NORYL WCP921 resin is a high flow, flexible, non-reinforced injection moldable blend of Polyphenylene Ether (PPE) + Styrene Ethylene Butylene Styrene (SEBS) + Polyolefin. This material contains non-halogenated flame retardant and carries a UL94 flame rating of V0 at 6mm. FLEX NORYL WCP921 resin is intended for evaluation in over-molding applications such as plugs, strain reliefs, and connectors. It has a Shore A Hardness reading of 88 and exhibits low specific gravity, very low water absorption, and dimensional stability.

GENERAL INFORMATION	
Features	Flame Retardant, Good Processability, Hydrolytic Stability, Low Warpage, Thin Wall, Flexible, Low Moisture Absorption, Low Specific Gravity, Non Cl/Br flame retardant, Non halogenated flame retardant, Creep resistant, Dimensional stability, Impact resistant, No PFAS intentionally added
Fillers	Unreinforced
Polymer Types	Polyphenylene Ether + TPE (PPE+TPE)
Processing Techniques	Injection Molding

INDUSTRY	SUB INDUSTRY
Electrical and Electronics	Mobile Phone - Computer - Tablets
Industrial	Electrical

TYPICAL PROPERTY VALUES

Revision 20260714

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL [1]			
Tensile Stress, brk, Type I, 50 mm/min	15	MPa	ASTM D638
Tensile Strain, brk, Type I, 50 mm/min	150	%	ASTM D638
Flexural Modulus			
12.5 mm/min, 100 mm span	180	MPa	ASTM D790
12.5 mm/min	200	MPa	ISO 178
Hardness, Shore A, 30S reading	88	-	ASTM D2240
Tensile Stress, break, 50 mm/min	15	MPa	ISO 527
Tensile Strain, break, 50 mm/min	140	%	ISO 527
IMPACT [1]			
Brittleness Temperature	<-40	°C	ASTM D746
PHYSICAL [1]			
Specific Gravity	1.04	-	ASTM D792
Water Absorption, (23°C/48hrs)	0.06	%	ASTM D570
Mold Shrinkage, flow, 24 hrs [2]	0.55	%	ASTM D955
Mold Shrinkage, xflow, 24 hrs [2]	0.65	%	ASTM D955
Melt Flow Rate			
210°C/5 kgf	15	g/10 min	ASTM D1238
250°C/2.16 kgf	17	g/10 min	ASTM D1238
ELECTRICAL [1]			

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PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Volume Resistivity	7.1E+15	Ω.cm	ASTM D257
Dielectric strength in oil, 2.0mm	25	kV/mm	IEC 60243-1
Relative Permittivity, 1 MHz	2.8	-	IEC 60250
Dissipation Factor			
1 MHz	0.0029	-	IEC 60250
Comparative Tracking Index [3]	600	V	IEC 60112
Comparative Tracking Index (UL) {PLC}	0	PLC Code	UL 746A
Hot-Wire Ignition (HWI), PLC 1	≥3	mm	UL 746A
FLAME CHARACTERISTICS [4]			
UL Yellow Card Link	E207780-100123574	-	-
UL Recognized, 94HB Flame Class Rating	≥1	mm	UL 94
UL Recognized, 94V-0 Flame Class Rating	≥6	mm	UL 94
Glow Wire Flammability Index 850°C, passes at [3]	3	mm	IEC 60695-2-12
Glow Wire Ignitability Temperature, 3.0 mm [3]	725	°C	IEC 60695-2-13
Oxygen Index (LOI)	24	%	ISO 4589
INJECTION MOLDING [5]			
Drying Temperature	60 – 80	°C	
Drying Time	4 – 6	Hrs	
Drying Time (Cumulative)	8	Hrs	
Maximum Moisture Content	0.01	%	
Melt Temperature	220 – 250	°C	
Nozzle Temperature	220 – 250	°C	
Front - Zone 3 Temperature	220 – 250	°C	
Middle - Zone 2 Temperature	210 – 240	°C	
Rear - Zone 1 Temperature	180 – 220	°C	
Mold Temperature	40 – 60	°C	
Back Pressure	3 – 10	MPa	
Screw Speed	30 – 80	rpm	
Shot to Cylinder Size	30 – 70	%	
Vent Depth	0.03 – 0.05	mm	

(1) The information stated on Technical Datasheets should be used as indicative only for material selection purposes and not be utilized as specification or used for part or tool design.

(2) Measurements made from laboratory test coupon. Actual shrinkage may vary outside of range due to differences in processing conditions, equipment, part geometry and tool design. It is recommended that mold shrinkage studies be performed with surrogate or legacy tooling prior to cutting tools for new molded article.

(3) Value shown here is based on internal measurement.

(4) UL Ratings shown on the technical datasheet might not cover the full range of thicknesses, colors and regions. For details, please see the UL Yellow Card.

(5) Injection Molding parameters are only mentioned as general guidelines. These may not apply or may need adjustment in specific situations such as low shot sizes, large part molding, thin wall molding and gas-assist molding.

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