

FLEX NORYLTM RESIN WCP761

REGION AMERICAS

DESCRIPTION

FLEX NORYL WCP761 resin is a high flow, flexible, non-reinforced injection moldable blend of Polyphenylene Ether (PPE) + Thermoplastic Elastomer (TPE). This material contains non-halogenated flame retardant and carries a UL94 flame rating of V0 at 6mm. FLEX NORYL WCP761 resin is intended for evaluation in over-molding applications such as plugs, strain reliefs, and connectors. It has a Shore A Hardness reading of 78 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)
	rotyphenyene Edier - Tre (Tre-Tre)
Processing Techniques	Wire Coating Extrusion

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

TYPICAL PROPERTY VALUES

Revision 20241016

Tensile Stress, brk, Type I, 50 mm/min 7 MPa ASTM D638 Tensile Strain, brk, Type I, 50 mm/min 165 % ASTM D638 Flexural Modulus, 12.5 mm/min, 100 mm span 50 MPa ASTM D790 Hardness, Shore A, 30S reading 78 - ASTM D240 Tensile Stress, break, 50 mm/min 8 MPa ISO 527 Tensile Strain, break, 50 mm/min 165 % ISO 527 Flexural Modulus, 12.5 mm/min 40 MPa ISO 178 Tensile Strength 10 MPa ISO 6383 IMPACT ⁽¹⁾ Writtleness Temperature 40 MPa ASTM D746 PHYSICAL ⁽¹⁾ V ASTM D746 ASTM D746 PHYSICAL ⁽¹⁾ 4 ASTM D746 ASTM D792 Vater Absorption, (23°C/48hrs) 1.0 4 ASTM D792 Mold Strinkage, flow, 24 hrs ⁽²⁾ 1.0 4 ASTM D795 Mold Strinkage, flow, 24 hrs ⁽²⁾ 1.0 4 ASTM D795 Mold Strinkage, flow, 24 hrs ⁽²⁾ 1.0 4 ASTM D795	PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Tensile Strain, brk, Type I, 50 mm/min 165 % ASTM D638 Flexural Modulus, 12.5 mm/min, 100 mm span 50 MPa ASTM D790 Hardness, Shore A, 30S reading 78 - ASTM D2240 Tensile Strain, break, 50 mm/min 8 MPa ISO 527 Tensile Strain, break, 50 mm/min 165 % ISO 527 Flexural Modulus, 12.5 mm/min 40 MPa ISO 178 Tear strength 165 MPa ISO 383 IMPACT **** Ymm ISO 6383 IMPACT **** Vmm ASTM D746 PHYSICAL **** Vmm ASTM D792 Value **** Vmm ASTM D792 Value **** Vmm ASTM D792 Value **** Vmm ASTM D795 Mold Shrinkage, rilow, 24 hrs ****	MECHANICAL (1)			
Flexural Modulus, 12.5 mm/min, 100 mm span 50 MPa ASTM D790 Hardness, Shore A, 30s reading 78 - ASTM D2240 Tensile Stress, break, 50 mm/min 8 MPa ISO 527 Tensile Strain, break, 50 mm/min 165 % ISO 178 Flexural Modulus, 12.5 mm/min 40 MPa ISO 178 Tear strength IP ISO 6383 ISO 6383 IMPACT (1) Specific Gravity < ASTM D746 STM D746 PHYSICAL (1) Specific Gravity ASTM D792 ASTM D792 Water Absorption, (23°C/48hrs) 1.05 Sq. ASTM D795 Mold Shrinkage, fflow, 24 hrs (2) 1.08 Sq. ASTM D955 Mold Shrinkage, xflow, 24 hrs (2) 1.1 \$ ASTM D955 Melt Flow Rate, 210°C/5 kgf 14.5 Q/10 min ASTM D1238 Melt Flow Rate, 250°C/2.16 kgf 20 Q/10 min ASTM D1238	Tensile Stress, brk, Type I, 50 mm/min	7	MPa	ASTM D638
Hardness, Shore A, 30S reading 78 - ASTM D2240 Tensile Stress, break, 50 mm/min 8 MPa ISO 527 Tensile Strain, break, 50 mm/min 165 % ISO 527 Flexural Modulus, 12.5 mm/min 40 MPa ISO 178 Tear strength 16 N/mm ISO 6383 IMPACT ⁽¹⁾ * SC ASTM D746 PHYSICAL ⁽¹⁾ * ASTM D746 Specific Gravity 1.05 - ASTM D792 Water Absorption, (23°C/48hrs) 0.1 % ASTM D570 Mold Shrinkage, flow, 24 hrs ⁽²⁾ 1.08 % ASTM D955 Mold Shrinkage, xflow, 24 hrs ⁽²⁾ 1.1 % ASTM D955 Melt Flow Rate, 210°C/5 kgf 1.45 g/10 min ASTM D1238 Melt Flow Rate, 250°C/2.16 kgf 20 g/10 min ASTM D1238 ELECTRICAL ⁽¹⁾ * ASTM D1238	Tensile Strain, brk, Type I, 50 mm/min	165	%	ASTM D638
Tensile Stress, break, 50 mm/min 8 MPa ISO 527 Tensile Strain, break, 50 mm/min 165 % ISO 527 Flexural Modulus, 12.5 mm/min 40 MPa ISO 178 Tear strength 16 N/mm ISO 6383 IMPACT ************************************	Flexural Modulus, 12.5 mm/min, 100 mm span	50	MPa	ASTM D790
Fessile Strain, break, 50 mm/min 165 8 150 527 Flexural Modulus, 12.5 mm/min 40 40 MPa 150 178 Tear strength 166 Nm/mm 150 6383 IMPACT 11 Brittleness Temperature 40 40 C ASTM D746 PHYSICAL 11 Specific Gravity 10.5 1.05 1.05 1.05 1.05 1.05 1.05 1.05	Hardness, Shore A, 30S reading	78	-	ASTM D2240
Flexural Modulus, 12.5 mm/min 40 MPa ISO 178 Tear strength 16 N/mm ISO 6383 IMPACT ** Brittleness Temperature 40 *40 ** FOR ASTM D746 PHYSICAL ** PHYSICAL ** Specific Gravity 10.05 ** Mold Shrinkage, flow, 24 hrs ** Mold Shrinkage, xflow, 24 hrs ** Mold Shrinkage, xfl	Tensile Stress, break, 50 mm/min	8	MPa	ISO 527
Tear strength MPACT (1) Brittleness Temperature 4-40 Can Carolina ASTM D746 PHYSICAL (1) Specific Gravity Mold Shrinkage, flow, 24 hrs (2) Mold Shrinkage, xflow, 24 hrs (2) Mold Shri	Tensile Strain, break, 50 mm/min	165	%	ISO 527
IMPACT (1) Brittleness Temperature < 40 °C ASTM D746 PHYSICAL (1) Specific Gravity 1.05 ASTM D792 Water Absorption, (23°C/48hrs) 1.08 ASTM D570 Mold Shrinkage, fflow, 24 hrs (2) 1.08 ASTM D955 Mold Shrinkage, xflow, 24 hrs (2) 1.1 ASTM D955 Melt Flow Rate, 210°C/5 kgf 14.5 ASTM D955 Melt Flow Rate, 250°C/2.16 kgf 20 ASTM D955 ELECTRICAL (1)	Flexural Modulus, 12.5 mm/min	40	MPa	ISO 178
Brittleness Temperature<-40°CASTM D746PHYSICAL (1)Specific Gravity1.05-ASTM D792Water Absorption, (23°C/48hrs)0.1%ASTM D570Mold Shrinkage, flow, 24 hrs (2)1.08%ASTM D955Mold Shrinkage, xflow, 24 hrs (2)1.1%ASTM D955Melt Flow Rate, 210°C/5 kgf14.5g/10 minASTM D1238Melt Flow Rate, 250°C/2.16 kgf20g/10 minASTM D1238ELECTRICAL (1)***	Tear strength	16	N/mm	ISO 6383
PHYSICAL (1) Specific Gravity 1.05 - ASTM D792 Water Absorption, (23°C/48hrs) 0.1 \$ ASTM D570 Mold Shrinkage, flow, 24 hrs ⁽²⁾ 1.08 \$ ASTM D955 Mold Shrinkage, xflow, 24 hrs ⁽²⁾ 1.1 \$ ASTM D955 Melt Flow Rate, 210°C/5 kgf 14.5 g/10 min ASTM D1238 Melt Flow Rate, 250°C/2.16 kgf 20 g/10 min ASTM D1238 ELECTRICAL (1) * * *	IMPACT (1)			
Specific Gravity 1.05 - ASTM D792 Water Absorption, (23°C/48hrs) 0.1 % ASTM D570 Mold Shrinkage, flow, 24 hrs ⁽²⁾ 1.08 % ASTM D955 Mold Shrinkage, xflow, 24 hrs ⁽²⁾ 1.1 % ASTM D955 Melt Flow Rate, 210°C/5 kgf 14.5 g/10 min ASTM D1238 Melt Flow Rate, 250°C/2.16 kgf 20 g/10 min ASTM D1238 ELECTRICAL ⁽¹⁾ * * * *	Brittleness Temperature	<-40	°C	ASTM D746
Water Absorption, (23°C/48hrs) 0.1 % ASTM D570 Mold Shrinkage, flow, 24 hrs ⁽²⁾ 1.08 % ASTM D955 Mold Shrinkage, xflow, 24 hrs ⁽²⁾ 1.1 % ASTM D955 Melt Flow Rate, 210°C/5 kgf 14.5 g/10 min ASTM D1238 Melt Flow Rate, 250°C/2.16 kgf 20 g/10 min ASTM D1238 ELECTRICAL ⁽¹⁾ X X <td>PHYSICAL (1)</td> <td></td> <td></td> <td></td>	PHYSICAL (1)			
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Mold Shrinkage, xflow, 24 hrs ⁽²⁾ 1.1 % ASTM D955 Melt Flow Rate, 210°C/5 kgf 14.5 g/10 min ASTM D1238 Melt Flow Rate, 250°C/2.16 kgf 20 g/10 min ASTM D1238 ELECTRICAL ⁽¹⁾ * * * *	Water Absorption, (23°C/48hrs)	0.1	%	ASTM D570
Melt Flow Rate, 210°C/5 kgf 14.5 g/10 min ASTM D1238 Melt Flow Rate, 250°C/2.16 kgf 20 g/10 min ASTM D1238 ELECTRICAL ⁽¹⁾ Company of the properties of the p	Mold Shrinkage, flow, 24 hrs ⁽²⁾	1.08	%	ASTM D955
Melt Flow Rate, 250°C/2.16 kgf 20 g/10 min ASTM D1238 ELECTRICAL (1)	Mold Shrinkage, xflow, 24 hrs ⁽²⁾	1.1	%	ASTM D955
ELECTRICAL (1)	Melt Flow Rate, 210°C/5 kgf	14.5	g/10 min	ASTM D1238
	Melt Flow Rate, 250°C/2.16 kgf	20	g/10 min	ASTM D1238
Volume Resistivity 1.3F+16 O.cm ASTM D257	ELECTRICAL (1)			
Volume Residency 751W BEST	Volume Resistivity	1.3E+16	Ω.cm	ASTM D257



PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Dielectric strength in oil, 2.0mm	25	kV/mm	IEC 60243-1
Relative Permittivity, 1 MHz	2.5	-	IEC 60250
Dissipation Factor, 1 MHz	0.002	-	IEC 60250
Comparative Tracking Index ⁽³⁾	600	V	IEC 60112
FLAME CHARACTERISTICS (4)			
Glow Wire Flammability Index 960°C, passes at	3	mm	IEC 60695-2-12
Oxygen Index (LOI)	24	%	ISO 4589
INJECTION MOLDING (5)			
Drying Temperature	65 – 75	°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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