LNP™ ELCRES™ EXL9034

DESCRIPTION

Opaque PC-Siloxane copolymer with excellent low temperature ductility, robust flame retardancy (V0/5VA), good processability, and electrical tracking resistance. It's UV stabilized with F1 rating and good candidate for applications like Photovoltaic connectors

TYPICAL PROPERTY VALUES

Revision 20191216

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL			
Tensile Stress, yld, Type I, 50 mm/min	56	MPa	ASTM D 638
Tensile Stress, brk, Type I, 50 mm/min	60	MPa	ASTM D 638
Tensile Strain, yld, Type I, 50 mm/min	6	%	ASTM D 638
Tensile Strain, brk, Type I, 50 mm/min	70	%	ASTM D 638
Tensile Modulus, 50 mm/min	2090	MPa	ASTM D 638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	87	MPa	ASTM D 790
Flexural Modulus, 1.3 mm/min, 50 mm span	2020	MPa	ASTM D 790
Tensile Stress, yield, 50 mm/min	55	MPa	ISO 527
Tensile Stress, break, 50 mm/min	59	MPa	ISO 527
Tensile Strain, yield, 50 mm/min	6	%	ISO 527
Tensile Strain, break, 50 mm/min	68	%	ISO 527
Tensile Modulus, 1 mm/min	2065	MPa	ISO 527
Flexural Stress, yield, 2 mm/min	84	MPa	ISO 178
Flexural Modulus, 2 mm/min	2100	MPa	ISO 178
IMPACT			
Izod Impact, notched, 23°C	700	J/m	ASTM D 256
Izod Impact, notched, -30°C	660	J/m	ASTM D 256
Izod Impact, unnotched, 23°C	NB	J/m	ASTM D 4812
Izod Impact, unnotched, -30°C	NB	J/m	ASTM D 4812
Instrumented Impact Total Energy, 23°C	66	J	ASTM D 3763
Izod Impact, unnotched 80*10*3 +23°C	NB	kJ/m²	ISO 180/1U
Izod Impact, unnotched 80*10*3 -30°C	NB	kJ/m²	ISO 180/1U
Izod Impact, notched 80*10*3 +23°C	62	kJ/m²	ISO 180/1A
Izod Impact, notched 80*10*3 -30°C	52	kJ/m²	ISO 180/1A
Charpy 23°C, V-notch Edgew 80*10*3 sp=62mm	66	kJ/m²	ISO 179/1eA
Charpy -30°C, V-notch Edgew 80*10*3 sp=62mm	55	kJ/m²	ISO 179/1eA
Charpy 23°C, Unnotch Edgew 80*10*3 sp=62mm	NB	kJ/m²	ISO 179/1eU
Charpy -30°C, Unnotch Edgew 80*10*3 sp=62mm	NB	kJ/m²	ISO 179/1eU
THERMAL			
Vicat Softening Temp, Rate B/50	147	°C	ASTM D 1525
HDT, 0.45 MPa, 3.2 mm, unannealed	138	°C	ASTM D 648
HDT, 1.82 MPa, 3.2mm, unannealed	122	°C	ASTM D 648
Vicat Softening Temp, Rate B/50	145	°C	ISO 306
Vicat Softening Temp, Rate B/120	146	°C	ISO 306
CTE, -40°C to 40°C, flow	7.2E-05	1/°C	ASTM E 831

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PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
CTE, -40°C to 40°C, xflow	7.8E-05	1/°C	ASTM E 831
CTE, 23°C to 80°C, flow	7.8E-05	1/°C	ISO 11359-2
CTE, 23°C to 80°C, xflow	8.9E-05	1/°C	ISO 11359-2
Relative Temp Index, Elec [1]	130	°C	UL 746B
Relative Temp Index, Mech w/impact [1]	115	°C	UL 746B
Relative Temp Index, Mech w/o impact [1]	130	°C	UL 746B
PHYSICAL			
Specific Gravity	1.22	-	ASTM D 792
Mold Shrinkage, flow, 3.2 mm	0.4 – 0.8	%	SABIC method
Mold Shrinkage, xflow, 3.2 mm	0.4 – 0.8	%	SABIC method
Melt Flow Rate, 300°C/1.2 kgf	7	g/10 min	ASTM D 1238
Melt Volume Rate, MVR at 300°C/1.2 kg	6	cm³/10 min	ISO 1133
ELECTRICAL			
Comparative Tracking Index [2]	600	V	IEC 60112
Hot-Wire Ignition (HWI), PLC 2	≥0.8	mm	UL 746A
High Amp Arc Ignition (HAI), PLC 0	≥0.8	mm	UL 746A
FLAME CHARACTERISTICS [1]			
UL Yellow Card Link	E207780-103437942	-	-
UL Recognized, 94-5VA Flame Class Rating	≥3	mm	UL 94
UL Recognized, 94-5VB Flame Class Rating	≥2.5	mm	UL 94
UL Recognized, 94V-0 Flame Class Rating	≥0.8	mm	UL 94
UV-light, water exposure/immersion	F1	-	UL 746C
INJECTION MOLDING			
Drying Temperature	120	°C	
Drying Time	3 – 4	hrs	
Drying Time (Cumulative)	48	hrs	
Maximum Moisture Content	0.02	%	
Melt Temperature	295 – 315	°C	
Nozzle Temperature	290 – 310	°C	
Front - Zone 3 Temperature	295 – 315	°C	
Middle - Zone 2 Temperature	280 – 305	°C	
Rear - Zone 1 Temperature	275 – 295	°C	
Mold Temperature	70 – 95	°C	
Back Pressure	0.3 – 0.7	MPa	
Screw Speed	40 – 70	rpm	
Shot to Cylinder Size	40 – 60	%	
Vent Depth	0.025 – 0.076	mm	

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

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

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