LNP™ ELCRES™ FST8036

DESCRIPTION

LNP ELCRES FST8036 is a glass fiber reinforced Polycarbonate (PC) Copolymer Resin for sheet extrusion and suitable for part production by thermoforming processes. This UV stabilized, low smoke, flame retardant resin, is intended for aircraft interior applications requiring OSU65/65 and FAR25.853 compliant materials.

GENERAL INFORMATION	
Features	Good Processability, Low Smoke and Toxicity, High stiffness/Strength, No PFAS intentionally added
Fillers	Glass Fiber (Total fluorine >50ppm only from inorganic fluorine)
Polymer Types	Polycarbonate (PC)
Processing Techniques	Extrusion

INDUSTRY	SUB INDUSTRY
Mass Transportation	Aircraft Interiors

TYPICAL PROPERTY VALUES

Revision 20260908

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL [1]			
Tensile Modulus, 1 mm/min	4700	MPa	ISO 527
Tensile Stress, yield, 5 mm/min	60	MPa	ISO 527
Tensile Stress, break, 5 mm/min	50	MPa	ISO 527
Tensile Strain, yield, 5 mm/min	4	%	ISO 527
Tensile Nominal Strain, break, 5 mm/min	7	%	ISO 527
Flexural Modulus, 2 mm/min	4700	MPa	ISO 178
Flexural Strength, 2 mm/min	100	MPa	ISO 178
Flexural Strain, break, 2 mm/min	10	%	ISO 178
Flexural Stress at 3.5% strain, 2 mm/min	90	MPa	ISO 178
Tensile Modulus, 5 mm/min	4750	MPa	ASTM D638
Tensile Stress, yld, Type I, 5 mm/min	60	MPa	ASTM D638
Tensile Stress, brk, Type I, 5 mm/min	50	MPa	ASTM D638
Tensile Strain, yld, Type I, 5 mm/min	4	%	ASTM D638
Tensile Nominal Strain, brk, Type I, 5 mm/min	6	%	ASTM D638
IMPACT [1]			
Izod Impact, notched 80*10*4 +23°C	7	kJ/m²	ISO 180/1A
Izod Impact, unnotched 80*10*4 +23°C	70	kJ/m²	ISO 180/1U
Izod Impact, notched 80*10*3 +23°C	9	kJ/m²	ISO 180/1A
Izod Impact, notched 80*10*3 -30°C	6	kJ/m²	ISO 180/1A
Izod Impact, unnotched 80*10*3 +23°C	70	kJ/m²	ISO 180/1U
Izod Impact, unnotched 80*10*3 -30°C	60	kJ/m²	ISO 180/1U
Charpy 23°C, V-notch Edgew 80*10*3 sp=62mm	6	kJ/m²	ISO 179/1eA
Charpy 23°C, Unnotch Edgew 80*10*3 sp=62mm	55	kJ/m²	ISO 179/1eU

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PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Izod Impact, notched, 23°C	75	J/m	ASTM D256
Izod Impact, unnotched, 23°C	650	J/m	ASTM D4812
THERMAL [1]			
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	120	°C	ISO 75/Af
HDT/Bf, 0.45 MPa Flatw 80*10*4 sp=64mm	127	°C	ISO 75/Bf
Vicat Softening Temp, Rate B/50	128	°C	ISO 306
Vicat Softening Temp, Rate B/120	129	°C	ISO 306
CTE			
-40°C to 90°C, flow	3.5E-05	1/°C	ISO 11359-2
-40°C to 90°C, xflow	6.8E-05	1/°C	ISO 11359-2
HDT, 1.82 MPa, 3.2mm, unannealed	119	°C	ASTM D648
HDT, 0.45 MPa, 3.2 mm, unannealed	128	°C	ASTM D648
Ball Pressure Test, 125°C +/- 2°C	PASS	-	IEC 60695-10-2
PHYSICAL [1]			
Density	1.41	g/cm³	ISO 1183
Melt Volume Rate, MVR at 300°C/1.2 kg	7	cm³/10 min	ISO 1133
Moisture Absorption (23°C / 50% RH)	0.05	%	ISO 62
Water Absorption, (23°C/24hrs)	0.12	%	ISO 62-1
Water Absorption, (23°C/saturated)	0.2	%	ISO 62-1
Specific Gravity	1.42	-	ASTM D792
FLAME CHARACTERISTICS [1]			
OSU total heat release (2 minute test)	<65	kW-min/m²	FAR 25.853
OSU peak heat release rate (5 minute test)	<65	kW/m²	FAR 25.853
Vertical Burn a (60s) passes at	1	Seconds	FAR 25.853
NBS Smoke Density, Flaming, Dmax	<25	-	ASTM E662
SHEET EXTRUSION			
Drying Temperature	90 – 110	°C	
Drying Time	3 – 4	Hrs	
Drying Time (Cumulative)	18	Hrs	
Maximum Moisture Content	0.05	%	
Melt Temperature	220 – 260	°C	
Barrel - Zone 1 Temperature	180 – 210	°C	
Barrel - Zone 2 Temperature	200 – 230	°C	
Barrel - Zone 3 Temperature	220 – 260	°C	
Barrel - Zone 4 Temperature	220 – 260	°C	
Die Temperature	220 – 260	°C	
Roll Stack Temp - Bottom	90 – 120	°C	
Roll Stack Temp - Middle	90 – 120	°C	
Roll Stack Temp - Top	90 – 120	°C	

(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.

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