LNP™ ELCRES™ FST2733E

DESCRIPTION

LNP ELCRES FST2733E is a glass fiber reinforced Polycarbonate Copolymer Resin for sheet extrusion and part production by thermoforming processes. This UV stabilized, non-Br/Cl flame retardant resin, is intended for train interior applications requiring EN 45545 R1–HL3 compliant materials (e.g. side panels & partition walls). It also meets requirements of FRA and NFPA-130 standards. Available in opaque colors.

GENERAL INFORMATION	
Features	Good Processability, Low Smoke and Toxicity, Non Cl/Br flame retardant, High stiffness/Strength, Weatherable/UV stable, 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	Rail

TYPICAL PROPERTY VALUES

Revision 20260908

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL [1]			
Tensile Modulus, 1 mm/min	5750	MPa	ISO 527
Tensile Stress, yield, 5 mm/min	60	MPa	ISO 527
Tensile Stress, break, 5 mm/min	48	MPa	ISO 527
Tensile Strain, yield, 5 mm/min	5	%	ISO 527
Tensile Nominal Strain, break, 5 mm/min	8	%	ISO 527
Flexural Modulus, 2 mm/min	5800	MPa	ISO 178
Flexural Strength, 2 mm/min	109	MPa	ISO 178
Flexural Strain, break, 2 mm/min	9	%	ISO 178
Flexural Stress at 3.5% strain, 2 mm/min	97	MPa	ISO 178
Tensile Modulus, 5 mm/min	5650	MPa	ASTM D638
Tensile Stress, yld, Type I, 5 mm/min	61	MPa	ASTM D638
Tensile Stress, brk, Type I, 5 mm/min	48	MPa	ASTM D638
Tensile Strain, yld, Type I, 5 mm/min	5	%	ASTM D638
Tensile Nominal Strain, brk, Type I, 5 mm/min	8	%	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	120	kJ/m²	ISO 180/1U
Izod Impact, notched 80*10*3 +23°C	7	kJ/m²	ISO 180/1A
Izod Impact, notched 80*10*3 -30°C	5	kJ/m²	ISO 180/1A
Izod Impact, unnotched 80*10*3 +23°C	105	kJ/m²	ISO 180/1U
Izod Impact, unnotched 80*10*3 -30°C	105	kJ/m²	ISO 180/1U
Charpy 23°C, V-notch Edgew 80*10*3 sp=62mm	7	kJ/m²	ISO 179/1eA
Charpy 23°C, Unnotch Edgew 80*10*3 sp=62mm	75	kJ/m²	ISO 179/1eU

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PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Izod Impact, notched, 23°C	78	J/m	ASTM D256
Izod Impact, unnotched, 23°C	975	J/m	ASTM D4812
THERMAL [1]			
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	105	°C	ISO 75/Af
HDT/Bf, 0.45 MPa Flatw 80*10*4 sp=64mm	114	°C	ISO 75/Bf
Vicat Softening Temp, Rate B/50	115	°C	ISO 306
Vicat Softening Temp, Rate B/120	116	°C	ISO 306
CTE			
-40°C to 90°C, flow	2.8E-5	1/°C	ISO 11359-2
-40°C to 90°C, xflow	7.0E-5	1/°C	ISO 11359-2
HDT, 1.82 MPa, 3.2mm, unannealed	104	°C	ASTM D648
HDT, 0.45 MPa, 3.2 mm, unannealed	113	°C	ASTM D648
Ball Pressure Test			
75°C +/- 2°C	PASS	-	IEC 60695-10-2
PHYSICAL [1]			
Density	1.47	g/cm³	ISO 1183
Melt Volume Rate, MVR at 260°C/5.0 kg	5.5	cm³/10 min	ISO 1133
Melt Volume Rate, MVR at 260°C/2.16 kg	2	cm³/10 min	ISO 1133
Melt Volume Rate, MVR at 300°C/1.2 kg	5.5	cm³/10 min	ISO 1133
Moisture Absorption (23°C / 50% RH)	0.05	%	ISO 62
Specific Gravity	1.47	-	ASTM D792
FLAME CHARACTERISTICS [1] [2]			
Flame Spread Index (1.52mm)	<35	-	ASTM E162
NBS Smoke Density, Flaming, Ds 1.5 min	<100	-	ASTM E662
NBS Smoke Density, Flaming, Ds 4 min	<200	-	ASTM E662
Smoke Toxicity	PASSES	-	OEM BSS
Smoke density, DS-4, 50 kW/m2	<150	-	ISO 5659-2
Smoke density, VOF4, 50 kW/m2	<300	-	ISO 5659-2
Smoke toxicity, CITG (8 min), 50 kW/m2	<0.75	-	ISO 5659-2
Heat release, MAHRE, 50 kW/m2	<60	kW/m²	ISO 5660-1
Lateral Flame Spread, CFE	>20	kW/m²	ISO 5658-2
Fire Safety Hazard Level - Requirement set R1	HL3	-	EN 45545-2
SHEET EXTRUSION			
Drying Temperature	90 – 110	°C	
Drying Time	3 – 4	Hrs	
Drying Time (Cumulative)	18	Hrs	
Maximum Moisture Content	0.05	%	
Melt Temperature	210 – 250	°C	
Barrel - Zone 1 Temperature	180 – 210	°C	
Barrel - Zone 2 Temperature	200 – 230	°C	
Barrel - Zone 3 Temperature	210 – 250	°C	
Barrel - Zone 4 Temperature	210 – 250	°C	
Die Temperature	210 – 250	°C	
Roll Stack Temp - Bottom	90 – 120	°C	
Roll Stack Temp - Middle	90 – 120	°C	

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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.
(2) 2 to 4 mm

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