LNP™ ELCRES™ FST2734E

DESCRIPTION

LNP ELCRES FST2734E is a glass fiber reinforced Polycarbonate (PC) Copolymer Resin for sheet extrusion and part production by thermoforming processes. This UV stabilized, flame retardant resin, is intended for train interior applications requiring EN 45545 R1–HL2 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, 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	4600	MPa	ISO 527
Tensile Stress, yield, 5 mm/min	57	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	4650	MPa	ISO 178
Flexural Strength, 2 mm/min	100	MPa	ISO 178
Flexural Strain, break, 2 mm/min	9	%	ISO 178
Flexural Stress at 3.5% strain, 2 mm/min	90	MPa	ISO 178
Tensile Modulus, 5 mm/min	4600	MPa	ASTM D638
Tensile Stress, yld, Type I, 5 mm/min	57	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	70	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-5	1/°C	ISO 11359-2
-40°C to 90°C, xflow	6.8E-5	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 260°C/5.0 kg	8.5	cm³/10 min	ISO 1133
Melt Volume Rate, MVR at 260°C/2.16 kg	3.5	cm³/10 min	ISO 1133
Melt Volume Rate, MVR at 300°C/1.2 kg	8.5	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] [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	<300	-	ISO 5659-2
Smoke density, VOF4, 50 kW/m2	<600	-	ISO 5659-2
Smoke toxicity, CITG (8 min), 50 kW/m2	<0.9	-	ISO 5659-2
Heat release, MAHRE, 50 kW/m2	<90	kW/m²	ISO 5660-1
Lateral Flame Spread, CFE	>20	kW/m²	ISO 5658-2
Fire Safety Hazard Level - Requirement set R1	HL2	-	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	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	

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PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
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.

(2) 2 to 4 mm

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