

LEXAN™ CFR RESIN

High performance clear FR resin for thin gauge applications - meets environmental protocols

As electronics continue to shrink in size and thickness – especially those used in consumer electronics, automobiles and healthcare devices – designers and manufacturers can benefit from the outstanding characteristics of LEXAN CFR resins in the quest to develop thinner and smaller parts with excellent FR performance.

KEY BENEFITS

- Complies with UL 94 V-0 standard down to 1.0 mm and UL 94 5VA standard at 3.0 mm
- Products that comply with UL F1 are available
- Excellent anti-draping properties
- Provides a non-brominated, non-chlorinated, non-phosphate, non-Teflon[†] solution
- Improved flow and processability compared to standard clear FR polycarbonate
- Specific grades for injection molding or extrusion

IMPROVED FLOW AND PROCESSABILITY

LEXAN CFR resins offer improved flow and processability compared to standard clear, FR polycarbonate. Due to the effects of shear thinning, a LEXAN CFR resin grade with a melt flow index (MFI) of 18 can have a spiral flow (indicative of practical flow in injection molding) similar to that of an FR polycarbonate with an MFI of 28. Similarly, a LEXAN CFR resin grade with an MFI of 5 has a spiral flow equivalent to that of an FR polycarbonate with an MFI of 14.

COMPLIANCE WITH ENVIRONMENTAL PROTOCOLS

LEXAN CFR resins comply with a range of environmental protocols such as Restriction of Hazardous Substances (RoHS), TCO99 International, EPEAT, Ecoflower, Blue Angel, Nordic Swan and Japan PC Green, making this product a viable alternative for those seeking sustainable solutions.



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THIN WALL TRANSPARENT FLAME RETARDANT LEXAN CFR RESINS

MECHANICAL	METHOD	UNIT	LEXAN CFR9712	LEXAN CFR9111	LEXAN CFR9131	LEXAN CFR7431	LEXAN CFR7630
Tensile Stress, yield, 50 mm/min	ISO 527	MPa	63	63	63	66	67
Tensile Stress, break, 50 mm/min	ISO 527	MPa	56	57	57	53	52
Tensile Strain, yield, 50 mm/min	ISO 527	%	6	6	6	6	6
Tensile Strain, break, 50 mm/min	ISO 527	%	78	73	73	56	23
Tensile Modulus, 1 mm/min	ISO 527	MPa	2200	2300	2300	2350	2400
Flexural Stress, yield, 2 mm/min	ISO 178	MPa	97	96	96	101	103
Flexural Modulus, 2 mm/min	ISO 178	MPa	2400	2400	2400	2450	2500
IMPACT	METHOD	UNIT	LEXAN CFR9712	LEXAN CFR9111	LEXAN CFR9131	LEXAN CFR7431	LEXAN CFR7630
Izod Impact, unnotched 80*10*3 +23°C	ISO 180/1U	kJ/m ²	Non-breakable	Non-breakable	Non-breakable	Non-breakable	Non-breakable
Izod Impact, unnotched 80*10*3 -30°C	ISO 180/1U	kJ/m ²	Non-breakable	Non-breakable	Non-breakable	Non-breakable	Non-breakable
Izod Impact, notched 80*10*3 +23°C	ISO 180/1A	kJ/m ²	10	55	10	9	10
Izod Impact, notched 80*10*3 -30°C	ISO 180/1A	kJ/m ²	10	9	9	8	9
Charpy 23°C, V-notch Edgew 80*10*3 sp=62mm	ISO 179/1eA	kJ/m ²	30	59	10	10	10
Instrumented Impact Total Energy, 23°C	ASTM D 3763	J	60	80	65	64	66
THERMAL	METHOD	UNIT	LEXAN CFR9712	LEXAN CFR9111	LEXAN CFR9131	LEXAN CFR7431	LEXAN CFR7630
Vicat Softening Temp. Rate B/120	ISO 306	°C	140	140	140	139	139
HDT/Ae, 1.8 MPa Edgew 120*10*4 sp=100mm	ISO 75/Ae	°C	120	121	121	120	120
PHYSICAL	METHOD	UNIT	LEXAN CFR9712	LEXAN CFR9111	LEXAN CFR9131	LEXAN CFR7431	LEXAN CFR7630
Melt Flow Rate, 300°C/1.2 kgf	ASTM D 1238	g/10 min	30	18*	18	10	5†
Density	ISO 1183	g/cm ³	1.2	1.2	1.2	1.2	1.2
Melt Volume Rate, MVR at 300°C/1.2 kg	ISO 1133	cm ³ /10 min	29	17	17	9	5
FLAME CHARACTERISTICS	METHOD	UNIT	LEXAN CFR9712	LEXAN CFR9111	LEXAN CFR9131	LEXAN CFR7431	LEXAN CFR7630
UL Recognized, 94V-2 Flame Class Rating (3)	UL 94	mm	0.4	0.4	0.4	0.4	0.4
UL Recognized, 94V-0 Flame Class Rating (3)	UL 94	mm	2	1.5	1.5	1.2	1
UL Recognized, 94-5VA Rating (3)	UL 94	mm	-	-	-	3	3
UV-light, water exposure/immersion	UL746C				F1	F1	F1
Glow Wire Flammability Index 960°C, passes at	IEC 60695-2-12	mm	2	1.5	1.5	1.2	1

* Practical flow in injection molding better than 31 melt flow PC

† Can be injection molded or extruded
Flows like 13 melt flow FR PC in injection molding

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