



**Product Data Sheet**

# Lexan® FR60, FR63, FR65, FR66

## Description

Lexan FR60, FR63, FR65, FR66 films are a family of flame retardant clear polycarbonate films with UL94-V0 listing and a variety of different surface textures, which also benefit graphic applications.

Lexan FR6x films offer ease of thermoforming, hydroforming, embossing, die-cutting, folding, and bending and are very suitable for applications such as:

- printed circuit board insulation
- backlit aircraft in-flight panels and displays
- business equipment insulation
- computer rack partitions
- TV/monitor insulation

## Configuration

Product	Finish	Standard gauges (mm)
FR60	polished/polished	0.250
		0.375
		0.500
		0.635
		0.750
FR63	matt/polished	0.250
		0.375
		0.500
		0.635
FR65	velvet/matt	0.250
		0.375
		0.500
FR66	suede/matt	0.250
		0.375
		0.500





**Product Data Sheet**

**Lexan® FR60, FR63, FR65, FR66**

Property	Test	Unit	Value+
<b>Physical</b>			
Specific Gravity	ISO 1183	g/cm <sup>3</sup>	1.32
Water Absorption, saturation, 23°C	ISO 62	%	0.28
<b>Optical</b>			
Haze	ASTM D1003	%	1.0
Light Transmission	ASTM D1003	%	85-88
<b>Mechanical</b>			
Tensile stress at yield	ISO R527	MPa	70
Tensile stress at break		MPa	60
Strain at break	ISO R527	%	25
Tensile Modulus	ISO R527	MPa	2200
Tear Strength			
Initiation	ASTM D1004	kN/m	298
Propagation	ASTM D1922	kN/m	6
<b>Thermal</b>			
Tensile Heat Distortion, 0.35 N/mm <sup>2</sup>	ASTM D1637	°C	150
DTUL, 1.82 N/mm <sup>2</sup>	ISO 75	°C	135
<b>Electrical</b>			
Dielectric Strength, 23°C, in oil, short term, 375 micron	IEC 243-1	kV/mm	59
Relative permittivity	IEC 250		
at 50 Hz	-		2.9
at 1 kHz	-		2.8
at 1 MHz	-		2.8
Dissipation Factor	IEC 250		
at 50 Hz	-		0.0026
at 1 kHz	-		0.0028
at 1 MHz	-		0.0117
Volume Resistivity	IEC 93	Ohm.m	10 <sup>14</sup>
<b>Flammability</b>			
Oxygen index	ISO 4589	-	33%
UL Flammability *	UL94		V0, 0.250 mm
Flash Point	-	°C	440
Self Ignition Temperature	-	°C	605
FMVSS 302	ASTM D618	-	all pass
NFPA 258-NBS	ASTM E662	-	
Smoke Chamber Test (0.25 mm)			D(4)=6 D(max)=36

+ Typical values only.

Variation within normal tolerances are possible for the various textures.

\* These ratings are not intended to reflect hazards presented by this or any other material under actual fire conditions.

## Product Data Sheet

# Lexan<sup>®</sup> FR60, FR63, FR65, FR66

### Agency Summary

Lexan FR60, FR63, FR65, FR66 film have been tested under a number of agency testing protocols including UL746A and UL 746B, IEC publication 85 and CSA 22.2 Class 905230.

The tables below summarize our UL and CSA listings for Lexan FR60, FR63, FR65, FR66.

### UL Listing Summary

File #E61257 (R)

Material	Colour	Thickness mm	UL-94 Flame Rating*	Relative Thermal Index			Performance Level Categories (PLC's)				
				Elect.	Mechanical		H W I	H A I	H V T R	D 4 9 5	C T I
					With Elong.	Without Elong. (tensile)					
Lexan FR6x	Cl	0.25 0.35	VO	130	125	130	1	0	-	-	3
	cl	0.375-0.74	VO	130	125	130	0	0	-	-	3
	cl	>=0.750	VO	130	125	130	0	0	-	-	3

### CSA Listing Summary

Material Type	Minimum Thickness mm	Temp. Class	Requirements in Standard								
			CSA C22.2 No.							IEC No.	
			1-M 1990	6-M 1984	66-1988	223-1987	234	950	65	950	
Lexan FR 60	0.250	130°C	A	A	A	A	A	A	A	A	A
Lexan FR 63	0.250	130°C	A	A	A	A	A	A	A	A	A
Lexan FR 65	0.250	130°C	A	A	A	A	A	A	A	A	A
Lexan FR 66	0.125	130°C	A	A	A	A	A	A	A	A	A

Note: 'A' indicates compliance with all of the requirements of the indicated agency standard.

\* This rating is not intended to reflect hazards presented by this or any other material under actual fire conditions.

## AMERICAS

### United States

GE Plastics  
1 Plastics Avenue  
Pittsfield, MA 01201  
Tel. (1) (413) 448 5400

### Brazil

GE Plastics South America  
Av. Das Nacoes Unidas, 12995 - 20 Andar  
Edificio Plaza Centenario  
04578 - 000 Sao Paulo, Sp  
Brazil  
Tel. (55) 11 5505 2800  
Fax (55) 11 5505 1757

### Argentina

GE Plastics South America  
Av. L.N. Alem 619 9 Piso  
1001 Buenos Aires  
Argentina  
Tel. (54) 1 317 8753  
Fax (54) 1 313 9560

## EUROPE

### European Headquarters

General Electric Plastics B.V. SPE  
Plasticslaan 1  
PO Box 117  
NL - 4600 AC Bergen op Zoom  
The Netherlands  
Tel. (31) (164) 29 27 42  
Fax (31) (164) 29 19 86

### United Kingdom

GE Plastics Ltd  
Old Hall Road  
Sale  
Cheshire M33 2HG  
United Kingdom  
Tel. (44) (0)207 744 0000  
Fax (44) (0)161 9055 196

### Italy

General Electric Plastics Italia S.p.A.  
Viale Brianza 181  
I - 20092 Cinisello Balsamo (Mi)  
Italy  
Tel. (39) 02 61 83 42 61  
Fax (39) 02 61 83 42 09

### Germany

General Electric Plastics GmbH  
Eisenstraße 5  
D - 65428 Rüsselsheim  
Germany  
Tel. (49) (61 42) 601 101  
Fax (49) (61 42) 601 259

### Spain

GET sl (Gestión y Especificaciones Técnicas)  
Agente Oficial España y Portugal  
C/Girona, 67, 3<sup>a</sup>-2a  
08009 Barcelona  
Spain  
Tel. (34) (93) 488 03 18  
Fax (34) (93) 487 32 36

### France

General Electric Plastics France S.à.R.L.  
Z.I. de St. Guénault B.P. 67  
F - 91002 Evry-Cedex  
France  
Tel. (33) (1) 60 79 69 57  
Fax (33) (1) 60 79 69 21

## PACIFIC

### Australia

GE Plastics (Australia) Pty. Ltd.  
175 Hammond Road  
Dandenong, Victoria 3175  
Australia  
Tel. (61) 39 794 4204  
Fax (61) 39 794 8563

### Beijing

GE Plastics  
Citic Building, 3rd Floor  
No. 19 Jian Guo Men Wai Avenue  
Beijing 100004  
China  
Tel. (86) 10 6500 6538  
Fax (86) 10 6500 6476

### Guangzhou

GE Plastics Guangzhou  
Room 1212, Yi An Plaza  
No. 38, Jian She 6 Road  
Guangzhou, 510060  
China  
Tel. (86) 20 8387 2818  
Fax (86) 20 3128 or 3118

### Hong Kong

GE Plastics Hong Kong Ltd.  
Rm 1008, Tower 1, The Gateway  
25 Canton Road  
Kowloon  
Hong Kong  
Tel. (852) 26 29 0880  
Fax (852) 26 29 0801

### Indonesia

GE Plastics Indonesia  
Menara Batavia 5th Floor,  
JI KH Mas Manyur kav.126  
Jakarta 10220  
Indonesia  
Tel. (62) 21 574 4980  
Fax (62) 21 574 7101

### Japan

SP Pacific Ltd.  
Nihombashi Hamacho Park Bldg. 5th Floor  
2-35-4 Nihombashi Hamacho  
Chuo-ku, Tokyo 103-0007  
Japan  
Tel. (81) 3 569 6301  
Fax (81) 3 569 6306

### Korea

GE Plastics Korea Co. Ltd.  
#231-8 Nonhyun-Dong  
Kangnam-Ku  
Seoul 135-010  
Korea  
Tel. (822) 510 6273  
Tel. (882) 510 6373  
Fax (822) 510 6420

### Shanghai

GE Plastics Shanghai  
26th Floor, United Plaza  
1468 Nanjing Road (W)  
Shanghai 200040 China  
Tel. (86) 21 6288 1088  
Fax (86) 21 6288 0818

### Singapore

GE Singapore  
GE Tower, 240 Panjang Pagar Road  
#500 Singapore 088540  
Tel. (65) 326 3900  
Fax (65) 326 3946

### Taiwan

GE Plastics  
13th Floor, #168  
Tun Hua North Road  
Taipei  
Taiwan  
Tel. (886) 2 514 9842  
Fax (886) 2 514 9921

### Thailand

GE Plastics Thailand  
15th Floor, Thaniya Plaza Buiding  
52 Silom Road, Bangkok 10500  
Thailand  
Tel. (662) 231 2918  
Fax (662) 231 2322

All information, recommendation or advice contained in this document or given by General Electric Company, USA, or any of its subsidiaries, affiliates or authorised representatives, whether written or oral, is given in good faith, to the best of its knowledge and based on current procedures in effect. The products of General Electric Company or, if applicable, of its subsidiaries or affiliates are sold subject to Conditions of Sale, printed on the back of order acknowledgements, invoice or available upon request. Nothing in this or any other document shall alter, vary, supersede or operate to waive any of the Conditions of Sale. Each user of the products shall convince himself, through all available sources (including finished product testing in its appropriate environment) of the suitability of the products supplied for its own particular purpose. Because actual use of the products by the user is beyond the control of General Electric Company, its subsidiaries and affiliates, such use is within the exclusive responsibility of the user. General Electric Company, its subsidiaries and affiliates cannot be held responsible for any loss incurred through incorrect or faulty use of the products. Information, recommendation and/or advice are neither made to infringe on any patents, nor to grant a license under any patent or intellectual property right of General Electric Company or any of its subsidiaries or affiliated companies, nor to grant the right to file for any patent protection.

Lexan® is a Registered Trademark of General Electric Co., USA.

