



*The Plastic Films Specialist*

## FR11 Technical Data Sheet

### **Description and Applications**

Tenopex®PC FR11 is a clear glossy polycarbonate film with excellent flame retardant performance rating at UL94 V-0 at 0.25mm. The product meets critical requirements in terms of physical, mechanical, electrical and thermal properties. Besides, it has good printability, formability and dimensional stability even at high temperature. Its superior product features make it ideal for various insulation with printing applications such as computer labels, aerospace printing labels and panels, TV and monitor insulation and so on.

### **Typical Property Values**

Property	Test Method	Units	Value
<b>Physical</b>			
Density	ASTM D792	g/cm <sup>3</sup>	1.33
Water Absorption , 24hrs	ASTM D570	%	0.29
<b>Optical</b>			
Light Transmission	ASTM D1003	%	89-91
Haze	ASTM D1003	%	1
<b>Mechanical</b>			
Tensile Strength	ASTM D882	MPa	63
Tensile Elongation at Break	ASTM D882	%	25
Young Modulus	ASTM D882	MPa	≥2100
Impact Strength (0.76mm)	ISO 6603-1	J	31
<b>Thermal</b>			
Heat Deflection Temperature at 1.82Mpa	ASTM D648	°C	137
Coefficient of Thermal Expansion	ASTM D696	10 <sup>-5</sup> /°C	7
Coefficient of Thermal Exchange	ASTM C177	W/m.°C	0.19
Shrinkage at 150°C.	ASTM D1204	%	1.4



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### Electrical

Dielectric Strength	ASTM D149	V	17000
Surface Resistivity	ASTM D257	$\Omega$ /square	$10^{15}$
Volume Resistivity	ASTM D257	$\Omega$ .cm	$10^{16}$

### UL Flammability

Film thickness < 0.25mm	UL94	VTM-0
Film thickness $\geq$ 0.25mm	UL94	V-0

### Manufacturing Gauge Specifications

Nominal Gauge Ranges	Min/Max Tolerances of Nominal
0.25mm - 0.375mm	+/- 7%
0.5mm - 1.0mm	+/- 5%

These are typical properties and are not intended for specification purposes. If minimum certifiable properties are required, please contact your local sales representative. Reported values are based on 0.250 mm thickness film unless otherwise noted.

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