

Ultraflex PETG is a transparent material that is the ideal for applications that require die cuts and precise molded-in details without compromising the structural integrity of the material. The material is 100% virgin and has an anti-fog component. Ultraflex PETG is designed to be used in various applications such as face-mask shields, industrial, POP display and store fixture industries.

Physical	TEST METHOD	Metric	US
Specific Gravity/Relative Density	ASTM D1505	1.29 g/cm <sup>3</sup>	.046 lb/in <sup>3</sup>
Optical Refractive Index	ASTM D542	1.57	
Light Transmission -Total	ASTM D1003	90%	
Light Transmission - Haze	ASTM D1003	<1.0 %	
Water Absorption	ASTM D570	0.13 %	
Mechanical	TEST METHOD	Metric	US
Tensile Strength @Yield 50mm/min (2inch/min)	ASTM D638	50 Mpa	7251.89 psi
Tensile Strength @ Break (2inch/min)	ASTM D638	26 Mpa	3770.98 psi
Elongation @Yield (2inch/min)	ASTM D638	4.5 %	
Elongation @ Break (2inch/min)	ASTM D638	120%	
Flexural Strength 1.27mm/min (0.05inch/min)	ASTM D790	71 Mpa	10297.7 psi
Flexural Modulus 1.27mm/min (0.05inch/min)	ASTM D790	2150 Mpa	311831.1 psi
IZOD Impact Strength Notched @23°C(73°F)	ASTM D256	85 J/M	1.59 ft-lb/in
Thermal	TEST METHOD	Metric	US
Deflection Temperature @ 264 psi (1.8 MPa)	ASTM D848	143.6 °F	
Deflection Temperature @ 66 psi (0.45 MPa)	ASTM D648	158 °F	

The information on physical and chemical characteristics is based upon tests believed to be reliable. The values are intended only as a source of information. A legally binding guarantee of specific properties is not to be inferred from our specifications. They are given without guarantee and do not constitute a warranty. The purchaser should independently determine, prior to use, the suitability of the material for his/her specific purpose. (Data represents averages and is not intended for use as a specification.)

## Ultraflex PETG

### 1. Product Identification and Manufacturer

- 1.1 Commercial Product name: Ultraflex PETG
- 1.2 Manufacturer / Supplier Address: Ultraflex Systems Inc.  
1578 Sussex Turnpike Bldg 4  
Randolph, NJ 07869  
P. 973-627-8608  
F. 973-627-8506
- Emergency phone: 973-627-8608

### 2. Hazardous Components

- 2.1 **Chemical composition**  
Identification: None

### 3. Potential Dangers

- 3.1 **Human being**  
Fear of physical hurt on eye or skin from the edge. None
- 3.2 **Environmental**  
Aquatic / Ecology Toxicity: None  
Soil movement: None  
Residue / Decomposition: None  
The possibility of the Accumulation into the body of animals/ plants: None

### 4. First Aid - Measures

- 4.1 **Inhalation:** Move to fresh air in case of accidental inhalation of dust or fumes from overheating or combustion.
- 4.2 **Skin contact:** In case of contact with melted material, run cool water on skin. Seek medical attention for thermal burns.
- 4.3 **Eye contact:** In case of contact with dust or fumes, flush eyes with lukewarm water.
- 4.4 **Ingestion:** No health effects are expected. However, if ingested consult a doctor.

### 5. Measures in Case of Fire

- 5.1 **Extinguish media:** Fire extinguisher class B (e.g. dry chemical, CO<sub>2</sub>)
- 5.2 **Unusual fire / explosion hazards or hazardous decomposition products:** Under recommended usage conditions, no usual fire or explosion hazards are anticipated. However, thermal decomposition may occur by heating or direct flame producing carbon monoxide, carbon dioxide and gaseous HCl.
- 5.3 **Special protection equipment for fire combat:** Wear full protective equipment and a self-contained breathing apparatus.

## Ultraflex PETG

### 6. Measures in Case of Accidental Release

- 6.1 **Human related safety purposes**  
Do not breathe vapors or dust if molten. Allow to cool and place into appropriately leveled containers for disposal
- 6.2 **Environmental protection measures and cleaning**  
Do not release into environment, i.e. drains.

### 7. Handling and Storage Procedures

This product is considered to be an article which does not release a hazardous chemical under normal use conditions.

- 7.1 **Handling**
  - 7.1.1 Wash thoroughly after handling, avoid creating dust. Follow industrial hygiene and safety practices.
  - 7.1.2 Information for fire and explosion protection  
Keep away from open flame.
- 7.2 **Storage**
  - 7.2.1 Requirements on storage rooms and containers  
Containers should be tightly closed to prevent contamination with moisture or foreign materials.  
Keep away from open flame.

### 8. Working Place Safety and Personal Protective Equipments

- 8.1 **Additional hints for design of working places**  
Prepare personal protective equipment, see 8.3
- 8.2 **Substances with working place related limits, to be controlled**  
Not applicable
- 8.3 **Personal protective equipments**
  - 8.3.1 Industrial hygiene and general protective measurements  
Provide good ventilation to eliminate smoke and dust during processing.
  - 8.3.2 Respiratory protection  
The dust and smoke concentration in the processing exceeds the standard, and a self-suction filter dust mask is required.
  - 8.3.3 Hand protection  
Wear gloves when necessary or insulated gloves when melting.
  - 8.3.4 Eye protection  
Wear protective glasses when necessary to avoid high-temperature material melt, dust or smoke.
  - 8.3.5 Body protection  
Long-sleeved overalls, no harm to the skin under normal conditions.

## Ultraflex PETG

### 9. Physical and Chemical Properties

#### 9.1 Appearance

- 9.1.1 **Form:** Solid film
- 9.1.2 **Color:** White
- 9.1.3 **Odor:** Odorless

#### 9.2 Safety Related Information

- |        |                                 |     |                       |     |
|--------|---------------------------------|-----|-----------------------|-----|
| 9.2.1  | Boiling point/range             | N/A | Melting point/range   | N/A |
| 9.2.2  | Flash point                     | N/A | in closed melting pot | N/A |
| 9.2.3  | pH-Value, conc.                 | N/A | pH-Value, 1% in water | N/A |
| 9.2.4  | Inflammability (EG A10/A13)     | N/A |                       |     |
| 9.2.5  | Ignition temperature            | N/A |                       |     |
| 9.2.6  | Self ignition (EGA16)           | N/A |                       |     |
| 9.2.7  | Fire supporting characteristics | N/A |                       |     |
| 9.2.8  | Danger of explosion             | N/A |                       |     |
| 9.2.9  | Explosion limits (Vol % lower)  | N/A | (Vol % upper)         | N/A |
| 9.2.10 | Thermal decomposition           | N/A |                       |     |

#### 9.3 Other characteristics

- |        |   |           |
|--------|---|-----------|
| 9.3.1  | Density (g/mL)                                      | VAR       |
| 9.3.2  | Solubility in water                                 | Insoluble |
| 9.3.3  | Vapor pressure (mbar)                               | N/A       |
| 9.3.4  | Vapor density (Air = 1)                             | N/A       |
| 9.3.5  | Distribution coefficient n-Octanol/H <sub>2</sub> O | N/A       |
| 9.3.6  | Viscosity (20C, cps)                                | N/A       |
| 9.3.7  | Solvent separation test                             | N/A       |
| 9.3.8  | Solvent concentration (Gew. %)                      | N/A       |
| 9.3.9  | Evaporation number                                  | N/A       |
| 9.3.10 | Chem. Oxygen Demand COD (mg/L)                      | N/A       |
| 9.3.11 | Biochem. Oxygen Demand BOD <sub>5</sub> (mg/L)      | N/A       |

### 10. Stability and Reactions

- 10.1 **Conditions to avoid:** Flame, Direct sunshine, High temperature, High humidity
- 10.2 **Substances to keep away from:** Strong oxidizing agents
- 10.3 **Hazardous decomposition products:** None in normal condition

### 11. Information on toxicity

- 11.1 Acute toxicity: Not applicable
- 11.2 Subacute to chronic toxicity: Not applicable
- 11.3 Experience on human being / other information: Not applicable

## Ultraflex PETG

### 12. Information on Ecological Effects

- 12.1 Information about degradation: No data
- 12.2 Influence on biological sewage treatment plants: No data
- 12.3 Other information

### 13. Disposal

- 13.1 Recommendation for product rests  
Dispose in compliance with applicable local, county, state or federal regulations regarding health and environment.
- 13.2 Recommendation for contaminated packing material  
Dispose in compliance with applicable local, county, state or federal regulations regarding health and environment.

### 14. Information on transport

Contact the phone number listed on the first page of the MSDS for transportation information.

### 15. Regulations

- 15.1 **Declaration**  
Safety symbols: Not applicable  
Safety declaration: Not applicable  
  
**R-codes:** Not applicable  
  
**S-codes:** Not applicable  
  
**Special declarations**  
  
**National declarations**

### 16. Further Information

This information is based on the knowledge and experience made until the date of the elaboration of this document, without any guarantee related to the products characteristics.



## Product Data Sheet

# Lexan<sup>®</sup> 8010 Film

### Description

Lexan 8010 is a two sides polished transparent polycarbonate film.

Lexan 8010 offers high temperature resistance, excellent dimensional stability as well as good printability without pre-treatment making it the ideal product for multi-layer printing.

Typical applications include :

- control panel overlays
- remote control overlays
- high performance labels
- in-mould decoration
- automotive instrument clusters
- HV/AC overlays
- appliance overlays

Texture	Gauge (mm)	Colour
polished/polished	0.125	112
	0.175	
	0.250	
	0.375	
	0.500	
	0.635	
	0.750	

Lexan



**Product Data Sheet**

**Lexan<sup>®</sup> 8010 Film**

Property	Test	Unit	Value+
<b>Physical</b>			
Specific Gravity	ISO 1183	g/cm <sup>3</sup>	1.20
Water absorption, saturation, 23°C	ISO 62	%	0.35
Pencil Hardness	ASTM D3363	-	B
<b>Optical</b>			
Haze	ASTM D1003	%	<1
Refractive index, 25°C	DIN 53491	-	1.586
Light Transmission, average	ASTM D1003	%	90
Yellowness index	ASTM D1925	-	<1.0
<b>Mechanical</b>			
Tensile stress at yield	ISO R527	MPa	63
at break		MPa	70
Strain at break	ISO R527	%	120
Tensile Modulus	ISO R527	MPa	2350
Tear Strength initiation	ASTM D1004	kN/m	245
propagation	ASTM D1922	kN/m	10-20
Burst Strength, Mullen 25 micron	ASTM D774	N/mm <sup>2</sup>	0.28
Fold Endurance, double 250 micron	MIT	folds	200
<b>Thermal</b>			
Tensile Heat Distortion, 0.35 N/mm <sup>2</sup>	ASTM D1637	°C	150
DTUL, 1.8 N/mm <sup>2</sup>	ISO 75	°C	135
Vicat Softening Temperature, B	ISO 306	°C	150
Specific Heat	ASTM C361	kJ/kg.°C	1.25
Coefficient of Thermal Expansion	DIN 53752	1/°C	6.8x10 <sup>-5</sup>
Thermal Conductivity	DIN 52612	W/m.°C	0.20
Strain Relief, 135°C	ASTM D1204	%	<0.2
Brittleness Temperature	ASTM D746	°C	-135
<b>Electrical</b>			
Dielectric Strength at 23°C in Oil, Short Time, 250 micron	IEC 243-1	kV/mm	67
Relative Permittivity 50 Hz	IEC 250	-	2.99
1 MHz		-	2.93
Dissipation Factor 50 Hz	IEC 250	-	0.0009
1 MHz		-	0.010
Volume Resistivity	IEC 93	Ohm.m	10 <sup>14</sup>
Surface Resistivity	IEC 93	Ohm	10 <sup>15</sup>
Arc Resistance, Tungsten	ASTM D495	s	120

+ Typical values only. Variations within normal tolerances are possible for the various textures.

# Lexan<sup>®</sup> 8010 Film

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## Typical Film Properties

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Property	Unit	Value
Scratches	mm	< 6 Hairline, Buff Type
Web Edge Curl*		
Machine direction, masked	mm	< 12.7
Machine direction, unmasked	mm	< 6.4
Transverse direction, masked	mm	< 2.5
Transverse direction, unmasked	mm	< 2.5
Defect Size		
> 0.6 mm	Nr.	max. 1 per 10m <sup>2</sup>
> 0.4 mm	Nr.	max. 1 per 0.1m <sup>2</sup>
> 0.1 mm	Nr.	max. 20 per 0.1m <sup>2</sup>
Nominal Gauge Variation		
< 0.375 mm	%	10 %
>= 0.375	%	5 %

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\* Films from 375 to 750 micron gauge may contain curl due to roll set. This property can be minimized by double reverse winding the rolls approximately 48 hours prior to sheeting.



**GE Plastics**  
*Structured Products*

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The Netherlands

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