

Laser Engravable and Standard Clear Polycarbonate Overlay Films:

Whether you need an engravable option or a clear and durable overlay, CET films deliver.



C E T F I L M S

Clear Polycarbonate Overlay Films

Our films are a cost effective solution to protect security-sensitive documents. Fused with other layers of polycarbonate, our films can form a single, solid sheet, which will not delaminate. This unique feature foils efforts of potential counterfeiters. CET Films' superior durability makes our solution an exceptional choice for any type of security documents.

- Polycarbonate's inherent durability provides supreme protection and strength to extend the service life of cards and documents.
- Laser engravable option is compatible with a wide range of printing technologies.
- Available in .002" (50 micron), .003" (75 micron), .004" (100 micron) gauge sheets or rolls.
- Standard matte and fine matte surfaces.
- Available custom gauges up to .020" (500 micron) as well as custom surface finishes and custom colors.
- Ideal applications include both external and internal layers of identity cards, credit cards, driving licenses and passports.



Card Solutions For A Better World

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Typical Properties

Physical Properties	Unit	Test Method	Value
Physical			
Specific Gravity, 23°C	g/cm ³	ASTM D-792	1.2
Melt Flow Index, 300°C, 1.2 kg	G/10 min	ASTM D-1248	6.5
Water Absorption, 24 hrs 73°F, 22.8C	%	ASTM D-570	0.12-0.30
Mold Shrinkage	In/in	ASTMD-955	0.0060 to 0.0080
Thickness Tolerance (100 – 250 micron thick)	Micron		± 5%
Surface Roughness (Matte Finish)	Ra	ASME B46.1	.76-.80
Surface Roughness (Fine Matte Finish)	Ra	ASME B46.1	.38-.42
Optical			
Transmittance at (50-250 micron thick)	%	ASTM D-1003	Target Value 91
Haze at (50-250 micron thick)	%	ASTM D-542	Target Value 1.6
Mechanical			
Tensile Strength, yield, 0.125" , 4.921 mm	PSI (MPa)	ASTM D-638	9,100 (63)
Tensile Elongation, break, 0.125", 4.921 mm	%	ASTM D-638	125
Flexural Strength, 0.125", 4.921mm	PSI (MPa)	ASTM D-790	12,500 (86)
Fluxural Modulus, 0.125", 4.921mm	Lb/in ² (GPa)	ASTM D-790	(330,000) 2.3
Rockwell Hardness	R-Scale	ASTM D-785	118
Impact			
Izod Impact Str., Notched, 0.125" (3.175mm)		ASTM D-256	18 (960)
Thermal			
Coefficient of Linear Thermal Expansion	(in/in/F) mm/mm/C	ASTM D-696	(3.9 E-05) 7.0E-05
Vicat Softening Temperature, Rate A	°F (°C)	ASTM D-1525	(315) 157
Heat Deflection Temp. @66PSI (4.640 GSC)	°F (°C)	ASTM D-648	288 (142)
Heat Deflection Temp. @264PSI (18,561GSC)	°F (°C)	ASTM D-648	270 (132)
Flame Class			
Flammability	%	ASTM D 2863	
0.059in (1.5 mm) Thickness	Rating	(UL94)	HB
0.118in (3.0 mm) Thickness	Rating		HB
Electrical			
Dielectric Strength	Volts/mil (25 microns)	D-149	810
Dielectric Constant 60Hz		D-150	3
Dielectric Factor 60Hz		D-150	0.00090

*These are typical properties and are not intended for specification purposes.