



Claritex[®]
Polycarbonate Films

Claritex Polycarbonate and Custom Extruded Films

- Superior clarity, flexibility, and durability.
- More choices in color, width, gauge, and finish.
- Deeper embossing.
- Faster turnaround.
- Smaller minimum orders.

THE CLEAR CHOICE
FOR GREAT-LOOKING
GRAPHICS



Claritex: Your Clear Choice for High-Performance Polycarbonate Film

Looking for a high-performance transparent, white, or colored substrate?

For many screen and digital printers, Claritex® polycarbonate films are clearly the substrate of choice.

Superb optical clarity, dimensional stability, toughness, flexibility, and heat resistance to 270°F [132°C] make Claritex films ideal for such applications as:

- Airport signage
- Appliances
- Automobile dashboards
- Back-lit displays
- Cell phones
- Display panels
- Graphic overlays
- Instrument panels
- Insulators
- Labels
- LED displays
- Medical diagnostics
- Membrane switches
- Menu boards
- Mouse pads
- Nameplates
- Floor Graphics
- Packaging
- Push-button pads
- Signs
- Trade show graphics



Standard Claritex polycarbonate films are available in thicknesses from 2.5 to 20 mils [62.5 to 500 microns] in widths up to 60 inches [1524 mm]. Standard finishes include polish/polish, matte/polish, velvet/polish, velvet/matte, and velvet/fine matte. Standard colors are clear, bright white, and off-white. White films are available in opaque or semi-translucent.

These fine polycarbonate films give you excellent ink adhesion without treatment. You can imprint Claritex films using screen print and digital UV, hot stamping, flexographic, litho, and rotogravure.



Flexible enough to fit your application

Printing – Polycarbonate is excellent for second surface printing. Most inks adhere well to Claritex film without pretreatment or print coat.

Bonding – Many different adhesive systems can be used with Claritex film, which can also be bonded through heat sealing.

Die cutting – Polycarbonate can be die cut with steel rule, matched-metal, and rotary dies.

Durability – Although not recommended for outdoor applications, graphics made with Claritex film can last from months to years.

Low stress – Our custom-built extruders put the material under less stress — preventing stress cracking, improving ink adhesion, and providing superior thermoforming characteristics.

Shelf life – Under proper storage conditions, Claritex film has a shelf life of one year. Polycarbonate film should not be exposed on a continuous basis to temperatures exceeding 185°F [85°C].

Fire-resistant – Claritex standard polycarbonate films meet the stringent UL 94 V-2 specification for low flammability.

Claritex film performance specifications

Physical Properties	Unit	Test Method	Value
Physical			
Specific Gravity, 23°C	-	ASTM D-792	1.20
Melt Flow Index, 300°C, 1.2kg	G/10 min	ASTM D-1248	5.0
Water Absorption, 24 hrs 73°F, 22.8C	%	ASTM D-570	0.23-0.26
Mold Shrinkage	%	3mm thick, 100mm diam. disk	0.5-0.8
Optical			
Light transmission [3mm thick]		ASTM D-1003	85-89%
Refractive Index.	%	ASTM D-542	1.585%
Mechanical			
Tensile Strength, yield, 0.125", 4.921mm	PSI [MPa]	ASTM D-638	8,750 [60]
Tensile Elongation, break, 0.125", 4.921	%	ASTM D-638	120
Flexural Strength, 0.125", 4.921mm	PSI [MPa]	ASTM D-790	12,325 [85]
Flexural Modulus, 0.125", 4.921mm	10x5 PSI [MPa]	ASTM D-790	3.3 [2,300]
Rockwell Hardness	R-Scale	ASTM D-785	122
Impact			
Izod Impact Str., Notched, 0.125" [3.175mm]	--	ASTM D-256	16.8 [900]
Thermal			
Heat Deflection Temp. @66PSI [4.640 GSC]	°F [°C]	ASTM D-648	284 [140]
Heat Deflection Temp. @264PSI [[418,6561 GSC]	°F [°C]	ASTM D-648	275 [135]
Flame Class			
Flammability	--	UL94	V2≥15mil (375 micron)
Flammability Motor Vehicle		ASTM 0618/FM SS 302	Pass ≥10 mil [250 micron]
Electrical			
Dielectric Strength	Volts/mil [25 microns]	D-149	508
Dielectric Constant 60Hz	--	D-150	2,850
Dielectric Factor 60Hz	--	D-150	.0082

Custom Extruded Films made to order

In addition to our standard Claritex film, R Tape produces custom requirements for film in a wide range of substrates, widths, thicknesses, colors, and finishes, with low minimum order quantities and fast turnaround.

Our special custom-built extruders enable molten embossing and deep coloring of PVC, polycarbonate, co-polyester, and acrylic. This hot embossing produces deeper grooves than conventional cold embossing.

Films can be extruded to finished widths of 60 inches [1524 mm] in gauges of 2.5 to 20 mil [62.5 to 500 microns], with outside roll diameters up to 21 inches [533.4 mm], in hundreds of standard colors and a variety of finishes. Custom slitting and sheeting are also available.

R Tape custom film capabilities

Customer specification	R Tape capabilities
Materials	Polycarbonate, acrylic, PVC, polyethylene, polystyrene, PETG
Metallization	Available in all materials
Finishes (single or in combination)	Polish, matte, fine matte, velvet
Protective masking	Stick/Cling
Colors	Over 400 colors matched plus matching for custom colors
Widths	Up to 60 inches [1524 mm]
Gauges	2.5 – 20 mils [62.5 to 500 microns]

How to order Claritex polycarbonate film

Claritex films meet or exceed the competition's performance specifications, and you can use the chart below to order the correct Claritex product for your application.

Cross reference chart | Standard grade products

Surface finishes	Claritex®	Sabic Lexan®	Bayer Makrofol®
Polish/Polish	CPP	8010	DE1-1
Matte/Polish	CMP	8A13	N/A
Fine Matte/Polish	CFP	8A13F	DE1-4
Velvet/Matte	CVM	8B35	PVCM
Velvet/Fine Matte	CVF	8B35F	DE7-2
Velvet/Polish	CVP	8A35	PCVE





14 reasons to choose R Tape films

1. Low minimum orders.

Many film suppliers have 10-roll minimum orders. Not R Tape. We gladly take orders as small as two master rolls – just 1,300 pounds [589.7 kg].

2. Faster turnaround.

Quick turnaround means we can often deliver your film in half the time that other suppliers can – as little as 2-3 weeks.

3. Non-standard gauges.

Many film suppliers have standard gauges but only down to 5 mil [125 microns]. Claritex can be manufactured in thicknesses as low as 2.5 mil [62.5 microns], resulting in cost savings of 15 to 20%. Claritex films can also be manufactured in many custom thicknesses, such as 0.009 and 0.012-inch [0.229 and 0.0305 mm], that other sources do not offer.

4. In-house custom color matching.

Our in-house color lab, fully equipped with colorimeter and spectrophotometer, enables us to match any custom color your customer demands.** Color formulations are stored in a database for reorders.

**Note: minimum order on custom colors is 3 master rolls (1,950 pounds [884.5 kg]).

5. Wider rolls.

Rolls as wide as 60 inches [1524 mm] in all finishes and thicknesses.

6. Tighter tolerances.

We can fabricate film rolls to gauge tolerances tighter than the typical +/- 10% of other manufacturers.

7. Deep embossing.

Don't settle for micro-embossing at superficial depths. Our proprietary hot process embosses deep into the film, enabling creation of distinctive custom patterns and anti-skid surfaces.

8. Custom textures.

Films can be finished in many combinations of textures: polish, matte, velvet, coarse brushed, and fine brushed. Custom textures are available and require new tooling.

9. Overlaminating.

Protective overlaminates eliminate the reflection of overhead lights to permit glare-free viewing. They also shield graphics from UV light, preventing photos and digital prints from fading and discoloring.

10. Sheeting.

Films can be cut into 2x4 or 4x4 feet sheets and packaged in minimum lots of 100 sheets.

11. Roll conversion and slitting.

Other suppliers ship rolls only in a limited number of standard lengths. R Tape converts rolls to custom lengths with custom slitting down to 4-inch [101.6 mm] widths.

12. Hard coat.

A scratch-resistant hard coat, applied with an in-house UV system, protects Claritex polycarbonate from abrasion and harsh chemicals used in cleaning. The hard coat also enhances durability and prevents cracking. Available with 12, 40, 60, and 92° gloss levels.

13. Printable top coat.

Polycarbonates are difficult to print with solvent or eco-solvent ink jet systems. We can apply a proprietary top coat on the film to which these inks adhere readily.

14. Thermoforming.

High melt strength and low stress allow Claritex polycarbonate film to be consistently pressure or vacuum thermoformed.



R Tape: your single-source for films, substrates, and laminates

Claritex®

Clear polycarbonate films for everything from displays and instrument touch panels to automobile speedometers and restaurant menus. Print your graphics on the film or on a diffuser coat behind it, and back-light for a brilliant, eye-catching display. Available in thicknesses from 2.5 to 20 mils [62.5 to 500 microns].

Vinylefx®

A rigid metallized PVC substrate that can be computer-cut, die cut, domed, or hot-embossed to create deeper, better-defined patterns. You can print on Vinylefx using screen print solvent and UV inks, thermal transfer systems, and UV, solvent, and ecosolvent ink jet printers.

Eclipse™

Manufacturing our Eclipse brand-name polycarbonate overlamine and Claritex polycarbonate film under one roof gives us total control over quality. Non-yellowing adhesive coating improves resistance to tunneling, crazing, and stress whitening when graphics are rolled. Other Eclipse overlaminating films include 3.2 mil [80 microns] PVC in gloss, luster, satin, and matte; 1 and 2 mil [25-50 microns] gloss polyester; and 5 and 10 mil [125 and 250 microns] mar-resistant PVC.

R Tape: the quality source for graphic arts

Founded in 1980, R Tape Corporation makes tapes, films, and masks for screen printers, sign makers, digital printers, and roll label printers.

All R Tape products are made in the U.S.A. specifically for the graphic arts industry. We're big enough to provide reliable local supply across the globe ... yet small enough to provide personalized service and custom orders with lower minimums and quicker deliveries than our competitors.

A dedicated Quality Assurance [QA] Laboratory subjects all incoming materials to rigorous testing protocols, ensuring that every product meets our stringent specifications and standards. Our QA Group monitors and documents incoming materials, production equipment, quality procedures, and all other factors influencing product quality.



**Are These the Films
You're Looking For?**

If not, relax. R Tape can manufacture custom films in the substrates, gauges, widths, colors, and finishes you need, with fast turnaround and low minimum order quantities. Call your R Tape sales representative for a prompt, no-obligation quotation today.

**RESPONSIVE.
RELIABLE.
RESOURCEFUL.**



Claritex[®]
Polycarbonate Films

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