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Approved by J. S.

Product

PF6500 Textured Series Digital Overlaminating Films

Permacolor

The **Permacolor** system is a series of pressure sensitive products for mounting and overlaminating in the imaging industries. Pressure sensitive **Permacolor** provides fast, efficient processing through cold roll lamination techniques without the need for heat, drying or messy coating operations.

Product Description

The **PermaFlex® overlaminating films** is a family of relatively thick films that are coated with pressure sensitive adhesive on one side. These unique films can be laminated to either one or both sides of photographic prints, transparencies and digital images (inkjet, electrostatic, and thermal) to impart protection, surface texture and enough rigidity to eliminate the need for mounting to traditional flat substrates in many applications. These laminates also retain enough flexibility to allow images to be used in non-flat configurations such as on cylindrical displays. This feature also permits the laminates to be rolled for easy shipping or storage.

PF6500 is a **4.3-mil** clear textured vinyl that helps to eliminate glare and provides a very unique and pleasing viewing surface. This product can be used as an overlaminate for indoor as well as outdoor applications. A smooth 1.2-mil PET release liner protects the adhesive.

PF6500 can also be used as an indoor floor graphic laminate where dry conditions are expected.

Physical Properties

Property	Typical Values	Test Method
Thickness, inches (μm)		ASTM-D645
Film face only	0.0043 (109)	
Film plus adhesive	0.0053 (135)	
Total product	0.0097 (260)	
Quick Tack, lbs. /in² (N/25mm)	2.3 (10)	FTM-9
Peel Adhesion lbs./in (N/25mm)		FTM-1
180° on Stainless Steel		
- 30 min	2.9 (13)	
- 24 hrs.	3.5 (16)	
Dimensional Stability %		FTM-14
MD	0.6	
CD	0.3	
Static Coefficient of Friction (Slip Resistance)	No longer specified for indoor dry applications.	

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Temperature Range Application: End Use:	40°F to 120°F (4.5°C to 50°C) -50°F to 225°F (-45°C to 107°C)	
Surface Burning Characteristics (Meets ANSI, NFPA, and IFC as class A) Flame Spread Smoke Density	5 25	ASTM E84-01 or ANSI/NFPA 255 or IFC 8-1
Adhesive pH	Neutral	TAPPI-529

Durability

The durability of this film as a **Floor Graphic** (horizontal) is 3 months indoor and 1 week outdoors. The durability of the film is 2-3 years in vertical (90±5°) applications outdoors and 3-5 years indoors in vertical applications. All Permacolor overlaminating films have UV resistance built in to help extend the life of your image. However, the durability of the image is mainly dependent upon the quality of the inks (see technical data sheets given by the ink manufacturers) and pressure sensitive media being used.

Shelf Life

Two years when stored at 75°F (24°C) and 50% relative humidity or less. Note: MACTac recommends that rolls be stored on end or suspended from the core.

Limitations

- 1) The user is responsible for determining the product's suitability, including adhesion and if needed, removal characteristics when used in applications other than listed specifically in this Performance Guide.
- 2) If there are any questions about applications, please contact your Mactac sales representative to discuss your requirements for recommendations.
- 3) If this is a printed Performance Guide it is an uncontrolled document. Please check the Mactac website for the latest, most up-to-date version

Recommendations

Mactac studies and field surveys with numerous customers using Permacolor® laminates in rolled-up graphic applications, leads to the following recommendations for rolling and shipping laminated images:

1. **Prior to rolling graphics:**
 - a) A 2 - 4 hour wet-out period is strongly recommended for the adhesive system to build to ultimate adhesion. This will significantly improve your success with rolled-up graphics.
 - b) This product can be used over UV inkjet and screen printed images. However, extra wet-out time is required to reduce silvering and build bond prior to rolling.
2. **For single-side laminated images:**
 - a) Roll laminated side in for shipping and storage.

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- b) An inside roll diameter of 3 - 5 inches, minimum, is recommended for graphics with *less than 10 mil total graphic thickness* (includes imaged media and Permacolor overlaminates).
- c) For images with a *total thickness of 10 mils or greater* an inside roll diameter of 10 - 12 inches, minimum, is recommended.

3. For images laminated on both front and back sides:

- a) Roll images with the thicker laminate to the inside for shipping and storage. For example: if your image has 5 or 10 mil polycarbonate or vinyl on the front and 15 mil Polycarbonate on the back (for additional stiffness), roll the graphic with the 15 mil PermaFlex® side in.
- b) All double laminated images should be rolled with an inside roll diameter of 10 - 12 inches minimum. Remember that a larger inside diameter is better.

Please keep in mind that these are **recommendations**, individual experience should not be discounted. We recognize that different laminators and laminating methods may produce different results. The recommendations above represent our experience as having the “greatest” success in the field.

- *Values given are typical for unprocessed product and are not for use as specifications. Processing may change the values.*

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