



PERFORMANCE GUIDE

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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 exceeds industry standards for slip resistance, when tested according to ASTM C-1028.

<u>PHYSICAL PROPERTIES</u>	<u>TYPICAL VALUES*</u>	<u>TEST METHOD</u>
Thickness, inches (µm)		ASTM D645
Film face	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
180° Peel Adhesion, lb. /in (N/25mm)		FTM-1
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)		ASTM C 1028-2007
<i>OSHA recommendations:</i>		SGS US Testing Co.
<i>Dry floors ≥ 0.5, Wet surfaces & Handicap accessible routes ≥ 0.6, Ramps ≥ 0.8</i>		
Dry	0.98	
Wet	0.67	
Surface Burning Characteristics		ASTM E84-01 or ANSI/NFPA 255 or UCB 8-1
Flame Spread	5	
Smoke Density	25	
Meets: ANSI	Class A	
NFPA	Class A	
UCB	Class 1	
Adhesive pH	Neutral	TAPPI-529
Temperature Range Guidelines		
Application:	40°F to 120°F (4.5°C to 50°C)	
End Use:	-50°F to 225°F (-45°C to 107°C)	

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.

DURABILITY:

The durability of the film is 2-3 years in vertical (90±5°) applications outdoors and 3 years indoors in vertical applications. The durability of this film as a **Floor Graphic** is 3 months indoor and 1 week outdoors.

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.

RECOMMENDATIONS FOR ROLLING AND SHIPPING LAMINATED IMAGES:

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.
- 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 this is a **recommendation**, 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.

- 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.**

** Values given are typical and are not necessarily for use in specification.*

** Added ASTM E-84 Flame testing results.*

CALL 1-800-401-5005 for additional product information

IMPORTANT NOTICE: The information given and the recommendations made herein are based on our research and are believed to be accurate, but no guarantee of their accuracy or completeness is made. In every case, user shall determine before using any product in full scale production, or in any way, whether such product is suitable for user's intended use for their particular purpose under their own operating conditions. User assumes all risk and liability whatsoever in connection with their use of any product. The products discussed herein are sold without any warranty as to merchantability or fitness for a particular purpose, or any other warranty, express or implied. No representative of ours has any authority to waive or change the foregoing provisions, and no statement or recommendation not contained herein shall have any force of effect unless in an agreement signed by the officers of seller and manufacturer. Nothing contained herein shall be construed to imply the nonexistence of any relevant patents or to constitute a permission, inducement or recommendation to practice any invention covered by any patent without authority from the owner of the patent. The following is made in lieu of all warranties, express or implied: Seller's and manufacturers' only obligation shall be to replace or credit such quantity of the product proved to be defective at its discretion.

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