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 Version #12 (0817)  
 Approved by J. S.

## Product

 MACal® 8900Pro  
 Intermediate Removable Vinyl Series

## Product Description

MACal 8900Pro is a unique intermediate film with up to 4 years outdoor life. The face is a 2.8-mil cadmium free vinyl available in a variety of **gloss and matte** colors. It is coated with a removable acrylic adhesive, which can be applied at temperatures down to 32° F and yet, is cleanly removable from common surfaces for up to 2 years. The liner is an 83# white kraft offering stability and layflat. MACal 8900Pro has excellent dimensional stability, cutting and weed-ability.

8900Pro Matte can also be used as chalkboard vinyl!

## Physical Properties

Property	Typical Values	Test Method
<b>Thickness in inches</b> Film plus adhesive	0.0035 (90)	ISO 534
<b>Peel Adhesion</b> 180° on Stainless Steel - 30 min. - 24 hr. - 1 week	0.9 (4.0) 1.3 (5.5) 1.7 (7.5)	FTM-1
<b>Face Material Data</b> <b>68°F (20°C)</b> Tensile strength lb. /in. (kN/m) Elongation % at break	≥ 11.4 (2.0) ≥ 150%	DIN 53455
<b>Dimensional Stability (shrinkage) in Percent</b>	< 0.10	48 hours @ 158°F (70°C) Bonded to aluminum
<b>Temperature Ranges</b> Application: End Use:	32° to 104°F (0° to 40°C) -40° to 158°F (-40° to 70°C)	
<b>Flammability</b>	Self-extinguishing	ISO 3795

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

## Durability

Indoor for up to 5 years or more and outdoors for 4 years for black and white and 3 years for all other colors. This use-life estimate is based upon accelerated age studies. Please note that exposure to severe temperatures, ultra-violet light and also tropical, sub-tropical or desert regions will cause more rapid deterioration. This also applies to polluted areas, high altitude and south facing exposure.

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## Printability

Printability is not warranted. However, we have created the following guidelines if printing is desired:

- 1) For **screen printing**: Limit the screen ink to two or three colors. While the liner is an excellent liner, it is designed for plotter cutting. Sometimes too much heat may result in the liner 'waving' a little which can cause registration issues when additional colors are used. Mactac recommends Nazdar 3500 series UV cured screen inks.
- 2) If printing **UV inkjet**; make sure the vacuum (if flatbed) is strong enough to hold the liner down tight. Typically it is, but vacuums are notoriously weak, especially as they age.
- 3) If printing with **solvent inks**; limit the inks to a total of 270% saturation. Use a generic ICC profile for either 2 mil cast or 3.5 mil calendared vinyl films as a starting point.
- 4) **Thermal transfer** printing: all MACmark **gloss** films are thermal transfer printable. We strongly recommend the use of a web cleaner prior to printing due to the potential presence of paper dust from the white kraft paper liner.

## Shelf Life

Two years when stored at 75°F (24°C) and 50% relative humidity or less.

## Limitations

Due to the wide variability of interior walls, sealants and paints, no claims for successful applications to or removal from painted wall surfaces are made by Mactac. It is the users' responsibility to determine the products suitability for the intended wall.

- 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.**

## Application

- 1) Application of MACal 8900Pro is made easier if **Mactac high tack** (MACtransfer 220) pre-spacing transfer tapes are used.
- 2) The transfer of the cut vinyl onto the application tape should always be performed by removing the liner **FROM** the pressure-sensitive material, NOT by trying to lift the application tape with the vinyl off the liner. To do this, lay the graphic face down on a flat surface then remove the liner.
- 3) Do **NOT** use the 'wet' method of application with MACal 8900Pro. This product has a removable adhesive with lower initial adhesion than a permanent adhesive. Use of the 'wet' application method with this product may result in poor adhesion and premature lifting or slipping of your graphic.
- 4) The application and subsequent removal of MACal 8900Pro may damage some substrates. These may include acrylic glass, polycarbonate, polystyrene, nitro-cellulose paints and plasticized PVC. Please test first for suitability.
- 5) Do not wash the completed vinyl graphic for 48 hours after application.

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## Application to Interior Walls

Drywall is an extremely porous surface and sealing it up is difficult yet critical for graphic applications.

- 1) Some drywall surfaces can cause poor adhesion. These include:
  - a. Highly textured surfaces
  - b. Matte, high gloss and scrub-able paints
  - c. Highly pigmented paints (dark colors)
  - d. Newly painted surfaces
  - e. High humidity areas or moisture behind the drywall.
  - f. New drywall.
- 2) New drywall (anything less than one year old is considered new) has to do a lot of moving as the new building settles. New drywall will shrink an extreme amount resulting in lifting graphics. This is because it has fairly high moisture content from the manufacturing process.

To give the best chance of success we recommend the following:

- 1) Use an alcohol-based primer (B.I.N. Zinsser is an example of one), because it dries very fast (typically within 24 hours) and has fairly high solids content for sealing porous surfaces. If not available an alternative is to use a watered down inexpensive latex paint, semi-gloss or satin, never matte or high gloss. For these, allow a full week for the paint to cure.
- 2) A week after priming and painting the surface, wash down the walls (dust will form in a very short time) just prior to applying the graphics.
- 3) Never apply wet (no application fluids)! Always apply dry.
- 4) Start by folding back one edge of the release liner 1 - 2" from the top to expose the adhesive.
  - a. Position your graphic to exactly where you want it and lightly tack it to the wall in the exposed adhesive area.
  - b. Using a soft (felt) squeegee, or a hard one with a protective sleeve, squeegee the graphic down to the wall from the center out to the edges.
  - c. Remove additional liner and squeegee again, from the center out, and repeat until the entire graphic has been applied.
- 5) If an application tape has been used, allow sufficient time for the adhesive to build to an ultimate bond to the wall before removing any application tape. Typically 1- 2 hours is sufficient. More is better.
- 6) After the entire graphic has been applied go back and re-squeegee all the edges and seam down again really well.

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