

Version #5 (0817)
Approved by J. S.

Product

MACal® 8300PRO
Intermediate Vinyl Series

Product Description

MACal 8300Pro is an intermediate film with up to 5 years outdoor life. This 2.8-mil cadmium free vinyl is available in wide variety of high gloss, plus two matte colors. The film is coated with a durable, permanent acrylic, pressure sensitive adhesive. An 83# white kraft liner offers excellent stability and layflat with an orange backprinting. The product has good dimensional stability and excellent cutting and weed ability. The product is designed for general purpose and promotional signage on flat to moderately curved surfaces.

Physical Properties

Property	Typical Values	Test Method
Thickness in inches Film plus adhesive	0.037 (0.095)	ASTM D-645
Peel Adhesion 180° on Stainless Steel - 20 min. - 24 hr. - 1 week	3.2 (14) 4.1 (18) 4.4 (19)	FTM-1
Face Material Data 68°F (20°C) Tensile strength lb. /in. (N/m) Elongation % at break	≥9.5 (25) ≥150%	DIN 53455-5
Dimensional Stability (shrinkage) in Percent 48 hours @ 158°F (70°C)	< 0.30	FTM - 14 10" x10" Sample mounted to aluminum
Temperature Ranges Application: End Use:	50° to 104°F (+10° to 40°C) -40° to 158°F (-40° to 70°C)	
Flammability	Self-extinguishing	ISO 3795
Solvent and Chemical Resistance Water, detergent, and alcohol Oil, gasoline	Unaffected Slightly affected, lifting at edges	

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

Durability

Indoors and up to 5 years outdoors. 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.

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 60°F - 75°F (15°C - 25°C) and 50% relative humidity.

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.**

Application Tips

- 1) Application of MACal 8300Pro is made easier if **Mactac** pre-spacing tape is used. Where exposures to chemical and solvent spills are likely to occur, edge sealing of decals with varnish or clear coat will prevent edge lift. Correct varnishing of decals gives greater protection and longer end-use life against any prolonged effect of weathering, abrasion or other corrosive effects such as frequent cleaning.
- 2) The transfer of the cut vinyl should be performed by removing the liner from the pressure sensitive material, not by lifting the application tape and the graphic off the liner.
- 3) Adjustment of cutter depth is important: if the cut is too deep this could result in paper liner splitting.
- 4) The compatibility of paints and lacquers should be tested by the end user, prior to use.

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 manufacturer's only obligation shall be to replace or credit such quantity of the product proved to be defective at its discretion.

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