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Version #4 (0217)  
Approved by J. S.

### Product

MACal® 9700Pro Light Diffusers  
 9798-30 Pro 30% Light Diffuser  
 9798-60 Pro 60% Light Diffuser

### Product Description

MACal 9798-30Pro and 9798-60Pro are **translucent**, non-colored vinyl, which allow 30% and 60%, respectively, of light to pass through the vinyl. The face is a matte finished 3-mil cadmium-free vinyl. The film is coated with a durable permanent acrylic adhesive with excellent wet out characteristics for clarity. An 83# white kraft liner offers stability and layflat. The product has good dimensional stability and is designed for excellent cutting and weed ability. This product is specifically designed for backlit applications in combination with 9700Pro colors and 9722-00 Pro Light Stop vinyl. These films give a more homogenous light diffusion from the light box. They modify the “night” colors of the MACal 9700Pro creating different shades of color for nighttime illumination.

### Physical Properties

Property	Typical Values	Test Method
<b>Thickness in inches</b> Film plus adhesive	0.0045 (115)	ASTM D-45
<b>Peel Adhesion</b> 180° on Stainless Steel - 30 min. - 1 week	3.5 (16) 4.5 (20)	ASTM D-903
<b>Face Material Data</b> <b>68°F (20°C)</b> Tensile strength lb. /in. (N/15mm) Elongation % at break	≥10 (28) ≥180	DIN 53455
<b>Dimensional Stability</b> <b>(shrinkage) inches (mm)</b>	0.02 (0.508)	48 hours @ 158°F (70°C) Bonded to aluminum
<b>Temperature Ranges</b> Application: End Use:	50° to 104°F (10° to 40°C) -40° to 194°F (-40° to 90°C)	
<b>Flammability</b>	Self-extinguishing	ISO 3795

### Shelf Life

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

## Durability

Indoor and 5-7 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.

## Chemical Resistance

A sample is prepared by adhering the film to a metal substrate 24 hours prior to immersion in the chemical solution or solvent. After a fixed period of time, the sample is removed, dried and examined for adhesion.

Chemical	Time Immersed	Observation
Water	24 hours	Excellent
5% Detergent	24 hours	Excellent
10% Hydrochloric Acid	24 hours	Excellent
10% Sulfuric Acid	24 hours	Excellent
10% Phosphoric acid	24 hours	Good
10% Sodium Hydroxide	24 hours	Excellent
10% Ammonium Hydroxide	24 hours	Excellent
Methanol	1 hour	Good

## 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

Care should be taken when selecting a substrate for use in illuminated devices with pressure-sensitive materials. Some substrates, e.g. polycarbonate, can cause problems because of 'bubbling'. It is recommended that trials be conducted to establish the compatibility of MACal 9700 Pro Light Diffusers with the application surface. Applications of MACal 9700 Pro Light Diffusers are made easier if **Mactac** application tape is used.

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

CALL **1-800-321-8834** for additional product information

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