

# MACal® 9800 P

## Technical Data Sheet

### PRODUCT DESCRIPTION

MACal 9800 P are polymeric stabilized calendered soft vinyl films that are coated with a durable, high performance acrylic based pressure-sensitive adhesive. The adhesive is protected with a 135 gsm bleached kraft liner.

### CONSTRUCTION

#### Face material :

Stabilized calendered vinyl film; 0.080 mm thick.

#### Adhesive :

Durable transparent acrylic pressure-sensitive.

#### Liner :

Highly stable 135 gsm bleached kraft paper.

### TYPICAL USES

MACal 9800 P series is designed for permanent interior and exterior marking applications which have a long term life requirement.

These films offer good conformability to simple contours and flat-surfaces, and are ideally suited for containers, vehicles, caravans markings, etc.

MACal 9800 P is generally converted into printed decals but also in cut and prespaced texts and logo's.

### EXPECTED DURABILITY

#### Unprinted film

The expected vertical outdoor durability of the unprocessed product in central Europe (Zone 1) is up to:

White and black : 7 years

Transparent : 5 years

This information is based on successful real life experience and artificial aging according to ISO4892-3.

#### Printed film

Satisfactory performance for up to 7 years can be obtained with some screen inks and varnishes. However, assurance of ink performance in all cases should be first obtained from the ink supplier.

**Note :** Exposure to severe humidity and ultraviolet light, as well as conditions in southern European countries, and also in tropical, sub-tropical or desert regions, will cause a more rapid deterioration. This also applies to polluted areas, high altitude, horizontal and south-facing exposure.

### SHELF LIFE

2 years when stored at 15 to 25°C and  $\pm 50$  % relative humidity.

### PHYSICAL PROPERTIES (Typical values)

**Thickness** mm (Film + adhesive) ISO 534  
0.110

**Face Material Data, 23°C** DIN 53455-5

Tensile strength : > 27 N/15mm

Elongation at break : > 150 %

**Adhesive Data, 23°C** FTM 1

Peel adhesion 180° on stainless steel (N/25mm)

- 30 min. residence: 16

- 24 hours residence: 19

- 1 week residence: 20

**Dimensional stability** FTM 14

% Shrinkage (48 hours at 70°C) : < 0.2

(25 cm x 25 cm, sample mounted on aluminium).

#### Temperature ranges :

Application : + 10°C to + 40°C

End-use : - 40°C to + 90°C

N.B. : for lower temperatures, please consult us.

**Flammability** ISO 3795

Sample mounted on aluminium : self-extinguishing.

**Chemical resistance :** A sample is prepared by adhering the film to a metal substrate 24 hours before the test. It is then submitted, either to a projection test or a total immersion in chemical or solvents solutions. After a fixed period of time has elapsed, the sample is removed, dried and examined for adhesion.

**Petrol resistance :** A sample is prepared in the same manner as for the chemical resistance test and is sprayed several times with petrol, followed by drying at each stage.

#### Fuel under test

- Petrol - low octane : good

- Petrol - high octane : good

### PROCESSING

#### Printing

During printing, it is important to carefully dry the inks : retained solvents could lead to plasticization with subsequent application troubles and poor weathering properties.

We recommend to maintain an unprinted area of 3-4 mm on the edges of the printed decal.

#### Application

Application of MACal 9800 P Series is made easier if a MACtransfer Application Tape is used.

#### Edge sealing and varnishing

Where exposure to chemical and solvent spillage is likely to occur, edge sealing of decals with a varnish will prevent edge lift. Correct varnishing of decals gives greater protection, and hence longer end-use life, against any prolonged effect of weathering, abrasion and other erosive effects such as frequent cleanings.

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