

# MACal® 7228 – PERMANENT N

## Technical Data Sheet

### DESCRIPTION

#### **Face stock :**

Rigid PVC film, cadmium-free, ~ 200 µm, dull white finish.

**Adhesive :** Permanent high-performance, acrylic based.

#### **Liner :** Mercury.

Bleached Kraft paper, ca. 160 gr/sqm,  
two-side polyethylene coated,  
without breaklines and backprinting.  
Backing with excellent dimensional stability.

**Laminate :** ca. 460 gr/sqm.

### PHYSICAL AND CHEMICAL CHARACTERISTICS

(TYPICAL VALUES)

**Quick tack :** 29 N/25 mm FTM 9, on glass

**Peel 20 min. :** 32 N/25 mm FTM 1, on glass

**Peel 24 h :** 37 N/25 mm FTM 1, on glass

**Resistance to shear :** > 1000 h FTM 8, on glass

**Dimens. stability (applied) :** max. 1.1mm FTM 14, alu

**Dimensional stability on the backing paper (unapplied)**  
max. 1.1mm Measured after 72 h at 60°C

#### **Temperature range :**

Min. application temperature : +10°C

Service temperature range : - 20°C to + 100°C

**Flammability :** Self-extinguishing ISO 3795

#### **Solvent resistance :**

Resistant to most oils, greases, aliphatic solvents, alcohols.

**Petrol resistance :** Resistant to short limited contacts.

If extended contact, edge-lifting will occur.

#### **Chemical resistance :**

Resistant to most mild acids, mild alkalis.

**Shelf life :** stored at 50 ± 10 % RH at 15 - 25°C.

2 years for as long as the material is being stored in its original packaging.

#### **Expected durability :**

The expected vertical outdoor durability of the unprocessed product in central Europe (Zone 1) is up to: 2 years.

This information is based on successful real life experience and artificial aging according to ISO 4892-2.

Middle European exposure conditions, vertical exposure. Exposure to severe humidity, ultra-violet light or conditions found in tropical, subtropical or desert regions will cause more rapid deterioration than under conditions existing in "normal" temperate climates.

### PRINTING METHODS

Screen printing.

UV Offset and conventional offset is possible, please contact your ink supplier.

During printing, it is important that drying is carefully exercised to ensure removal of printing inks solvents since certain solvents if retained can lead to plastification problems 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 to avoid edge lifting.

For solvent digital printing, we recommend the use of MACTac IMAGin JT 5000 products.

### APPLICATIONS AND USES

Similar usages to soft vinyls, but especially recommended where high dimensional stability and good rigidity are required.

### GENERAL REMARK : factors affecting adhesion

*Adhesion failure problems can be avoided by :*

- *Where possible, always test the proposed construction under actual application and end-use conditions because a 100 % multi-purpose adhesive for all substrates does not exist.*
- *Being familiar with factors which adversely affect adhesion :*
  - *Labels or stickers should not be applied onto dusty, dirty, oily or oxidized surfaces.*
  - *Mould release agents on blow-moulded plastic surfaces inhibit adhesion.*
  - *Adhesion failure may occur on substrates with low surface tension, such as polyethylene or polypropylene. Rubber based adhesives stick better to low energy surfaces than acrylics.*
  - *Avoid the use of relatively rigid facestocks on highly curved or small diameter surfaces.*
  - *Do not use pressure-sensitive materials outside the recommended service temperature range, or do not apply below the minimum application temperature.*