

## MACal® 8128 / 8129 / 8199 – PERMANENT

### PRODUCT DESCRIPTION

Soft calendered PVC films, ~ 100 µm, cadmium-free, dull or gloss finish. This serie is available in Dull white ( Macal® 8128), Gloss white (Macal® 8129) and Gloss transparent (Macal® 8199).

**Face Material:** Monomeric calendered PVC film, 100 micron

**Adhesive:** Permanent, acrylic water based

**Liner:** Coated Kraft paper, 140 g/m<sup>2</sup> available in plain or with breaklines (mechanically scored breaklines 6,2 cm apart)

### TYPICAL USE

Stickers for advertising and promotional campaigns, emblems and printed labels for in- and outdoor use.

### 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

### PROCESSING

Screen printing / UV Offset. Conventional offset : 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.

### SHELF LIFE

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

Stored at 50 ± 10 % RH at 15 - 25°C.

### PHYSICAL PROPERTIES (TYPICAL VALUES)

#### Average Values Test Method

Thickness		
Film + Adhesive	105	ISO 534
Adhesive data, 23°C (N/25 mm)		
Peel adhesion 180° on stainless steel		
- 20 min. residence	8	FTM1 on glass
- 24 hour residence	15	FTM1 on glass
Quick tack (N)	12	FTM9 on glass
Resistance to shear (Hours)	>30	FTM8 on glass
Dimensional stability		
Shrinkage (1 week at 70°C applied on Aluminium)	max 1,5 mm	FTM14
Temperature ranges		
Application (°C)	+5	Minimum
End-use (°C)	-20 to +70	
Flammability		
Sample mounted on aluminium	Self-extinguishing	ISO 3795
Toy labelling	in compliance with EN 71/3	

Solvent and chemical resistance	
Solvent resistance:	Resistance 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
---------------------	--

## 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 a more rapid deterioration than under conditions existing in "normal" temperate climates.

### DISCLAIMER

Avery Dennison warrants that its Products meet its specifications. Avery Dennison gives no other express or implied guarantees or warranties with respect to the Products, including, but not limited to, any implied warranties of merchantability, fitness for any particular use and/or non infringement. All Avery Dennison products are sold with the understanding that the purchaser has independently determined the suitability of such products for its purposes. The period of warranty is one (1) year from the date of shipment unless expressly provided otherwise in the product data sheet. All Avery Dennison's products are sold subject to Avery Dennison's general terms and conditions of sale, see <http://terms.europe.averydennison.com>. Avery Dennison's aggregate liability to Purchaser, whether for negligence, breach of contract, misrepresentation or otherwise, shall in no circumstances exceed the price of the defective, non-conforming, damaged or undelivered Products which give rise to such liability as determined by net price invoices to Purchaser in respect of any occurrence or series of occurrences. In no circumstances shall Avery Dennison be liable to Purchaser for any indirect, incidental or consequential loss, damage or injury, including without limitation, loss of anticipated profits, goodwill, reputation, or losses or expenses resulting from third party claims.