

# PRODUCT DATA SHEET

## Avery Dennison® 4900/4940 QM Apolar

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### Introduction

Avery Dennison 4900/4940 QM Apolar are high performance white/ transparent quality cast films with a specially developed adhesive to provide excellent bond on substrates like polyethylene and polypropylene. Due to its high tack, Avery Dennison 4900/4940 QM Apolar can also provide better bond to slightly structured surfaces and galvanized steel.

### Description

Facefilm: premium quality, 50 micron white/ transparent cast vinyl film  
Adhesive: permanent, acrylic based, specially formulated for adhesion to apolar and rough surfaces  
Backing paper: one side coated white kraft paper, 140 g/m<sup>2</sup>

### Conversion

Screen printing is recommended. Avery Dennison 4900/4940 QM can also be die-cut using high quality steel rule dies.

For screen ink recommendations, please consult Avery Dennison Technical Bulletin 2.2.

### Features

- Outstanding adhesion to apolar and rough surfaces.
- Excellent dimensional stability and printability.
- Outstanding outdoor exposure performance.
- Superior conformability and adhesion.
- Excellent application at low temperatures.

### Recommendations for use

- On polyethylene and polypropylene surfaces such as chemical containers, machine parts, surfboards, petrol cans, air filters, etc.
- Rough surfaces such as sandblasted and/or ground metals.
- Exterior and interior markings for military aircraft and aeronautical equipment.
- Durable promotional and point of sale signs, labels and emblems.
- Nameplates, identification markings, schematics and instruction panels for machinery.
- Structured aluminium caravan surfaces.

**Physical properties**

<b>Features</b>	<b>Test method<sup>1</sup></b>	<b>Results</b>
Caliper, facefilm	ISO 534	50 micron
Tensile strength	DIN 53455	1,1 kN/m
Elongation	DIN 53455	25 %
Gloss	ISO 2813, 20°	50 %
Dimensional stability	DIN FINAT FTM 14	0,4 mm max.
Adhesion, initial	FINAT FTM-1, stainless steel	600 N/m
Adhesion, ultimate	FINAT FTM-1, stainless steel	800 N/m
Adhesion on special substrates like:	LDPE, HDPE, Polypropylene, Polyurethane.	500 N/m
	ABS, Aluminium, Nylon, Acrylic paint	600 N/m
Flammability		Self extinguishing
Accelerated ageing	DIN 53387	No negative impact on film performance
	1500 hours exposure	
Shelf life	Stored at 22° C/50-55 % RH	2 years
Durability <sup>2</sup>	Vertical exposure	7 years

**Temperature range**

<b>Features</b>	<b>Results</b>
Minimum application temperature:	+5° C
Service temperature:	- 50° to +110° C

**Chemical properties**

<b>Features</b>	<b>Test method<sup>1</sup></b>	<b>Results</b>
Humidity resistance	500 hours exposure	No effect
Corrosion resistance	120 hours exposure	No contribution to corrosion
Water resistance	48 hours immersion	No effect
Chemical resistance	Mild acids	No effect
	Mild alkalis	No effect
Sea water resistance	1 year half tide immersion.	No effect
	BS 5609:1978	
Solvent resistance	Applied to aluminium, exposed to: oils, greases, aliphatic solvents, motor oils, heptane, kerosene and JP-4 fuel.	No effect

**Important**

Information on physical and chemical characteristics is based upon tests we believe to be reliable. The values listed herein are typical values and are not for use in specifications. They are intended only as a source of information and are given without guarantee and do not constitute a warranty. Purchasers should independently determine, prior to use, the suitability of this material to their specific use. All technical data are subject to change.

**Warranty**

Avery Dennison® branded materials are manufactured under careful quality control and are warranted to be free from defect in material and workmanship. Any material shown to our satisfaction to be defective at the time of sale will be replaced without charge. Our aggregate liability to the purchaser shall in no circumstances exceed the cost of the defective materials supplied. No salesman, representative or agent is authorised to give any guarantee, warranty, or make any representation contrary to the foregoing. All Avery Dennison® branded materials are sold subject to the above conditions, being part of our standard conditions of sale, a copy of which is available on request.

**1) Test methods**

More information about our test methods can be found on our website.

**2) Durability**

The durability is based on middle European exposure conditions. Actual performance life will depend on substrate preparation, exposure conditions and maintenance of the marking. For instance, in the case of signs facing south; in areas of long high temperature exposure such as southern European countries; in industrially polluted areas or high altitudes, exterior performance will be decreased.