

Avery Dennison® Automotive Films

TECHNICAL INFORMATION

Avery Dennison® 2140EA Transparent

Description :	<p>Face film : Flexible polymeric plasticised glossy PVC film.</p> <p>Adhesive : High performance, acrylic based adhesive for Easy Application.</p> <p>Backing paper : Two side polyethylene coated white kraft paper</p>
Conversion :	<p>Avery Dennison 2140EA Transparent has excellent die and kiss cutting properties. Avery Dennison 2140EA Transparent can also be screen printed, using high quality vinyl or acrylic based inks common to the screen printing industry.</p> <p>The air egress feature of Avery Dennison 2140EA Transparent makes the film less transparent. If high transparency in the final application is required, tests should be conducted to check if the required performance is obtained, prior to commercial use.</p> <p><small>*Occasionally, in order to achieve the best quality print results, pre-treatment (IPA wipe, corona) of the product is advised.</small></p>
Features :	<p>Excellent printability properties.</p> <p>Outstanding durability and outdoor performance</p> <p>Dimensionally stable backing for easy conversion.</p> <p>Excellent dimensional stability during use.</p> <p>Excellent UV-light, humidity and saltspray resistance.</p>
Uses:	<p>Avery Dennison 2140EA Transparent has especially been developed for the automotive and motorbike industry for use in screen printed decorative graphics.</p>
Shelf life:	<p>When stored in original packaging upon arrival at the customer: 6 months. Storage conditions should be 20 °C (+/- 2 °C) with 50 %RH (+/5%)</p>

Physical and chemical characteristics

General:	Test reference	Value
Caliper, facefilm	ASTM D1000	75 micron
Tensile strength	ASTM D882	>1200N/m
Elongation at break	ASTM D882	> 200 %
Mill. spec. shrinkage ¹⁾		< 0.3 %

¹⁾ Shrinkage is measured on a 150 x 150 mm aluminium panel to which the specimen has been applied. After 72 hrs. 23° C + 1 week 70° C the shrinkage is measured.

Adhesive properties

Peel adhesion after 20 minutes	ASTM D 1000	> 560 N/m
24 hours		> 720 N/m
1 week 70° C		> 720m ²⁾ ³⁾
250 hrs. 40° C, 98% R.H.		> 720m ²⁾ ³⁾
250 hrs water immersion		> 720m ²⁾ ³⁾

²⁾ Test initiated after 48 hrs. bonding time

³⁾ No significant change in colour, gloss or dimensions

Durability * Atlas Weather-o-Meter	1500 hrs. ⁴⁾	grey scale ≥4
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⁴⁾ Cycle: 2 hrs. light (40 min., 20 min. + specimen spray. 60 min.)
1 hr. dark (rackspray)
Conditions: Light intensity 0.55 W/m² at 340 nm: black panel temperature = 70° C.

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 subject to change

Warranty:

Avery Dennison® 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® materials are sold subject to the above conditions, being part of our standard conditions of sale, a copy of which is available on request.

*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.

Thermal:

Temperature range:	30 min. exposure at 120° C	No significant change in colour, gloss or dimensions
	3 weeks exposure at 80° C	

Chemical:

Visual inspection after exposure to:

Test fluid:	Test reference:	Result:
- 30 minutes gasoline		No change
- 1 hour carwash solution		No change
- 1 hour antifreeze		No change
- Hydrochloric acid 0.5N/ltr. H ₂ O; 4 hrs.		No change

Visual inspection after drip test ⁵⁾

ASTM – B fluid	No change
Diesel	No change
50% isopropyl alcohol/50% water	No change

⁵⁾ 25 mm wide strip mounted on a panel, Bonding Time = 24 hrs., 5 ml. of fluid is dripped over the film + edge. The test is repeated twice at 24 hr. intervals.

