

Avery Dennison[®] Instructional Bulletin 1.3

Durability of Avery Dennison Films

Introduction

This instructional bulletin describes the conditions and circumstances that would affect the durability of Avery Dennison Films. The expected durability of Avery Dennison films are defined as the expected performance life of the Avery Dennison graphic film(s) within Zone 1 in outdoor vertical exposure conditions. The durability communicated via Avery Dennison product data sheets is not defined as the period of time the film is warranted for, warranted periods for Avery Dennison films can be found in the corresponding ICS Performance Guarantee Bulletin.

Expected Durability and Warranted Period Definitions

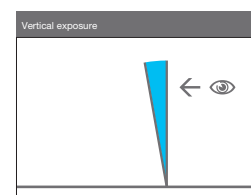
Expected durability is the expected period of time defined in the product data sheet, the product should, but is not warranted to, perform satisfactorily when applied in vertical exposure conditions as defined in Instructional Bulletin 1.30. The warranted period communicated via the ICS Performance Guarantee Bulletins, is the maximum period of time Avery Dennison will warrant the finished products performance in accordance with ICS Performance Guarantee Terms and Conditions 1.0, provided that the film is properly stored, converted and installed in accordance with Avery Dennison guidelines.

Potential Durability Reductions

Actual performance life will depend on a variety of factors, including selection and preparation of the substrate, angle and direction of exposure, application methods, environmental conditions and cleaning and maintenance of the films. In case of films used in areas of high temperatures or humidity, in industrially polluted areas or other areas with air laden particulate matter, and/or in high altitudes, durability will be reduced from that stated in the appropriate Product Data Sheet, Instructional Bulletin and ICS Performance Guarantee Bulletin.

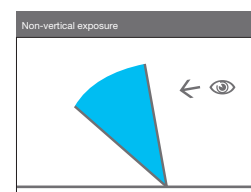
Vertical Exposure

The face of the graphic is $\pm 10^\circ$ from vertical. Vertical durability is as stated in appropriate Product Data Sheets, Instructional Bulletins and ICS Performance Guarantee Durability Bulletins.



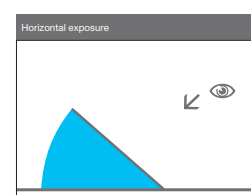
Non-Vertical Exposure

The face of the finished graphic is greater than 10° from vertical and greater than 45° from horizontal. The reduction of durability for non-vertical applications would be 50% less than the stated durability in the appropriate Product Data Sheet, Instructional Bulletin and ICS Performance Guarantee Bulletin.



Horizontal Exposure

The face of the finished graphic is 45° to 90° from vertical. Horizontal applications are not warranted and do not have any expectations of durability. The exposure of films in the horizontal position invalidates any performance expectations as stated in the appropriate Product Data Sheet, Instructional Bulletin and ICS Performance Guarantee Bulletin, unless otherwise stated. Films may retain legibility, but will not provide published Expected Durability for gloss, colour retention, chalking, dimensional stability and overall aesthetic performance.



Zone System, Asia Pacific

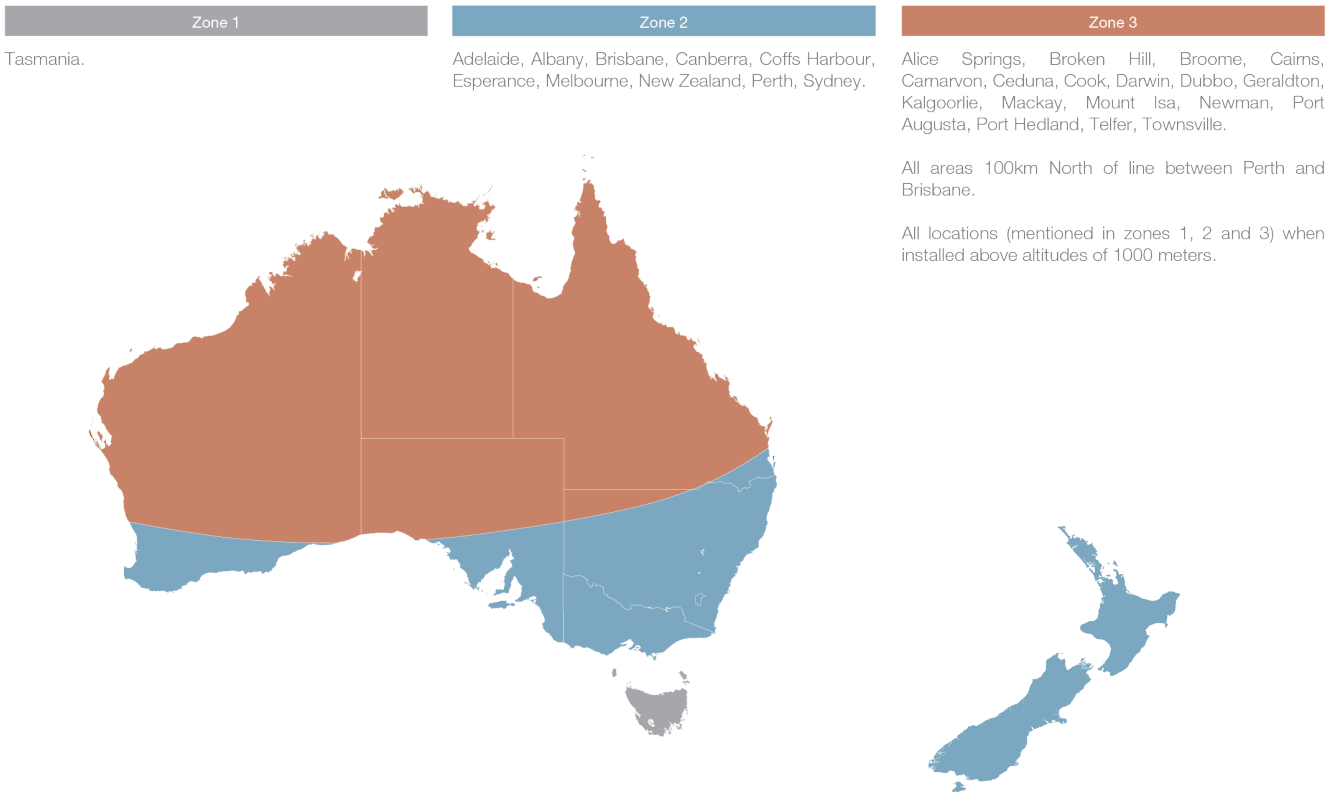
Durability for regions located in Zone 2 may be stated in ICS Performance Guarantee Durability Bulletins and other warranty documents issued by Avery Dennison Asia Pacific. Therefore, films used in regions identified as Zone 3 will have a reduction of the stated durability by 40%. If the film were applied whereby a combination of non-vertical and Zone 3 exposure, the cumulative effect of the reduced exposures would apply. Therefore the non-vertical exposure in Zone 3 would be 70% less than the stated durability.

Zone and Non-Vertical Reduction Examples

Zone 1		Zone 2 (values as in this ICS Bulletin)		Zone 3	
Vertical	Non-vertical	Vertical	Non-vertical	Vertical	Non-vertical
100%	-50% of Zone 1 Vertical	-30% Zone 1 Vertical	-50% Zone 2 Vertical	-40% Zone 2 Vertical	-70% of Zone 2 Vertical
7	3.5	5	2.5	3	1.5
5	2.5	3.5	1.75	2	1
4	2	3	1.5	1.75	0.75
3	1.5	2	1	1	-

Values in years

Zone Chart Australia and New Zealand



Zone Chart Global Countries

See country/area zone classification below.

Zone 1	Zone 2	Zone 3	
Austria	Afghanistan	Laos	Uganda
Australia (Tasmania)	Albania	Lesotho	United Arab Emirates
Belarus	Algeria	Madagascar	Yemen
Belgium	Andorra	Malaysia	Zambia
Bosnia & Herzegovia	Arizona	Maldives	Zimbabwe
Canada	Armenia	Malta	
Denmark	Australia*	Mauritania	
Ecuador	Azerbaijan	Mauritius	*Exposed at all sites above altitudes of 1000 meters
Estonia	Bahamas	Micronesia	
Finland	Bangladesh	Moldova	
France*	Barbados	Myanmar (Birma)	*Australia – Above a line 100km north of Perth/Brisbane
Georgia	Belize	Nepal	
Germany	Bhutan	Nevada	*Australia – Desert areas
Hungary	Bolivia	New Zealand	
Iceland	Brazil	Nicaragua	
Italy	Burkina Faso	Pakistan	
Latvia	Burundi	Panama	
Liechtenstein	California	Papua New Guinea	
Lithuania	Cambodia	Paraguay	
Luxembourg	Cameroon	Peru	
Macedonia	Cape Verde	Philippines	
Monaco	Caribbean Isles	Portugal	
Netherlands, the	Chile	Puerto Rico	
Norway	China	Rwanda	
Poland	Colombia	Samoa	
Romania	Costa Rica	San Marino	
Russia	Cyprus	Sao Tome & Principe	
Slovakia	Dominica	Singapore	
Slovenia	Dominican Republic	South Africa (East)	
Sweden	East Timor	Spain	
Switzerland	El Salvador	Sri Lanka	
United Kingdom	Fiji	Suriname	
United States of America*	Greece	Swaziland	
Ukraine	Grenada	Taiwan	
Uzbekistan	Guatemala	Texas	
Vatican City	Guinea	Thailand	
Yugoslavia	Guyana	Togo	
	Haiti	Trinidad & Tobago	
	Honduras	Turkey	
	India	Turkmenistan	
	Indonesia	Ukraine	
	Ivory Coast	Uruguay	
	Jamaica	Utah	
	Japan	Venezuela	
	Kazakhstan	Vietnam	
	Korea (South)		
	Kyrgyzstan		
		*Exceptions noted as Zone 3	

Additional Information

High Elevations - Mountain area UV damage is increased over exposures at sea level. This is due to the air being thinner, and therefore damage from UV filtering increases significantly.

Congested Urban or Industrial Areas - Due to increased smog, pollutants, and particulates in the atmosphere in congested urban and industrial areas horizontal applications have reduced durability expectations. The horizontal application traps the chemicals on the surface of the material, and increased UV exposure combine for reduced durability.

Marine Environments – Material installed in marine environments will have a reduced durability, consult Avery Dennison ICS Performance Guarantee Bulletins for further details.

Questions regarding the durability of a specific product should be directed to your Avery Dennison sales, marketing or technical representative.

*For further information on performance and warranted periods within the Asia Pacific region, please see the corresponding ICS Performance Guarantee Bulletin for your specific printer and ink combination or film type.