

# Avery Dennison<sup>®</sup> Instructional Bulletin 1.3

## Durability of Avery Dennison Films

Revision 3

### 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

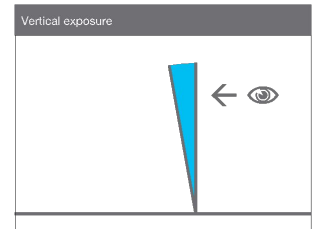
Expected durability is the expected period of time defined in the product data sheet, the product should, but is not warranted to, perform satisfactorily when applied in vertical exposure conditions as defined in Instructional Bulletin 1.30. The warranted period communicated via the ICS Performance Guarantee 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.

### 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.

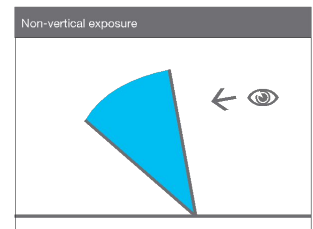
## Vertical Exposure

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.



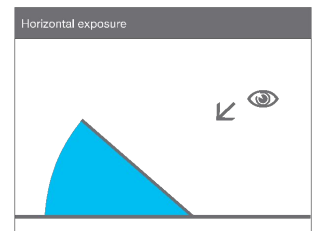
## Non-Vertical Exposure

The face of the finished graphic is greater than  $10^\circ$  from vertical and greater than  $45^\circ$  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  $45^\circ$  to  $90^\circ$  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

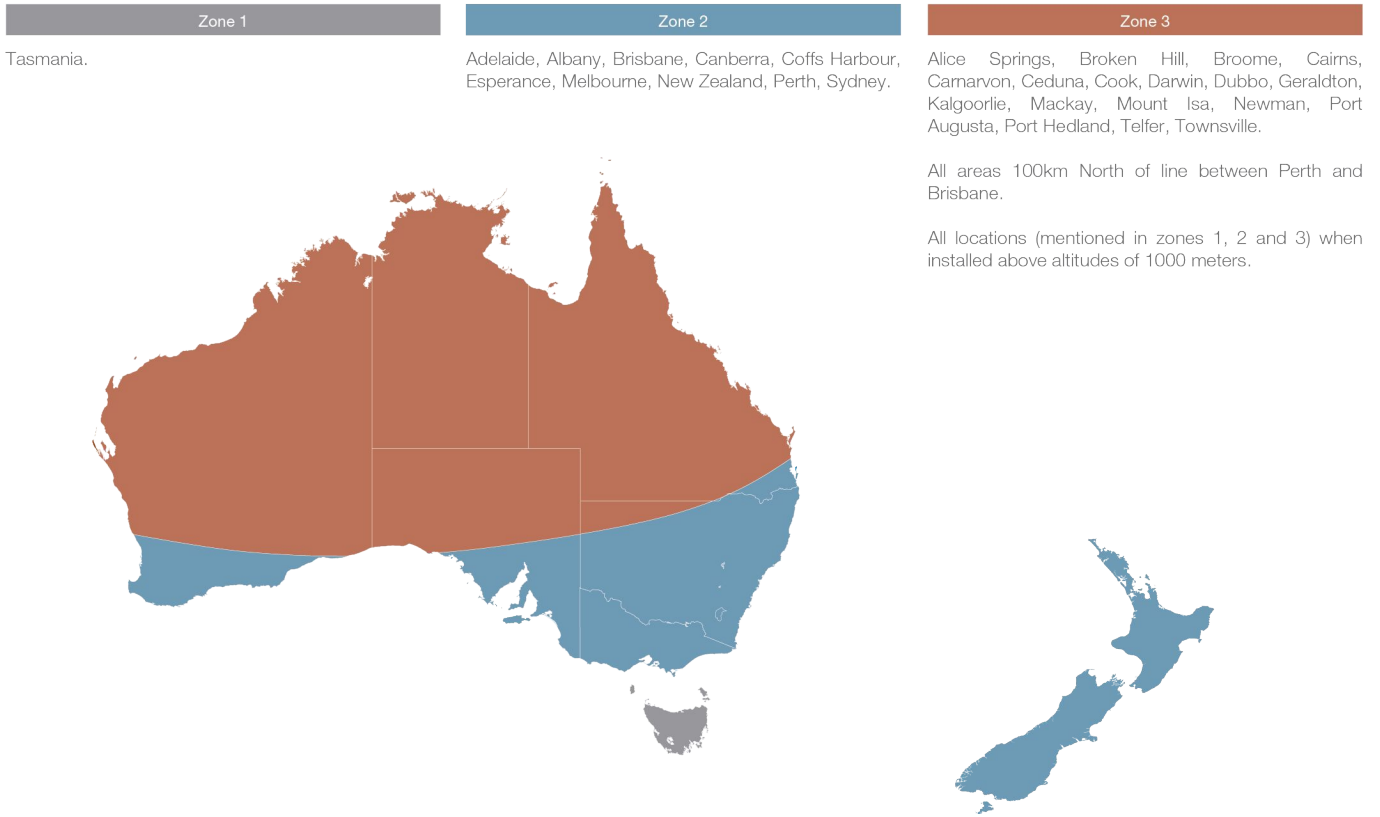
Durability for regions located in Zone 2 may be stated in ICS Performance Guarantee Durability Bulletins and other warranty documents issued by Avery Dennison Asia Pacific. Therefore, films used in regions identified as Zone 3 will have a reduction of the stated durability by 40%. If the film were applied 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 and Non-Vertical Reduction Examples

### Zone 1

Austria  
**Australia (Tasmania)**  
Belarus  
Belgium  
Bosnia & Herzegovia  
Canada  
Denmark  
Ecuador  
Estonia  
Finland  
France\*  
Georgia  
Germany  
Hungary  
Iceland  
Italy  
Latvia  
Liechtenstein  
Lithuania  
Luxembourg  
Macedonia  
Monaco  
Netherlands, the  
Norway  
Poland  
Romania  
Russia  
Slovakia  
Slovenia  
Sweden  
Switzerland  
United Kingdom  
United States of America\*  
Ukraine  
Uzbekistan  
Vatican City  
Yugoslavia

\*except areas noted as Zone 2 or  
Zone 3

### Zone 2

Afghanistan  
Albania  
Algeria  
Andorra  
Arizona  
Armenia  
**Australia\***  
Azerbaijan  
Bahamas  
Bangladesh  
Barbados  
Belize  
Bhutan  
Bolivia  
Brazil  
Burkina Faso  
Burundi  
California  
Cambodia  
Cameroon  
Cape Verde  
Caribbean Isles  
Chile  
China  
Colombia  
Costa Rica  
Cyprus  
Dominica  
Dominican Republic  
East Timor  
El Salvador  
Fiji  
Greece  
Grenada  
Guatemala  
Guinea  
Guyana  
Haiti  
Honduras  
India  
Indonesia  
Ivory Coast  
Jamaica  
Japan  
Kazakhstan  
Korea (South)  
Kyrgyzstan

Laos  
Lesotho  
Madagascar  
Malaysia  
Maldives  
Malta  
Mauritania  
Mauritius  
Micronesia  
Moldova  
Myanmar (Birma)  
Nepal  
Nevada  
New Zealand  
Nicaragua  
Pakistan  
Panama  
Papua New Guinea  
Paraguay  
Peru  
Philippines  
Portugal  
Puerto Rico  
Rwanda  
Samoa  
San Marino  
Sao Tome & Principe  
Singapore  
South Africa (East)  
Spain  
Sri Lanka  
Suriname  
Swaziland  
Taiwan  
Texas  
Thailand  
Togo  
Trinidad & Tobago  
Turkey  
Turkmenistan  
Ukraine  
Uruguay  
Utah  
Venezuela  
Vietnam

\*except areas noted as Zone 3

### Zone 3

Angola  
Bahrain  
Botswana  
Central African Rep.  
Chad  
Congo  
Egypt  
Equatorial Guinea  
Eritrea  
Ethiopia  
Gabon  
Gambia  
Ghana  
Guinea-Bissau  
Iraq  
Israel  
Jordan  
Kenya  
Kuwait  
Lebanon  
Liberia  
Libya  
Mali  
Mexico  
Morocco  
Mozambique  
Namibia  
New Mexico  
Niger  
Nigeria  
Oman  
Qatar  
Saudi Arabia  
Senegal  
Sierra Leone  
Somalia  
Tanzania  
Tunisia

## 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.

## Warranty and Limited Remedy

This instructional bulletin describes a technique. The information contained herein is believed to be reliable, but Avery Dennison makes no warranties, express or implied, including but not limited to any implied warranty of merchantability or fitness for a particular purpose. To the extent allowed by law, Avery Dennison shall not be liable for any loss or damages, whether direct, indirect, special, incidental or consequential, in any way related to the technique of making a graphic regardless of the legal theory asserted.

The above information provides basic information on how to apply pressure-sensitive graphics. The instructions are designed to help ensure success across a broad range of applications. Depending on the size and complexity of applications, a certain amount of expertise is needed.

Professional applicators can be hired to ensure proper application of finished graphics. When mounting graphics in remote geographic areas, professional applicators can offer the added benefit of local service.

Avery Dennison has a vast network of Certified Installers who have been specially trained and certified in accordance with our recommended techniques.

You can review the Certified Installer list here: [Find a Graphics Installer](#)

Consider hiring a professional whenever the application requires:

- Multiple panels to be registered
- Complex surfaces, such as rivet and corrugated trucks
- Harsh environmental conditions (i.e. outdoor applications in high heat climates)
- Remote geographic locations

For further information, contact your local Avery Dennison representative.

