Avery® Instructional Bulletin 1.3

Durability of Avery Graphics Films

Introduction

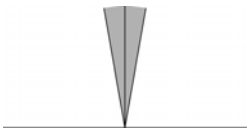
The durability of Avery Dennison Graphics and Reflective Products Division (Avery Graphics) films are defined as the expected performance life of the Avery Graphics film(s) within the Asia Pacific region in outdoor vertical exposure conditions. The durability is defined such that the films will not deteriorate excessively such that the finished graphic is ineffective for its advertising or identification purpose when viewed under normal conditions from the intended viewing distance. Specific durability expectation is available in the appropriate Product Data Sheet and ICS Performance Guarantee Durability Bulletins.

Reduction of Durability Expectations

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 in the regional service area of your graphics from that stated in the appropriate Product Data Sheets, Instructional Bulletins and ICS Performance Guarantee Bulletins.

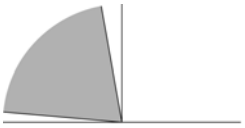
Vertical Exposure

The face of the graphic is ±10° from vertical. Vertical durability is as stated in appropriate Product Data Sheets, Instructional Bulletins and ICS Performance Guarantee Durability Bulletins.



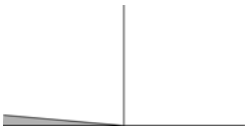
Non-Vertical Exposure

The face of the finished graphic is greater than 10° from vertical and greater than 5° from horizontal. The reduction of durability for non-vertical applications would be 50% less than the stated durability in appropriate Product Data Sheets, Instructional Bulletins and ICS Performance Guarantee Durability Bulletins.



Horizontal Exposure

The face of the finished graphic is 85° 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 appropriate Product Data Sheets, Instructional Bulletins and ICS Performance Guarantee Durability Bulletins. Films may retain legibility, but will not provide published Expected Durability for gloss, colour retention, chalking, dimensional stability and overall aesthetic performance.



Zone System

Based on the Zone System below, durability in regions located in Zone 1 will perform in vertical applications as stated in the Product Data Sheet and ICS Performance Guarantee Durability Bulletins. Films used in regions identified in Zone 2 will have a reduction of the stated durability by 30%. Films used in regions identified in Zone 3 will have a reduction of the stated durability by 60%.

If a film is applied whereby a combination of non-vertical and Zone 2 or Zone 3 exposure, the cumulative effect of the reduced exposures would apply. Thereby the non-vertical exposure in Zone 2 would be 65% less than the stated durability, and non-vertical exposure in Zone 3 would be 80% less than the stated durability

Non-Vertical and Zone Reductions

Exposure	Reduction Percentage of Zone 1 Vertical Exposure	Example
Zone 1, Non-Vertical	– 50%	10 years – 50% = 5 years
Zone 2, Vertical	– 30%	10 years – 30% = 7 years
Zone 2, Non-Vertical	– 65%	10 years – 65% = 3.5 years
Zone 3, Vertical	– 60%	10 years – 60% = 4 years
Zone 3, Non-Vertical	– 80%	10 years – 80% = 2 years

Zone System, Asia Pacific

For Product Data Sheets, ICS Performance Guarantee Durability Bulletins and other warranty documents issued for Avery Graphics Asia Pacific, durability for regions located in Zone 2 in vertical applications may be stated. Therefore, films used in regions identified in Zone 3 will have a reduction of the stated durability by 43%.

If a film is applied whereby a combination of non-vertical and Zone 3 exposure, the cumulative effect of the reduced exposures would apply. Thereby the non-vertical exposure in Zone 3 would be 70% less than the stated durability.

Non-Vertical and Zone Reductions, Asia Pacific

Exposure	Reduction Percentage of Zone 2 Vertical Exposure	Example
Zone 2, Non-Vertical	– 50%	7 years – 50% = 3.5 years
Zone 3, Vertical	– 43%	7 years – 43% = 4 years
Zone 3, Non-Vertical	– 72%	7 years – 72% = 2 years

Zone System Chart

See country/area zone classification below.

Zone 1	**Zone 2**			**Zone 3**
Austria	Afghanistan	Gabon	Niger	Exposed at all sites above altitudes of 1000 meters
Belarus	Albania	Gambia	Nigeria	Australia – Above a line 100km north of Perth/Brisbane
Belgium	Algeria	Ghana	Pakistan	Australia – Desert areas
Bosnia & Herzegovina	Andorra	Greece	Panama	Bahrain
Denmark	Angola	Grenada	Papua New Guinea	Chad
Ecuador	Arizona	Guatemala	Paraguay	Egypt
Estonia	Armenia	Guinea	Peru	Eritrea
Finland	**Australia***	Guinea-Bissau	Philippines	Ethiopia
France	Azerbaijan	Guyana	Portugal	Iraq
Georgia	Bahamas	Haiti	Puerto Rico	Israel
Germany	Bangladesh	Honduras	Rwanda	Jordan
Hungary	Barbados	India	Samoa	Kuwait
Iceland	Belize	Indonesia	San Marino	Lebanon
Italy	Bhutan	Ivory Coast	Sao Tome & Principe	Libya
Latvia	Bolivia	Jamaica	Senegal	Mexico
Liechtenstein	Botswana	Japan	Sierra Leone	Morocco
Lithuania	Brazil	Kazakhstan	Singapore	Oman
Luxembourg	Burkina Faso	Kenya	South Africa	Qatar
Macedonia	Burundi	Korea (South)	Southwest Texas	Saudi Arabia
Monaco	California	Kyrgyzstan	Spain	Somalia
Netherlands, the	Cambodia	Laos	Sri Lanka	Tunisia
Norway	Cameroon	Lesotho	Suriname	United Arab Emirates
Poland	Cape Verde	Liberia	Swaziland	Yemen
Romania	Caribbean Isles	Madagascar	Taiwan	
Russia	Central African Rep.	Malaysia	Tanzania	
Slovakia	Chile	Maldives	Texas	
Slovenia	China	Mali	Thailand	
Sweden	Colombia	Malta	Togo	
Switzerland	Congo	Mauritania	Trinidad & Tobago	
Ukraine	Costa Rica	Mauritius	Turkey	
United Kingdom	Cyprus	Micronesia	Turkmenistan	
United States of America*	Dominica	Moldova	Uganda	
Uzbekistan	Dominican Republic	Mozambique	Ukraine	
Vatican City	East Timor	Myanmar (Birma)	Uruguay	
Yugoslavia	El Salvador	Namibia	Utah	
*except desert areas of the States mentioned in Zone 2	Equatorial Guinea	Nepal	Venezuela	
	Fiji	Nevada	Vietnam	
	Florida (Southern)	New Mexico	Zambia	
		New Zealand	Zimbabwe	
		Nicaragua	* Exceptions classified in 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.

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