



# Avery Dennison® ICS Performance Guarantee HP Durability Bulletin 1.8


EU Revision number: 20 Date: 02-2018

## ICS PERFORMANCE GUARANTEE

The ICS Performance Guarantee combines our films with other qualified components to form a system which is guaranteed to be compatible and provide superior performance. You know exactly what to expect from your finished Avery Dennison graphics because your combination has already withstood rigorous scientific testing and met a very stringent set of durability and physical performance specifications.

## Printer configuration

Avery Dennison ICS Performance Guarantee for digital inkjet printed graphics with the following HP printers and inks;

Equipment Manufacturer	Printer name	Ink series*	ICS number
	HP Scitex TJ-8300 / 8350	TJ 100 Supreme	1.8.1
	HP Scitex Grandjet Series	XL300 Supreme	1.8.1
	HP Scitex XLJet / XL1200	XL300 Supreme	1.8.1
	HP XLJet Premium / XL1500	XL300 Supreme	1.8.1
	HP Scitex TJ-8600	TJ 210	1.8.2
	HP Designjet 25500	HP 789 Latex	1.8.3
	HP Designjet 65500	HP 786 Latex	1.8.3
	HP Latex 600 / 800	HP LX 600	1.8.3
	HP 260 (26500) Latex	HP 792 Latex	1.8.3
	HP 280 (28500) Latex	HP 792 Latex	1.8.3
	HP 820 / 850 Latex	HP LX 610	1.8.3
	HP Latex 3000 Series	HP 881/891 Latex Ink	1.8.3
	HP Latex 300 Series	HP 831/871 Latex Ink	1.8.3
	HP Latex 1500	HP 881 Latex Ink	1.8.3
	HP Latex 560/570	HP 831/871 Latex Ink	1.8.3





# Avery Dennison® ICS Performance Guarantee

## HP Durability Bulletin 1.8.1

Avery Dennison MPI Digital Media	Graphics Protection	Warranty period in years <sup>1</sup>				Application Surface					
		Outdoor	Vehicles	Marine	Indoor	Flat	Simple curves	Rivets	Compound curves	Corrugations	
MPI 1405 Easy Apply RS	Unprotected and unprinted	12	-	-	-	-	•	•	•	•	•
	DOL 6460 Gloss	8 <sup>4</sup>	8	4	11	•	•	•	•	•	
MPI 1105 MPI 1105 EA RS	Unprotected and unprinted	10	-	-	-	-	•	•	•	•	
	DOL 1460 Z Gloss, DOL 1480 Z Matte	6	6	3	9	•	•	•	•	•	
MPI 1104, MPI 1104 EA MPI 1106, MPI 1106 EA	Unprotected and unprinted	7	-	-	-	-	•	•	•	•	
	DOL 1460 Z Gloss, DOL 1480 Z Matte	5 <sup>3</sup>	5	2	7	•	•	•	•	•	
MPI 1105, MPI 1105 EA RS MPI 1104, MPI 1104 EA MPI 1106, MPI 1106 EA	Unprotected and unprinted	7	-	-	-	-	•	•	•	•	
	DOL 6040	3	3	-	6	•	•	-	-	-	
MPI 2000/2001, MPI 2000/2001 HOP, MPI 2002, MPI 2003 MPI 2004 EA, MPI 2004 HOP EA, MPI 2005 EA RS, MPI 2020 MPI 2040, MPI 2041, MPI 2006, MPI 2006 HOP	Unprotected and unprinted	7	-	-	-	-	•	•	-	-	
	DOL 2460 Gloss, DOL 2470 Lustre, DOL 2480 Matte	5 <sup>3</sup>	5	-	7	•	•	-	-	-	
	DOL 4300	4	4	-	5	•	-	-	-	-	
MPI 2001, MPI 2002, MPI 2001 HOP, MPI 2041	Unprotected and unprinted	7	-	-	-	-	•	-	-	-	
	DOL 6000	-	-	-	9 <sup>2</sup>	•	-	-	-	-	
MPI 2150	Unprotected and unprinted	7	-	-	-	-	•	•	-	-	
	DOL 2460 Gloss, DOL 2470 Lustre, DOL 2480 Matte	4	-	-	7	•	•	-	-	-	
MPI 2800/2801, MPI 2800/2801 HOP MPI 2804 EA	Unprotected and unprinted	7	-	-	-	-	•	•	-	-	
	DOL 2860 Gloss, DOL 2880 Matte	3	3	-	7	•	•	-	-	-	
	DOL 4300	3	3	-	7	•	-	-	-	-	
MPI 3000/3001, MPI 3000/3001 HOP, MPI 3004 HOP EA MPI 3020/3021, MPI 3020/3021 HOP, MPI 3024 HOP EA MPI 3026	Unprotected and unprinted	3	-	-	-	-	•	-	-	-	
	DOL 3460 Gloss, DOL 3470 Lustre, DOL 3480 Matte	2	2	-	3	•	-	-	-	-	
	DOL 4300	2	2	-	3	•	-	-	-	-	
MPI 3001, MPI 3001 HOP	Unprotected and unprinted	3	-	-	-	-	•	-	-	-	
	DOL 5900	-	-	-	6 <sup>2</sup>	•	-	-	-	-	
MPI 3151	Unprotected and unprinted	3	-	-	-	-	•	-	-	-	
	DOL 3460 Gloss, DOL 3470 Lustre, DOL 3480 Matte	2	-	-	3	•	-	-	-	-	
MPI 3601, MPI 3621	Unprotected and unprinted	3	-	-	-	-	•	-	-	-	
	DOL 3460 Gloss, DOL 3470 Lustre, DOL 3480 Matte	2	2	-	3	•	-	-	-	-	
	DOL 4300	2	2	-	2	•	-	-	-	-	
MPI 7101, MPI 7201	Unprotected and unprinted	3	-	-	-	-	•	-	-	-	
	DOL 4000 Ultra Clear Cast	3	3	-	3	•	-	-	-	-	
	DOL 4100 Ultra Clear Polyester	2	2	-	3	•	-	-	-	-	
MPI 7301	Unprotected and unprinted	2	-	-	-	-	•	-	-	-	
	DOL 4000 Ultra Clear Cast, DOL 4100 Ultra Clear Polyester	2	2	-	2	•	-	-	-	-	
MPI 7401	Unprotected and unprinted	1	-	-	-	-	•	-	-	-	
	DOL 4000 Ultra Clear Cast, DOL 4100 Ultra Clear Polyester	1	1	-	1	•	-	-	-	-	
MPI 8000 Wall Film Series	Unprotected and printed	4	-	-	-	4	•	-	-	-	

<sup>1</sup> Vertical exposure, mid-European climatic conditions

<sup>2</sup> Durability in months

<sup>3</sup> Stationary applications facing South, West or Southwest will have a 1 year durability deduction

<sup>4</sup> Up to 12 months durability on textured surfaces





# Avery Dennison® ICS Performance Guarantee

## HP Durability Bulletin 1.8.2

Avery Dennison MPI Digital Media	Graphics Protection	Warranty period in years <sup>1</sup>				Application Surface				
		Outdoor	Vehicles	Marine	Indoor	Flat	Simple curves	Rivets	Compound curves	Corrugations
MPI 1105 MPI 1105 EA RS	Unprotected and unprinted DOL 4400 UV	10 6	- 6	- -	- 9	• •	• •	• -	• -	• -
MPI 1104, MPI 1104 EA MPI 1106, MPI 1106 EA	Unprotected and unprinted DOL 4400 UV	7 5 <sup>2</sup>	- 5	- -	- 7	• •	• •	• -	• -	• -
MPI 2000/2001, MPI 2000/2001 HOP, MPI 2002, MPI 2003 MPI 2004 EA, MPI 2004 HOP EA, MPI 2005 EA RS, MPI 2020 MPI 2040, MPI 2041, MPI 2006, MPI 2006 HOP	Unprotected and unprinted DOL 4400 UV	7 5 <sup>2</sup>	- 5	- -	- 7	• •	• •	• -	• -	• -
MPI 2150	Unprotected and unprinted DOL 4400 UV	7 4	- -	- -	- 7	• •	• •	• -	• -	• -
MPI 2800/2801, MPI 2800/2801 HOP MPI 2804 EA	Unprotected and unprinted DOL 4400 UV	7 3	- 3	- -	- 7	• •	• •	• -	• -	• -
MPI 3000/3001, MPI 3000/3001 HOP, MPI 3004 HOP EA MPI 3020/3021, MPI 3020/3021 HOP, MPI 3024 HOP EA MPI 3026	Unprotected and unprinted DOL 4400 UV	3 2	- 2	- -	- 3	• •	- -	- -	- -	- -
MPI 3151	Unprotected and unprinted DOL 4400 UV	3 2	- -	- -	- 3	• •	- -	- -	- -	- -
MPI 3601, MPI 3621	Unprotected and unprinted DOL 4400 UV	3 2	- 2	- -	- 3	• •	- -	- -	- -	- -
MPI 7101, MPI 7201	Unprotected and unprinted DOL 4000 Ultra Clear Cast DOL 4100 Ultra Clear Polyester	3 2	- 2	- -	- 3	• •	- -	- -	- -	- -
MPI 7301	Unprotected and unprinted DOL 4000 Ultra Clear Cast, DOL 4100 Ultra Clear Polyester	2 2	- 2	- -	- 2	• •	- -	- -	- -	- -
MPI 7401	Unprotected and unprinted DOL 4000 Ultra Clear Cast, DOL 4100 Ultra Clear Polyester	1 1	- 1	- -	- 1	• •	- -	- -	- -	- -
MPI 8000 Wall Film Series	Unprotected and unprinted	4	-	-	- 4	•	-	-	-	-

<sup>1</sup> Vertical exposure, mid-European climatic conditions

<sup>2</sup> Stationary applications facing South, West or Southwest will have a 1 year durability deduction





# Avery Dennison® ICS Performance Guarantee HP Durability Bulletin 1.8.3

Please also refer to page 5 in regards to HP 831, 871 and 881 Latex inks

Avery Dennison MPI Digital Media	Graphics Protection	Warranty period in years <sup>1</sup>				Application Surface					
		Outdoor	Vehicles	Marine	Indoor	Flat	Simple curves	Rivets	Compound curves	Corrugations	
MPI 1405 Easy Apply RS	Unprotected and unprinted	12	-	-	-	-	•	•	•	•	•
	DOL 6460 Gloss	8 <sup>4</sup>	8	4	11	•	•	•	•	•	
MPI 1105 MPI 1105 EA RS	Unprotected and unprinted	10	-	-	-	•	•	•	•	•	
	DOL 1460 Z Gloss, DOL 1480 Z Matte	6	6	3	9	•	•	•	•	•	
MPI 1104, MPI 1104 EA MPI 1106, MPI 1106 EA	Unprotected and unprinted	7	-	-	-	•	•	•	•	•	
	DOL 1460 Z Gloss, DOL 1480 Z Matte	5 <sup>3</sup>	5	2	7	•	•	•	•	•	
MPI 1105, MPI 1105 EA RS MPI 1104, MPI 1104 EA MPI 1106, MPI 1106 EA	Unprotected and unprinted	7	-	-	-	•	•	-	-	-	
	DOL 6040	3	3	-	6	•	•	-	-	-	
MPI 2000/2001, MPI 2000/2001 HOP, MPI 2002, MPI 2003 MPI 2004 EA, MPI 2004 HOP EA, MPI 2005 EA RS, MPI 2020 MPI 2040, MPI 2041, MPI 2006, MPI 2006 HOP	Unprotected and unprinted	7	-	-	-	•	•	-	-	-	
	DOL 2460 Gloss, DOL 2470 Lustre, DOL 2480 Matte	5 <sup>3</sup>	5	-	7	•	•	-	-	-	
	DOL 4300	4	4	-	5	•	-	-	-	-	
MPI 2001, MPI 2002, MPI 2001 HOP, MPI 2041	Unprotected and unprinted	7	-	-	-	•	-	-	-	-	
	DOL 6000	-	-	-	9 <sup>2</sup>	•	-	-	-	-	
MPI 2150	Unprotected and unprinted	7	-	-	-	•	•	-	-	-	
	DOL 2460 Gloss, DOL 2470 Lustre, DOL 2480 Matte	4	-	-	7	•	•	-	-	-	
MPI 2800/2801, MPI 2800/2801 HOP MPI 2804 EA	Unprotected and unprinted	7	-	-	-	•	•	-	-	-	
	DOL 2860 Gloss, DOL 2880 Matte	3	3	-	7	•	•	-	-	-	
	DOL 4300	3	3	-	7	•	-	-	-	-	
MPI 3000/3001, MPI 3000/3001 HOP, MPI 3004 HOP EA MPI 3020/3021, MPI 3020/3021 HOP, MPI 3024 HOP EA MPI 3026	Unprotected and unprinted	3	-	-	-	•	-	-	-	-	
	DOL 3460 Gloss, DOL 3470 Lustre, DOL 3480 Matte	2	2	-	3	•	-	-	-	-	
	DOL 4300	2	2	-	3	•	-	-	-	-	
MPI 3001, MPI 3001 HOP	Unprotected and unprinted	3	-	-	-	•	-	-	-	-	
	DOL 5900	-	-	-	6 <sup>2</sup>	•	-	-	-	-	
MPI 3151	Unprotected and unprinted	3	-	-	-	•	-	-	-	-	
	DOL 3460 Gloss, DOL 3470 Lustre, DOL 3480 Matte	2	-	-	3	•	-	-	-	-	
MPI 3601, MPI 3621	Unprotected and unprinted	3	-	-	-	•	-	-	-	-	
	DOL 3460 Gloss, DOL 3470 Lustre, DOL 3480 Matte	2	2	-	3	•	-	-	-	-	
	DOL 4300	2	2	-	2	•	-	-	-	-	
MPI 7101, MPI 7201	Unprotected and unprinted	3	-	-	-	•	•	-	-	-	
	DOL 4000 Ultra Clear Cast	3	3	-	3	•	•	-	-	-	
	DOL 4100 Ultra Clear Polyester	2	2	-	3	•	-	-	-	-	
MPI 7301	Unprotected and unprinted	2	-	-	-	•	-	-	-	-	
	DOL 4000 Ultra Clear Cast, DOL 4100 Ultra Clear Polyester	2	2	-	2	•	-	-	-	-	
MPI 7401	Unprotected and unprinted	1	-	-	-	•	-	-	-	-	
	DOL 4000 Ultra Clear Cast, DOL 4100 Ultra Clear Polyester	1	1	-	1	•	-	-	-	-	
SF 100 Ultra Clear	Unprotected and unprinted	2	-	-	-	•	-	-	-	-	
	DOL 4100 Ultra Clear Polyester	2	-	-	6	•	-	-	-	-	
MPI 8000 Wall Film Series	Unprotected and printed	4	-	-	-	4	•	-	-	-	

<sup>1</sup> Vertical exposure, mid-European climatic conditions

<sup>2</sup> Durability in months

<sup>3</sup> Stationary applications facing South, West or Southwest will have a 1 year durability deduction

<sup>4</sup> Up to 12 months durability on textured surfaces





# Avery Dennison® ICS Performance Guarantee

## HP Durability Bulletin 1.8.3

### Recommendation on how to avoid DOL delamination from graphics printed with HP 831, 871 or 881 Latex inks

Low adhesion values of Avery Dennison overlaminates may be observed when applied onto graphics printed with HP 831, 871 or 881 Latex inks.

The following guidelines explain which graphics or applications are particularly critical and excluded from our warranty, as low peel adhesion values may cause delamination of the Digital Overlaminates of the printed graphic.

#### 1. Avoid high ink load or solid colors

Graphics with high ink loads are especially critical in regards to reaching sufficient adhesion results of the DOL on the printed graphic. If your graphic requires a lot of ink, we recommend to test the adhesion of our Digital Overlaminates prior to starting the project.

Furthermore, please ensure that the inks are completely cured before laminating the DOL onto the graphic. Insufficiently cured images may cause otherwise unwanted delamination.

For proper curing we recommend to use dedicated profiles for your Media/Printer/RIP combination and print in recommended environmental conditions (20°C/60%RH). If ideal environmental conditions cannot be met or proper curing cannot be achieved despite the use of dedicated profiles, an adjustment of profile settings may be required. Reducing the amount of ink, increasing the number of print passes or increase the curing temperature (if the media allows for higher temperature) may improve the curing of the printed graphic.

Media presets can be found on HP's Media Locator under [www.printos.com/ml/](http://www.printos.com/ml/)

To validate proper ink curing performance, especially when printing outside environmental conditions mentioned above or when not using recommended media presets, we suggest to perform a preliminary test to ensure that samples are properly cured. Rolling a sample just after printing and performing a visual inspection after 1 day will show if samples are properly cured.

In order to ensure a hassle-free application of graphics printed with these inks, we recommend to test the DOL on the specific image. This is especially recommended before starting a larger project.

#### 2. Avoid critical applications such as overposting applications

Application of media on top of a MPI/DOL bundle is not recommended. Especially applications that are applied temporarily on top of the DOL applied on these inks may cause problems when removing the graphic from the DOL. The temporarily applied media may show higher adhesion properties on the overlaminate than the overlaminate on the printed graphic. When trying to remove the temporary graphic off the DOL, it may lead to undesired delamination.

Similar to the overposting example above, also applications that require installation with the help of an application tape may lead to undesired delamination due to the stronger adhesion properties of the application tape.

To prevent delamination of the DOL from the printed graphic, we therefore recommend to avoid the above described critical applications when using these particular HP Latex inks.

**Please note that we cannot guarantee sufficient adhesion properties of our overlaminates listed in the durability table of Bulletin 1.8.3 if the above guidelines are not taken into consideration.**

**Whereas the general compatibility of the respective inks and our MPI films is guaranteed, we cannot warrant critical images and/or applications as described further under points 1. and 2. above.**



# Avery Dennison® ICS Performance Guarantee

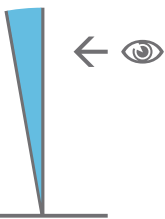
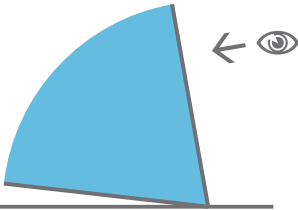
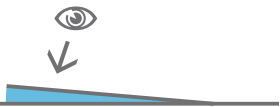
## Additional information on graphics durability

### Definition of durability and potential durability reductions.

The durability of Avery Dennison Graphics and Reflective Solutions films are defined as the expected performance life of the Avery Dennison graphic film(s) within the European region in outdoor vertical exposure conditions. The durability is defined such that the films will not deteriorate excessively, i.e the finished graphic remains effective for its advertising or identification purpose when viewed under normal conditions from the intended viewing distance.

The actual performance life will depend on a variety of factors, including selection and preparation of substrate, angle and direction of exposure, application methods, environmental conditions and cleaning/maintenance of the films. In case of films used in areas of high temperatures or humidity, high altitudes, industrially polluted areas or the durability will be further reduced below levels stated in this ICS Performance Guarantee document.

### Angle and direction of exposure.

Vertical exposure	Non-vertical exposure	Horizontal exposure
		
<p>The face of the graphic is up to 10° from vertical.</p>	<p>The face of the graphic is between 10° and 85° from vertical. The durability as stated in this ICS performance guarantee document is reduced by 50% for non-vertical applications.</p>	<p>The face of the graphic is between 85° and 90° from vertical. The durability as stated in this ICS performance guarantee document is reduced by 50% for horizontal applications.</p>

### Definition of durability and potential durability reductions.

**High elevations:** In mountain areas UV damage is increased over exposures at sea level. This is due to the air being thinner and therefore damage of UV radiation increases significantly.

**Congested urban or industrial areas:** Due to increased smog, pollutants and particulates in the atmosphere, applications have reduced durability expectations. Also horizontal application traps chemicals on the surface of the material, increasing the impact of UV exposure and reducing durability.

“Indoor” durability means that the Product in a finished graphic situated within the interior of a building without direct exposure to sunlight and applied to recommended surfaces, will not deteriorate excessively such that the finished graphic is ineffective for its advertising or identification purpose(s) when viewed under normal conditions from the intended viewing distance, due solely to a defect in the Product in manufacturing or workmanship.







# Avery Dennison® ICS Performance Guarantee

## Additional information on graphics durability

### Zone system Europe

Based on a 3-tier climatic Zone System (as attached), durability in regions as located in Zone 1 will perform in vertical applications as stated in the product datasheets and this particular ICS Performance Guarantee Bulletin. Films used in regions identified in Zone 2 will have a reduction of two years. Films used in regions identified in Zone 3 will have a reduction of the stated durability of Zone 2 by an additional two years. Where the Zone 2 durability is less than three years, the Zone three durability is 50% of Zone 2

Zone 1 (displayed in ICS Bulletin table above)		Zone 2		Zone 3	
Vertical	Non-vertical / Horizontal	Vertical	Non-vertical / Horizontal	Vertical	Non-vertical / Horizontal
8	4	6	3	4	2
7	3.5	5	2.5	3	1.5
6	3	4	2	2	1
5	2.5	3	1.5	1.5	0.75
4	2	2	1	1	0.5
3	1.5	1	0.5	0.5	0.25
2	1	-	-	-	-
1	0.5	-	-	-	-

Durability in years

### Zone chart

Zone 1	Zone 2	Zone 3
Albania, Andorra, Austria, Belarus, Belgium, Bosnia & Herzegovina, Bulgaria, Croatia, Czech Republic, Denmark, Estonia, Finland, France, Georgia, Germany, Hungary, Iceland, Ireland, Italy, Kosovo, Latvia, Liechtenstein, Lithuania, Luxemburg, Macedonia F.Y.R., Moldova, Monaco, Montenegro, The Netherlands, Norway, Poland, Romania, Russia, San Marino, Serbia, Slovakia, Slovenia, Sweden, Switzerland, Ukraine, United Kingdom, Vatican City.	Armenia, Azerbaijan, Cyprus, Greece, Kazakhstan, Kyrgyzstan, Malta, Mauritius, Portugal, South Africa, Spain, Tajikistan, Turkey, Turkmenistan, Uzbekistan.	Algeria, Bahrain, Egypt, Iraq, Israel, Jordan, Kuwait, Lebanon, Libya, Morocco, Oman, Qatar, Saudi Arabia, Tunisia, United Arab Emirates, Yemen.

Exposed all sites (mentioned in zones 1, 2 and 3) above altitudes of 1000 meters.

**WARRANTY:** All Avery Dennison statements, technical information and recommendations are based on tests believed to be reliable but do not constitute a guarantee or warranty. All Avery Dennison products are sold with the understanding that purchaser has independently determined the suitability of such products for its purposes. All Avery Dennison's products are sold subject to Avery Dennison's general terms and conditions of sale, see <http://terms.europe.averydennison.com>

For full warranty details see the Avery Dennison ICS Performance Guarantee Bulletin (Terms & Conditions) 1.0. Warranty is subjected to the Avery Dennison ICS Platinum Warranty Bulletin (Terms & Conditions) and/or Avery Dennison ICS Performance Guarantee Bulletin (Terms & Conditions), available on request.

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