

#### Facestock

A crystal clear, gloss, UV filtering overlaminating polyester film with print treated surface for enhanced ink adhesion.

Basis Weight	32 g/m <sup>2</sup>	ISO 536
Caliper	23 µm	ISO 534

#### Adhesive

AL170 is a high cohesive, permanent, solvent-based acrylate adhesive.

#### Liner

A clear polyester liner giving optimum smoothness to the adhesive layer. rPET23 liner contains 30% Post-Consumer Recycled (PCR) content. This liner is 100% recyclable. Visit our website for more information.

Basis Weight	32 g/m <sup>2</sup>	ISO 536
Caliper	23 µm	ISO 534

#### Laminate

Total Caliper	66 µm±10%	ISO 534
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#### Performance Data

Initial Tack	9 N/25mm	FTM 9 Glass
Peel Adhesion 90°	9 N/25mm	FTM2 st.st. 24 h

Min. Application Temp.	0 °C
Service Temperature	-80 °C to 150 °C
Adhesive Type	Solvent Acrylic

#### Adhesive Performance

AL170 is distinguished by very high ageing stability and features excellent resistance against chemicals, heat and UV light. It has a high peel adhesion on high and medium surface energy substrates.

#### Applications and Use

This UV filtering product is designed for overlaminating printed polyester and vinyl labels to prolong the outdoor durability of printed labels and to protect against the influence of abrasion or chemical exposure. It can also improve the durability of other filmic and paper label materials. It is ideal for many indoor and outdoor applications. A durability of 2 years (vertical exposure) can be expected.

This glass clear product is ideal to change the label appearance to a high gloss finish or to make a label material or printed areas thermal transfer printable.

The main area of application for this product is the labelling of industrial products. Nameplates and logistics labels are typical examples. This product is distinguished by its high chemical resistance.

Automatic application: The robust film liner allows for consistent, snap free application on high speed lines.

#### Conversion and Printing

Variable information can be applied using thermal transfer. For best scratch resistance resin ribbons are recommended.

## AS674

### Fasson®

#### OVERLAM PET23 UV AL170-rPET23



OVERLAM PET23 UV

AL170

rPET23

*This is an automatically generated datasheet. All data to be considered as typical values and subject to change without prior notice. Further testing is always recommended. If you would like to make a suggestion or comment on this datasheet, please send an email to [datasheet.mgmt@eu.averydennison.com](mailto:datasheet.mgmt@eu.averydennison.com)*

As the overlamination film does not completely block UV rays underlying inks and materials are not fully protected against fading and deterioration. Instead the duration until a visible effect occurs is prolonged. The color change and fading depend on a great extent on the light fastness of the used inks and colors. To obtain printed labels with the maximum UV resistance please contact your inks supplier for advice on the best suitable inks. It is highly recommended to perform accelerated UV tests with printed and laminated labels prior use. Overlamination can be an aid to matrix stripping and automatic label dispensing of the base label material. However, due to the low calliper of this film, we do not recommend automatic dispensing by itself.

As the liner is transparent, the applicator must detect the print itself or registration marks must be provided on either face or liner. Press stability is good with stable, consistent register during conversion. Flat bed performance is good while solid and magnetic rotary dies need additional care. (Die bearers must be adjusted to the polyester liner). The PCR content gives a transparent light blue/grey shade to the liner. This does not affect the performance; performance is on par with conventional PET liners.

#### Compliance and Approvals

This product is UL and C-UL recognized (UL 969, CSA C22.2 No. 0.15). The UL file number is MH27538. This material complies with BS 5609, Section two, Marine Immersion Test. To comply with BS 5609 Section 3, the specific inks or ribbons have to be evaluated; tests can be performed upon request.

#### Shelf Life

To obtain optimal performance, use this product within two years of the date of manufacture, under storage conditions as defined by FINAT (20-25°C; 40-50%RH). Prolonged storage outside these conditions might reduce the shelf life.

## Appendix

### Compliance with BS 5609

This material complies with BS 5609, Section two, Marine Immersion Test.

### UL and CSA recognition

This product meets the requirements as stated in UL 969 and CSA C22.2 No. 0.15 for indoor and outdoor use. The UL file number is MH15453. For specific information on approved conditions, see appendix.

## Performance Data

Note: the following technical data should be considered representative or typical only and should not be used for specification purposes.

### **Peel Adhesion:**

FTM1: 180°, 300 mm/min, dwell time: 48 hours

Surface	N/25mm
ABS	11,5
Aluminium	11,5
Automotive lacquered panels	11,0
Glass	15,0
HDPE	3,0
LDPE	2,0
PA6	11,5
Stainless Steel	13,0

### **Chemical Resistance:**

The performance results are based on 4 hours immersions at room temperature unless otherwise noted. Samples were applied to the test panel and conditioned for 24 hours before immersion and evaluated immediately upon removal. Peel adhesion was measured according to FTM1.

Chemical	Test Substrate	N/25mm	Visual appearance	Edge Penetration
Brake Fluid	Glass	14,0	No change	0 mm
Diesel	Glass	12,7	No change	0 mm
Engine Oil	Glass	13,9	No change	0 mm
Gasoline	Glass	10,2	No change	4 mm
Heptane	Glass	11,5	No change	3 mm
Water, distilled	Aluminium	11,0	No change	0 mm

#### **Chemicals:**

Brake Fluid: DOT 4 Synthetic (One Way), Diesel: TOTAL, Engine Oil: TOTAL quartz 700, 10 W 40, Gasoline: TOTAL Euro 95

## Appendix

### Thermal Transfer Printing:

#### Printability – Physical Resistance

Flat head printers (tests were performed with the printer Zebra XII 140):

Ribbon	Settings speed energy		Print Quality	ANSI Grade	Scratch resistance	Tape resistance
Armor AXR7+	3	30	++	A*	++	++
Armor AXR8	3	30	++	A*	++	++
DNP R300	3	30	+	A*	++	++
DNP R510	3	30	o	A*	++	o
limak SP330	3	30	++	A*	++	+
ITW B324	3	30	++	A*	++	++
Ricoh B110CR	3	30	++	A*	++	++

Near edge printers (tests were performed with the printer Avery TTX 450 – Near Edge):

Ribbon	Settings	Print Quality	ANSI Grade	Scratch resistance	Tape resistance
Armor AXR 600	5 "/s	+	A*	++	o
Armor AXR 800	4 "/s	-	A*	++	o
Ricoh B120 E	8 "/s	++	A*	+	-

ANSI (American National Standards Institute) Grade: information about barcode quality

A: excellent B: good C: acceptable D: readable with difficulty

++: excellent +: good o: acceptable -: poor

\*: Based on a white substrate. Readability may vary when applied onto different coloured substrates.

#### Chemical Resistance

The printed samples were wetted on the surface with a soft clean cotton cloth soaked in the test solution by wiping 10 times back and forth with light pressure. After 5 seconds they were dried with a clean dry soft cloth. After 15 minutes the evaluation took place.

	AXR7+	AXR8	R300	R510	SP330	B324	B110 CR	AXR 600	AXR 800	B120E
Ad Blue	+	+	+	+	+	+	+	+	+	+
Anti-Freeze	+	+	+	+	+	+	+	+	+	+
Biodiesel	+	+	+	+	o	+	+	-	-	-
Bioethanol E85	-	+	+	+	o	-	+	-	-	-
Brake fluid	-	+	o	+	o	-	+	-	-	-
Cleaner solvent	o	+	+	+	-	o	+	-	-	-
Engine oil	+	+	+	+	+	+	+	-	-	-
Gasoline	-	-	-	o	-	-	-	-	-	-
Hard Wax Polish	-	+	o	+	o	-	+	-	-	-
Isopropanol	o	+	+	+	o	-	+	-	-	-

+: good (no change) o: acceptable (minor change, still readable) -: poor

#### Chemicals:

Ad Blue: Aral, Anti-Freeze: Speedfrost "Speedfroil" 1:1 in water, Brake Fluid: DOT 4 Synthetic (One Way),

Cleaner Solvent: "Caramba" Cold Cleaner, Engine Oil: TOTAL quartz 700, 10 W 40

Gasoline: TOTAL Euro 95, Hard Wax Polish: „Nigrin“ Hard Wax Polish

## Appendix

### Compliance Data

#### UL – Underwriters Laboratories (UL969)

This material is UL recognized as pressure-sensitive overlamination for producing finished printed labels. The conditions of acceptance are:

- Affixed to polyester label material, maximum temperature 150°C, minimum temperature -40°C.
- Affixed PVC label material, maximum temperature 80°C, minimum temperature -40°C.

Suitable where exposed indoors and outdoors to high humidity or occasional exposure to water.

The UL certification includes the printing with one or more of the following thermal transfer ribbons: Armor “AXR7+”, “AXR 8”, Dainippon “R300”, ITW “B324”, Ricoh “B110CR”.

Details are listed in the UL file MH27538.

#### CSA – Canadian Standards Association

UL has tested this product according to the requirements described in CSA C22.2 No. 0.15. This product is C-UL recognized as pressure-sensitive overlamination for producing finished printed labels. The conditions of acceptance are:

- Affixed to polyester label material, maximum temperature 150°C.
- Affixed PVC label material, maximum temperature 80°C.

Suitable where exposed indoors and outdoors to high humidity or occasional exposure to water.

The C-UL certification includes the printing with Armor “AXR7+”.

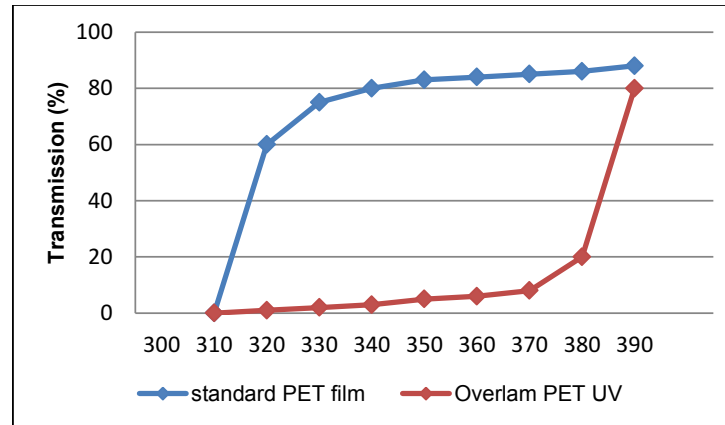
Details are listed in the UL file number MH27538.

Details on additional conditions can be found in the UL Online Certification Directory (<https://iq.ul.com/labels/>) or via [label.support@eu.averydennison.com](mailto:label.support@eu.averydennison.com)

## Appendix

### UV blocking properties

Overlam PET 23 UV contains particles that absorb UV light and converts the harmful rays into thermal energy. The following graphs shows the percentage of the UV transmitted by this film compared to a standard PET film.



### Test results:

Transfer PET White TOP was printed with HP Indigo inks. The printed labels were exposed to UV light, without any protection and overlaminated with Overlam PET 23 UV / AL170.

### QUV (1000 hours):

#### Exposure conditions:

QUV Accelerated Weathering: based on EN-ISO 4892-3

Light source: UVA-340

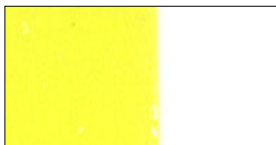
Irradiance: 0,76 W/m<sup>2</sup> at 340 nm

Cycle: 8 hours light at 55°C, 4 hours condensation at 50°C

Duration: 1000 hours

Yellow:

	without overlaminate			Overlam PET 23 UV / S8020		
	before	after	Δ	before	after	Δ
L	83,95	92,51	8,56	82,79	83,93	1,1
a	-7,45	-1,85	-1,85	-7,06	-7,72	-0,77
b	81,29	3,14	-78,15	82,43	62,51	-19,88
Δ E			<b>78,82</b>			<b>19,92</b>



## Appendix

Red:

	without overlamine			Overlam PET 23 UV / S8020		
	before	after	$\Delta$	before	after	$\Delta$
L	45,56	84,77	39,21	44,94	45,82	0,4
a	59,13	7,29	-51,84	58,19	57,59	-0,03
b	42,85	3,32	-39,53	42,23	26,73	-14,73
$\Delta E$			<b>76,08</b>			<b>17,74</b>



### Suntest (1000 hours):

Exposure conditions:

Suntest: based on EN-ISO 105-B02

Light source: xenon burner with coated quartz glass for simulation of solar global outdoors (daylight)

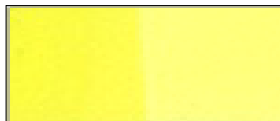
Settings: BST: 50°C, 500 W/m<sup>2</sup>

Duration: 1000 hours, 1800 MJ/m<sup>2</sup>

This test was carried out in comparison with standardized Blue Wool Scale stripes.

Yellow:

	Overlam PET 23 UV / S8020		
	before	after	$\Delta$
L	83,26	85,5	2,24
a	-7,78	-7,27	0,52
b	81,75	50,3	-31,45
$\Delta E$			<b>31,54</b>



Red:

	Overlam PET 23 UV / S8020		
	before	after	$\Delta$
L	45,95	47,6	1,65
a	57,85	56,27	-1,58
b	33,62	17,45	-16,17
$\Delta E$			<b>16,33</b>



Reference:

Blue Wool Scale stripes after the 1000 hours UV light exposure:



WS reference 4



WS reference 6



WS reference 7

## Avery Dennison Materials Group Europe

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### Warranty

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