

Avery Dennison® SW 900 Series Supreme Wrapping Film™

Opaque/Metallic/Specialty

Easy Apply™ RS Long Term Removable - StaFlat™

Revision: 14 Dated: 07/20/18

Uses:

Avery Dennison SW 900 Easy Apply Cast Vinyl Film Series is a premium quality cast film designed for use in vehicle and graphics markets where high quality film finish and cost effective full color wrapping is required. The patented Avery Dennison Easy Apply RS feature allows for faster positioning, bubble free application, and long term removability.



Face: 3.2 mil (80 µm) to 4.7 mil (119 µm) high gloss, satin or matte cast film



Adhesive: Long Term Removable Acrylic



Liner: 90# StaFlat, Poly-Coated with Easy Apply RS technology



Durability: See durability table starting on page 6

Application Surfaces:

Flat, Flat with Rivets, Corrugations, Deep Recesses

*NOTE: Films with face thickness 4 mil (102 micron) and above may have reduced conformability.

Features:

- SW 900 Gloss, satin or matte, super conformable film
- SW 900X Extreme Textures includes Carbon Fiber and Brushed Metallic
- Unique patented adhesive technology
- Superior conformability to irregular substrates
 - Deeply concave shaped
 - Extremely convex shaped
 - Best conformance in channels
- Outstanding durability and outdoor performance
- Excellent UV, temperature, humidity, and salt-spray resistance
- SW 900 custom colors available (contact your sales representative)
- Easy Apply feature helps prevent wrinkles and bubbles during application
- Excellent removability

Common Applications:

- Trucks
- Trailers
- Cars & Vans
- Emergency Vehicles
- Buses

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Physical Characteristics:

Property	Measurement	Typical Value
Caliper, face		3.2 mil (80 µm) to 4.7 mil (119 µm) Reference Color & Durability Chart in this document for caliper for specific film <i>*NOTE: Films with face thickness 4 mil (102 micron) and above may have reduced conformability.</i>
Caliper, adhesive		1.2 mil (30 µm)
Dimensional stability		<0.010"(0.254 mm)
Tensile at Yield		4.0 - 8.0 lb/in (0.7–1.5 kg/cm)
Elongation		200% at break
Gloss	Hunter Gloss @ 60 degrees	Gloss - >85 GU Satin – 20-30 GU Matte - <15 GU
Adhesion:	15 min 24 hr 1 week	2.1lbs/in (367N/m) 2.5 lbs/in (437 N/m) 3.0 lbs/in (525 N/m)
Flammability	<i>FMVSS 302</i>	Self Extinguishing
Shelf-Life		2 years from the date of manufacture (when stored at the following temperatures and humidity conditions 68°-77° F (20° - 25° C) and 50±5% R. H.)
Durability	Vertical Exposure	Reference color and durability charts in this data sheet. See page 6
Min. Application Temperature		50° F (10°C) Flat & Simple Curves 60°F (16° C) Complex curves
Service Temperature		-50° to 180°F (-45° to 82° C) (Reasonable range of temperatures which would be expected under normal environmental conditions).
Chemical resistance		Resistant to most mild acids, alkalis, and salt solutions
Removable		For the length of the applicable durability period. Reference durability charts in this data sheet. See Page 6

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Data represents average values where applicable, and is not intended for specification purposes.

Warranty:

This Warranty applies to the Product listed in this Data Sheet. All statements, technical information (including physical and chemical characteristics) and recommendations about Avery Dennison products are based upon tests believed to be reliable but do not constitute a guarantee or warranty. All Avery Dennison products are sold subject to the Purchaser's assent and agreement that Purchaser is responsible for, and has independently determined, the suitability of such products for its purposes or its customer's purposes. Avery Dennison products are warranted to be free from defects in material and workmanship (i) for two years from the date of manufacture, or (ii) from the date of manufacture until the expiration of the period stated on the specific Product Data Sheet in effect at the time of delivery. Such time periods are subject in either case to the proper storing and application of said product, and the failure to properly store or apply the product, including without limitation the failure to follow any applicable Instructional Bulletin, negates any warranty. It is expressly agreed and understood that Avery Dennison's sole obligation and Purchaser's exclusive remedy under this warranty, under any other warranty, express or implied, or otherwise, shall be limited exclusively to: (a) repair or replacement of defective product without charge at Avery Dennison's plant or at the location of the product (at Avery Dennison's election), or (b) in the event repair or replacement are not commercially practical, a credit amount up to the price of the product taking into account the defect in the product in Avery Dennison's sole discretion.

THE WARRANTY EXPRESSLY SET FORTH ABOVE IS IN LIEU OF ANY OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR ANY PARTICULAR USE AND/OR NON-INFRINGEMENT. SELLER SPECIFICALLY DISCLAIMS AND EXCLUDES ALL OTHER SUCH WARRANTIES. NO WAIVER, ALTERATION, ADDITION OR MODIFICATION OF THE FOREGOING CONDITIONS SHALL BE VALID UNLESS MADE IN WRITING AND MANUALLY SIGNED BY AN OFFICER OF AVERY DENNISON.

AVERY DENNISON'S LIABILITY FOR DEFECTIVE PRODUCTS SHALL NOT EXCEED THE PURCHASE PRICE PAID THEREFORE BY PURCHASER AND IN NO EVENT SHALL AVERY DENNISON BE RESPONSIBLE FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES WHETHER FORESEEABLE OR NOT, CAUSED BY DEFECTS IN SUCH PRODUCT, WHETHER SUCH DAMAGE OCCURS OR IS DISCOVERED BEFORE OR AFTER REPLACEMENT OR CREDIT, AND WHETHER OR NOT SUCH DAMAGE IS CAUSED BY AVERY DENNISON'S NEGLIGENCE.

All sales and contracts for sale of Products are subject to Purchaser's assent and agreement to this Warranty. Avery Dennison hereby objects to any terms or conditions contained in any purchase order or other communication of any kind from the Purchaser that is conflicting, inconsistent or additional to this Agreement.

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▲WARNING

Failure to install the film in full compliance with Avery Dennison's installation instructions may result in personal injury or property damage. Read and follow all instructions when installing the film.

Related Documents:

The following Avery Dennison literature will provide necessary information to the user for proper application, storage, and other requirements and is available upon request from your Avery Dennison representative or from the Avery Dennison website (www.graphics.averydennison.com).

Document Title	Reference Number
Substrate Cleaning and Preparation	Instructional Bulletin #1.10
Storage, Maintenance, and Cleaning of PVC Films	Instructional Bulletin #1.20
Cleaning and Maintenance of Vehicle Wraps	Instructional Bulletin #1.50
Application of Avery Dennison SW 900 Series Films	Instructional Bulletin #4.08
Premask Recommendations	Instructional Bulletin #5.50
Removal Instructions	Instructional Bulletin #4.10

Application:

Avery Dennison SW 900 Wrapping Film is designed for application on to solid surfaces such as passenger vehicles and buses.

Important Note: Never use a wet application method to apply this film.

Some slight color shift may occur between rolls or lots, therefore, minimizing the mixing of rolls/lots on a specific vehicle is encouraged. If multiple rolls are needed be sure to use only rolls from the same production lot.

All vehicle substrates must be cleaned according to Avery Dennison recommended cleaning practices as outlined in IB # 1.10 "Substrate Cleaning and Preparation".

Due to the unique finish and manufacturing process of metallic and pearlescent films, variances in color can be visible when the material is oriented in different directions. When utilizing metallic, pearlescent and Color Flow films, always keep the application direction of the film consistent with the orientation of the film when cut from the roll and applied to the vehicle. One roll should be used per vehicle, wherever possible to minimize any possible color shifts between rolls or lots.

See IB 4.08 "Application Avery Dennison SW 900 (Supreme Wrap) Film" for complete application recommendations. For cleaning and care recommendations see IB 1.50.

NOTE: SW900 Series is designed as a wrap film. Cutting for the purpose of preparing sizes or shapes has proven to be feasible. However, signcutting of letters and graphics is not recommended.

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Important Note: Only use Avery Dennison recommended cleaning products and solutions (noted in IB 1.50). Cleaning and maintenance products should conform to the following:

- Free from abrasive components
- Ideally pH balanced, thus not highly acidic or alkaline (pH level between 5 and 9)
- Free from alcohols (non isopropyl), acids, ammonia, chlorine, glycol ethers, harmful detergents, petroleum distillates and phosphates

Unsuitable Uses:

This Avery Dennison product is not designed or recommended for the following uses. Unsuitable applications or exposure conditions include, but is not limited to:

- Paint that is not thoroughly cured or dried
- Low surface energy substrates (i.e. Tedlar® coatings, *rubber, unpainted plastic etc*)
- Substrate surfaces that are not clean and smooth (little or no variation in texture)
- Painted substrates with poor paint-to-substrate, or paint-to-paint bond
- Stainless steel
- Film applied to non-Avery Dennison Films
- Film applied to pre-existing graphics (pre-approval required)
- Watercraft below the static water line
- Watercraft which are not edge sealed
- Non-OEM painted vehicles
- Graphic removal from paint with poor adhesion or existing graphics
- Graphics exposed to oil, harsh chemicals, or gasoline vapors or spills
- Graphics where application tape must adhere to liner
- *Signcutting of letters and graphics*

Removability:

The removability listed in the physical characteristics section "Clean removability" means removable with less than 20% adhesive residue when using appropriate heat and chemical removal methods. See Instructional Bulletin 4.10 for removal instructions.

Avery Dennison does not warrant removability from the following substrates:

- **Surfaces with poor paint-to-substrate adhesion**
- **Wallboard (painted or unpainted)**
- **Pre existing graphics that must remain intact; damage to existing graphic when film is removed**
- **Improperly cured paint**
- **Oxidized or chalked substrates**
- **Stainless Steel**

Avery Dennison makes no warranty for:

- **Paint/Clear Coat Staining: Avery Dennison does not warrant vehicle paint staining that may be visible after removing material which has cracked or discolored. At the first sign of a change in the surface of the material contact your Avery Dennison Sales or Technical Representative.**
- **Ease or speed of removal of any graphic**
- **Removal from automotive paint that is greater than 5 years old**
- **Removal from paint that is improperly cured**
- **Removal from aged paint or metals, surface oxidation or chalking; user must test, approve and accept liability for such applications**

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Application to Glass:

- *Because of the unique properties and varieties of glass, special considerations must be considered for windows and graphic applications. Avery Dennison accepts no liability for glass breakage.*
- *Glass absorbs heat when exposed to sunlight. The degree of absorption across windows can vary because of shading, heating, and cooling ventilation, and insulation from window frames. These temperature differences across the window produce stress, which can cause glass breakage. The ability of glass to resist breakage because of temperature stress is affected by window size, glass thickness, glass treatments, quality, and design.*
- *Window cleaning methods also vary, from the type of cleaners used, to the washing methods employed. Specific chemicals used in window cleaners may affect the adhesion of pressure-sensitive graphics. Power washing methods may impact the adhesion of graphics, if the water pressure or temperature exceeds the graphic's adhesion capability. Power washing window graphics is not recommended.*

Note: Avery Dennison does not recommend the use of SW 900 Wrapping Film to be used as block out film for window applications.

Durability:

Durability is the period of time the product is expected to perform satisfactorily when applied in vertical exposure conditions by zone as defined in Instructional Bulletin 1.30, provided that the film is properly stored, converted and installed in accordance with Avery Dennison guidelines. The term of Avery Dennison's warranty is equal to the product's durability.

Abrasion and Loss of Gloss are not covered by any Avery Dennison Warranty. These changes are considered normal wear and tear.

Other factors which may reduce the durability of this product series include: surface texture, surface preparation, application method, angle and direction of the sun, environmental conditions, cleaning & maintenance.

Products containing petroleum distillates or solvents such as, soaps, waxes, or protective coatings, void any warranty, and may cause premature failure of the material.

Matte finished materials are subject to extreme color and gloss shift when exposed to cleaners, wax, and polish. Test an inconspicuous area prior to using any cleaners, wax, and polish. The end user assumes complete responsibility to ensure that matte finishes are not affected during cleaning or protecting.

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SW 900 & SW 900X Durability:

Months	Zone 1		Zone 2		Zone 3	
	Vertical	Non Vertical / Horizontal	Vertical	Non Vertical / Horizontal	Vertical	Non Vertical / Horizontal
SW900 Black & White	12 years	3 years	9.6 years	6 months	5.8 years	4 months
SW900 Colors	10 years	2 years	8 years	6 months	4.8 years	4 months
SW900 Metallics & Pearlescents	5 years	2 years	4 years	6 months	2.4 years	4 months
SW900 Metallics (with gold flake)	36 months	12 months	30 months	6 months	18 months	4 months
SW900X Textured Films	48 months	12 months	36 months	6 months	24 months	4 months
SW900 Diamond Line	36 months	12 months	30 months	6 months	18 months	4 months
SW900 Color Flow Series	48 months	12 months	36 months	6 months	24 months	4 months
SW900-713-O Matte Vintage Green	48 months	12 months	36 months	6 months	24 months	4 months

Reference IB 1.30 for zones by geographic location.

Non-vertical: The face of the graphic is between 10° to 45° from vertical. Specifically for Supreme Wrapping Film (SW900) Non-vertical exposure performance will be calculated using the Horizontal exposure value.

Horizontal: The face of the graphic is between 45° and 90° from vertical, for Supreme Wrapping Film (SW900) Horizontal applications will be warranted as stated in this ICS Performance Guarantee Bulletin.

Vertical: The face of the graphic is between 0 and 10 degrees from vertical.

Film Thickness / Conformability:

Films with face thickness 4 mil (102 micron) and above may have reduced conformability. These films include:

Name	Color	Face Caliper	Name	Color	Finish Caliper
SW 900-109-O	White Pearl	4.2 mil (107µm)	SW 900-117-O	White Pearl Satin	4.2 mil (107µm)
SW900-326-S	Gold Orange Pearlescent	4.2 mil (107µm)	SW900-415-O	Red	4.2 mil (107µm)
SW900-419-M	Spark	4.2 mil (107µm)	SW900-427-O	Soft Red	4.2 mil (107µm)
SW900-433-O	Cardinal Red	4.2 mil (107µm)	SW900-436-O	Carmine Red	4.2 mil (107µm)
SW900-437-S	Red Rush Pearlescent	4.2 mil (107µm)	SW900-438-O	Satin Carmine Red	4.2 mil (107µm)
SW900-514-O	Bubblegum Pink Satin	4.2 mil (107µm)	SW900-731-O	Lime Green	4.2 mil (107µm)
SW900-758-O	Grass Green	4.2 mil (107µm)	SW900-759-O	Satin Grass Green	4.2 mil (107µm)
SW900-762-M	Radioactive	4.2 mil (107µm)	SW900-777-S	Light Green Pearlescent	4.2 mil (107µm)
SW 900-194-X	Black Carbon Fiber	4.2 mil (107µm)	SW 900-115-X	White Carbon Fiber	4.2 mil (107µm)
SW900 Diamond line	All colors	5.4 to 5.7 mil (137 to 140 µm)			

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Opacity:

Most colors are considered opaque; however it is up to the end user to determine if the level of opacity meets their needs.

The following colors may be considered less than fully opaque, and may demonstrate color shift when applied, or allow show through of paint lines of dissimilar colors, or overlap of material:

Name	Color	Finish
SW900-225-O	Yellow	Gloss
SW900-245-O	Dark Yellow	Gloss
SW900-321-O	Matte Orange	Matte
SW900-372-O	Satin Orange	Satin
SW900-370-O	Orange	Gloss
SW900-371-M	Blaze Orange Matte Metallic	Matte
SW900-226-O	Satin Yellow	Satin

Name	Color	Finish
SW900-234-O	Ambulance yellow	Gloss
SW900-438-O	Carmine Red Satin	Satin
SW900-444-M	Cherry Red Matte Metallic	Matte
SW900-472-M	Garnet Matte Metallic	Matte
SW900-624-S	Bahama Blue Pearlescent	Gloss
SW900-745-M	Green Apple Matte Metallic	Matte

Contact your Avery Dennison approved distributor, or samples.graphics@averydennison.com, your sales or customer service contact at Avery Dennison for 5" x 8" color swatches for review prior to use.

Revisions are italicized

Avery Dennison is a registered trademark of Avery Dennison Corporation

Patent registration: US6,630,049, US7,060,351, US7,344,618, US7,332,205, EP1276605, EP1282472

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