

Avery® SW 900 Wrapping Film

Opaque/Metallic/Specialty

Easy Apply™ RS Long Term Removable - StaFlat

Revision: 3 Dated: 10/16/2012

Uses:

Avery Dennison™ SW900 Easy Apply Cast Vinyl Film 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 microns) high gloss or matte cast film



Adhesive: Long Term Removable Acrylic



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



Durability: Up to 12 years Vertical Exposure

Application Surfaces:

Flat, Flat with Rivets, Corrugations, Deep Recesses

Features:

- Very high gloss or matte, super conformable film.
- Unique patented adhesive technology. (information below)
- Superior conformability to irregular substrates
 - Deeply concave shaped
 - Extremely convex shaped
 - Best performance on rivets
 - Best performance in channels
- Outstanding durability and outdoor performance
- Available in high gloss or matte finish
- Excellent UV, temperature, humidity, and salt-spray resistance
- Custom colors available (contact your sales representative)
- Easy apply feature helps eliminate wrinkles and bubbles during application
- REACH compliance for all colors (EC1907/2006)
- Meets CPSIA standards for limitations on lead and phthalates.
- Meets RoHS and WEEE standards for absence of heavy metals
- Removable up to 5 years

Conversion:

- ☐ Thermal Die-Cutting
- ☒ Flat Bed Sign-Cut
- ☒ Drum Roller Sign-Cut
- ☒ Steel Rule Die-Cutting

- ☐ Thermal Transfer
- ☐ Screen Printing
- ☐ Cold Overlaminating
- ☐ Water based inkjet

- ☐ Solvent based inkjet
- ☐ Mild/Eco Solvent inkjet
- ☐ UV inkjet

Common Applications:

- ☒ Trucks
- ☒ Trailers
- ☒ Cars & Vans

- ☐ Marine
- ☒ Architectural Signage
- ☒ Emergency Vehicles

- ☐ Outdoor Advertising
- ☒ Buses
- ☒ Trains & Light Rail

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Physical Characteristics:

Property		Value
Caliper, face		3.2 mil (80 µm)
Caliper, adhesive		1.2mil (30 µm)
Applied Shrinkage, max.		<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		90% - <i>gloss</i> <15% - <i>matte</i>
Adhesion:SS	15 min.	2.1 lbs/in (367 N/m)
	24 hrs.	2.5 lbs/in (437 N/m)
	1 week	3.0 lbs/in (525 N/m)
Flammability		Self Extinguishing
Shelf-Life		1 year
Durability	Vertical Exposure (horizontal)	Black & White - 12 Years (3 Years)
		Colors - 10 Years (2 Years)
		Metallics – 5 Years (2 Years)
Flammability		Self Extinguishing
Min. Application Temperature		50° F (10°C)
Service Temperature		-50° - 180°F (-45° - 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		Up to 5 years

Important:

Information on physical and chemical characteristics are based on tests believed to be reliable. The values are intended only as a source of information. This information is given without guaranty and do not constitute a warranty. The purchaser should independently determine, prior to use, the suitability of any material for their specific purpose. (Data represents average values where applicable, and is not intended for specification purposes)

Warranty:

All statements, technical information 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 with the understanding that Purchaser has independently determined the suitability of such products for its purposes. Avery Dennison products are warranted to be free from defects in material and workmanship for either one year (or the period stated on the specific product information literature in effect at time of delivery, if longer) from date of shipment if said product is properly stored and applied. 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 to repair or replacement of defective product without charge at Avery Dennison's plant or at the location of product (at Avery Dennison's election), or in the event replacement or repairs is not commercially practical, to Avery Dennison's issuing Purchaser a credit reasonable in light of the defect in the product.

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.

NO EXPRESS WARRANTIES AND NO IMPLIED WARRANTIES, WHETHER OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR USE, OR OTHERWISE (EXCEPT AS TO TITLE), OTHER THAN THOSE EXPRESSLY SET FORTH ABOVE WHICH ARE MADE EXPRESSLY IN LIEU OF ALL OTHER WARRANTIES, SHALL APPLY TO PRODUCTS SOLD BY AVERY DENNISON. AVERY DENNISON 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.

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Related Documents:

The following Avery Dennison literature will provide complete 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.na.averygraphics.com).

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

Application:

Film is designed for application to solid surfaces like automobiles, buses, and trains. To ensure color consistency per vehicle, only use one roll of material per vehicle.

Some slight color shift may occur between rolls or lots, therefore, minimize 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 recommended cleaning practices as outlined in IB# 1.1 "Substrate Cleaning and Preparation".

When utilizing metallic 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 and Care of Avery SW900 (Supreme Wrap) Film" for complete application and care recommendations.

Durability:

Durability is based on vertical exposure, unless otherwise notated. Definitions for exposure angles, and Zone Charts, which may reduce the overall durability of the product are available in Instruction Bulletin 1.3; Durability of Films. Materials applied in horizontal applications in the USA desert southwest, or Zone 3 in the charts will have zero years durability coverage. Otherwise durability is shown above in the "Physical Characteristics" section of this data sheet.

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 directly affect durability of this product series is; surface texture, surface preparation, application methods, angle and direction of sun, environmental conditions, cleaning & maintenance.

Dimensional stability:

Is measured on a 6" x 6" (150 x 150 mm) aluminum panel to which a specimen has been applied; 72 hours after application the panel is scored in a cross pattern, exposed for 48 hours to 150°F (65°C), after which the changes in the dimensions of the applied sample are measured.

Adhesion:

(FTM-1, FINAT) is measured by peeling a specimen at a 180° angle from a stainless steel panel, 24 hours after the specimen has been applied under standardized conditions. Initial adhesion is measured 15 minutes after application of the specimen.

Flammability:

A specimen applied to aluminum is subjected to the flame of a gas burner for 15 seconds. The film should stop burning within 15 seconds after removal from the flame.

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Unsuitable Uses:

Film applied to stainless steel, non-Avery films, watercraft below the static water line, watercraft graphics which are not edge sealed, non-OEM painted vehicles, substrates with poor paint to substrate or paint to paint bond, substrates which are not clean and smooth (little to no variation in texture), graphics where application tape must adhere to liner, graphic removal from poor paint adhesion or existing graphics. Graphics exposed to oil, harsh chemical, or gasoline vapors or spills

Application to Glass:

There is no coverage for graphics applied to glass, and possible breakage for glass applications of this film series.

Note: Avery Dennison does not recommend the use of SW900 Wrapping Film to be used as block out film for window applications.

Removability:

This product has been warranted to provide clean removability, within the durability time. Clean removability is deemed with less than 30% adhesive residue when using heat and chemical removal methods. Avery Dennison will reimburse a reasonable portion of extra removal costs, not to exceed the cost of the film used on the application.

Exceptions to the removal warranty are those graphics applied to the following: pre-existing graphics, film applied to painted wall board, paint which is not properly bonded to the substrate. There is no guarantee made for; ease or speed of graphic removal, removal from improperly cured paint, removal from oxidized or chalked substrates, or from horizontally exposed outdoor applications.

Temperature range:

A specimen applied to stainless steel is exposed at high and low temperatures and brought back to room temperature. 1 hour after exposure the specimen is examined for any deterioration. Note: Prolonged exposure to high and low temperatures in the presence of chemicals such as solvents, acids, dyes, etc. may eventually cause deterioration.

Chemical Resistance:

All chemical tests are conducted with test panels to which a specimen has been applied for 72 hours, after application the panels are immersed in the test fluid for the given test period. 1 hour after removing the panel from the fluid, the specimen is examined for any deterioration.

Accelerated Aging:

No negative impact on films performance, wherein the color is within industry standards for Delta Σ shift. Material is applied to panels, and placed in a Xenon Arc Artificial Weatherometer, and exposed under conditions of SAE J2527, for 2000 hours. Some color fade may occur in severe environmental areas. Reference IB 1.30 for durability guidelines.

Color Matching:

Fast turnaround service is offered for projects where specific color needs cannot be obtained from the broad offering of stock colors. Matches can be made to Pantone[®] color references, or by submitting a small reference sample (minimum 4" x 4") For match requirements, contact your Avery Dennison representative.

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Colors & Opacity:

Most colors are considered opaque; however it is up to the end user to determine if the level of opacity meets their needs. Color samples are available from samples.graphics@averydennison.com or through your sales, or customer service contact.

Name	Color	Finish
SW900-101-O	White	Gloss
SW900-101-S	White Pearlescent	Gloss
SW900-102-O	Matte White	Matte
SW900-180-O	Matte Black	Matte
SW900-190-O	Black	Gloss
SW900-192-M	Black Metallic	Gloss
SW900-215-M	Gold Metallic	Gloss
SW900-225-O	Yellow	Gloss
SW900-245-O	Dark Yellow	Gloss
SW900-370-O	Orange	Gloss
SW900-415-O	Red	Gloss
SW900-427-O	Soft Red	Gloss
SW900-433-O	Cardinal Red	Gloss
SW900-436-O	Carmine Red	Gloss
SW900-440-M	Cherry Red Metallic	Gloss
SW900-472-M	Garnet Metallic	Matte
SW900-475-O	Burgundy	Gloss
SW900-565-M	Purple Metallic	Matte
SW900-623-M	Night Blue Metallic	Matte
SW900-632-O	Light Blue	Gloss
SW900-643-M	Frosty Blue Metallic	Matte

Name	Color	Finish
SW900-646-M	Bright Blue Metallic	Gloss
SW900-653-M	Dark Blue Metallic	Gloss
SW900-667-O	Intense Blue	Gloss
SW900-671-M	Brilliant Blue Metallic	Matte
SW900-677-O	Blue	Gloss
SW900-681-O	Dark Blue	Gloss
SW900-699-O	Indigo Blue	Gloss
SW900-731-O	Lime Green	Gloss
SW900-745-M	Green Apple Metallic	Matte
SW900-758-O	Grass Green	Gloss
SW900-792-O	Dark Green	Gloss
SW900-803-M	Silver Metallic	Gloss
SW900-807-M	Grey Metallic	Gloss
SW900-815-O	Light Grey	Gloss
SW900-832-O	Grey	Gloss
SW900-840-M	Gunmetal Metallic	Matte
SW900-845-M	Charcoal Metallic	Matte
SW900-856-O	Matte Dark Grey	Matte
SW900-865-O	Dark Grey	Gloss
SW900-929-M	Bronze Metallic	Gloss

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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
SW900-101-S	White Pearlescent	Gloss
SW900-225-O	Yellow	Gloss
SW900-245-O	Dark Yellow	Gloss
SW900-370-O	Orange	Gloss
SW900-415-O	Red	Gloss

Name	Color	Finish
SW900-433-O	Cardinal Red	Gloss
SW900-436-O	Carmine Red	Gloss
SW900-440-M	Cherry Red Metallic	Gloss
SW900-745-M	Green Apple Metallic	Matte
SW900-671-M	Brilliant Blue Metallic	Matte

Contact your Avery Dennison approved distributor, or samples.graphics@averydennison.com, your sales or customer service contact at Avery Dennison for 3" x5" color swatches for review prior to use.

Absence of banned substances:

Avery Dennison Black, White, and Clear SuperCast films meet the following European Directives.

EU Directive 94/62 on packaging and packaging waste Article11 : Max. sum of concentration levels of lead, cadmium, mercury and hexavalent chromium: < 100 ppm.

EU Directive 2002/96/EC on restrictions of use of hazardous substances in electrical and electronic equipment Article 4.1: no contents of lead, mercury, cadmium, hexavalent chromium, polybrominated biphenyls (PBB), polybrominated diphenylethers (PBDE).

EU Directive 2000/53/EC on end-of life of vehicles article 4.2.(a) : no contents of lead, mercury, cadmium or hexavalent chromium.

RoHS & WEEE Compliance does not contain lead, mercury, cadmium, hexavalent chromium, polybrominated biphenyls (PBB), polybrominated diphenylethers (PBDE).

Revisions are italicized

Patent Registration:

US6,630,049, US7,060,351, US7,344,618, EP1276605, EP1282472

Avery Dennison is a registered trademark of Avery Dennison Corp.

Pantone is a registered trademark of Pantone LLC, and X-Rite Inc.

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