

Avery Dennison[®] SW 900 Series Supreme Wrapping Film[™] Diamond Line

Ultra Metallic/Specialty

Easy Apply[™] RS Long Term Removable - StaFlat[™]

Revision: 0 Dated: 09/08/15

Uses:

Avery Dennison SW 900 Diamond Line Easy Apply Cast Vinyl Film Series is a premium quality ultra metallic 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: 5.4 mil (137 µm) to 5.7 mil (140 µm) high gloss, satin or matte cast film



Adhesive: Long Term Removable Acrylic



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



Durability & Warranty: See durability table starting on page 5.

Application Surfaces:

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

Features:

- Unique patented adhesive technology
- Superior conformability to irregular substrates
- Outstanding durability and outdoor performance
- Excellent UV, temperature, humidity, and salt-spray resistance
- Easy Apply feature helps prevent wrinkles and bubbles during application
- Excellent removability

Common Applications:

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

Product Data Sheet

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graphics.averydennison.com
Customer Service: 800-282-8379

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Physical Characteristics:

| Property | Typical Value | |
|------------------------------|--|----------------------|
| Caliper, face | 5.4 mil (137 µm) to 5.7 mil (140 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) | |
| Applied Shrinkage, max. | <0.020"(0.51 mm) | |
| Tensile at Yield | 4.0 - 8.0 lb/in (0.7–1.5 kg/cm) | |
| Elongation | 200% at break | |
| Gloss | Measured @ 60° | Gloss - >85 GU |
| Adhesion: Stainless Steel | (FTM-1, FINAT) | |
| | 15 min. | 2.1lbs/in (367N/m) |
| | 24 hrs. | 2.5 lbs/in (437 N/m) |
| | 1 week | 3.0 lbs/in (525 N/m) |
| Flammability | Self Extinguishing | |
| Shelf-Life | 2 years from date of manufacture when stored at the following temperatures and humidity conditions 68°-77° F (20° - 25° C) and 50±5% R. H. | |
| Durability | Reference color and warranty charts in this data sheet. See page 5. | |
| 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 warranty period. Reference color and warranty charts in this data sheet. See Page 5. | |

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 graphics products are warranted to be free from defects in material and workmanship for two years from the date of manufacture. When the product is properly applied, the warranty period is as stated in the product's specific Product Data Sheet in effect at the time of shipment to Avery Dennison's customer.

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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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 Diamond Line is designed for application on to solid surfaces such as passenger vehicles and buses.

NOTE: Avoid over stretching and overheating. In the event the Ultra Metallic film is over stretched and/or over heated, de-glossing, and surface roughness may be observed due to the larger flake size used

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 and pearlescent 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.

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)
- 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

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- 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 chemical, or gasoline vapors or spills
- Graphics where application tape must adhere to liner
- Plotter cut text where the minimum size of the text or dimension of the object is less than 2 in (51 mm)

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

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 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.

The warranty is the maximum period of time Avery Dennison will warrant the finished product performance.

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 methods, angle and direction of sun, environmental conditions, cleaning & maintenance.

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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.

SW 900 Diamond Line Durability:

Color samples are available from samples.graphics@averydennison.com, or through your sales or customer service contact.

| Months | Zone 1 | | Zone 2 | | Zone 3 | |
|------------------------|----------|---------------------------|----------|---------------------------|----------|---------------------------|
| | Vertical | Non Vertical / Horizontal | Vertical | Non Vertical / Horizontal | Vertical | Non Vertical / Horizontal |
| <i>Ultra Metallics</i> | 36 | 12 | 30 | 6 | 18 | 4 |

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 (SW 900) 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 (SW 900) 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.

Contact your Avery Dennison approved distributor, or samples.graphics@averydennison.com, your sales or customer service contact at Avery Dennison for 3" x 5" 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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