LTR Easy Apply RS

Revision: 6 Dated: 05/06/19

#### Uses:

Avery Dennison® MPI1105 SuperCast Series Vinyl is a premium gloss opaque vinyl designed for use in fleet marking and vehicle wrap as well as corporate identity applications. MPI1105 provides superior conformability to irregular surfaces such as compound curves and corrugations Easy Apply™ and Easy Apply™ RS features offer the benefits of reduced wrinkling and air entrapment inherent in the application of decals. The RS feature also provides repositionability and slideability for exact positioning. Graphics can be overlaminated or clear coated with a UV screen print clear. Reference ICS Documentation for coverage.



Face: 2.0 mil (51 microns) high gloss cast film



**Adhesive:** Long Term Removable Acrylic (clear with gray opacifying laver)



Liner: 90# StaFlat™ (Smooth)

90# Easy Apply™ 90# Easy Apply™ RS

Application Surfaces:

Flat, Flat with Rivets, Corrugations, Complex Curves (vehicle wraps)

#### Features:

- Superior conformability to irregular substrates
- The air egress technology on Easy Apply and Easy Apply RS films helps eliminate wrinkles and bubbles
- RS feature provides slideability allows for easy positioning
- High gloss finish
- Outstanding durability and outdoor performance
- Dimensionally stable liner for easy converting
- Excellent dimensional stability
- Long term removable provides permanent adhesion, but removes cleanly
- ICC profiles available on the Avery Dennison's website (http://avery-us.color-base.com)
- Meets the requirements of IMO FTP Code Part 2 & 5 for all material categories

#### Conversion:

Latex Inkjet

- Mild/Eco Solvent
- UV Inkjet\*

- Solvent Based Inkjet
- Inkjet

Screen Print\*\*

- \* For flat surfaces only, except for qualified flexible UV inks
- \*\*Approved for use with Nazdar 3500 Series Ink and Nazdar 3529 or 3539 Clear

#### **Common Applications:**

Vehicle

- POP/Trade Show
- Wall Murals

Fleet

- Outdoor Signage
- Marine / Watercraft

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### **Physical Characteristics:**

Property	Measurement	Typical Value
Caliper, face		2.0 mil (51µm)
Caliper, adhesive		1.0 mil (25 µm)
Dimensional stability		<0.015" (0.4mm)  Note: Ink loads in excess of 250% may cause increased shrinkage and/or increased initial adhesion of the printed film
Tensile at Yield		4.0 - 8.0 lb/in (0.7–1.5 kg/cm)
Elongation		200% min.
Gloss	Hunter Gloss @ 60 degrees	90 GU
Adhesion:	90# StaFlat (Smooth) 15 min 24 hr 1 week  Easy Apply 15 min 24 hr 1 week  Easy Apply 15 min 24 hr 1 week  Easy Apply RS 15 min	2.7 lbs/in (473 N/m) 3.5 lbs/in (613 N/m) 4.4 lbs/in (770 N/m)  1.8 lbs/in (315 N/m) 2.1 lbs/in (367 N/m) 4.0 lbs/in (700 N/m)
	24 hr 1 week	2.1 lbs/in (367 N/m) 4.0 lbs/in (700 N/m)
Flammability	FMVSS 302 <u>ASTM E-84</u> ASTM E-162 ASTM E-662 IMO FTP Code	
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	up to 7 years – see ICS Documentation for printed durability
Min. Application Temperature		45° F (7° C) Flat 50° F (10° C) Flat w/Rivets, Corrugations 60°F (16° C) Complex curves and/or Watercraft
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
Compliance		California Proposition 65

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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.

## **AWARNING**

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.

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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 (<a href="www.graphics.averydennison.com">www.graphics.averydennison.com</a>).

Document Title	Reference Number
Substrate Cleaning and Preparation	Instructional Bulletin #1.10
Storage, Maintenance, and Cleaning of PVC Films	Instructional Bulletin #1.20
Warranty of Avery Dennison Films	Instructional Bulletin #1.30
Application of Avery Dennison SuperCast Films on Irregular Substrates	Instructional Bulletin #4.07
Multi Purpose Ink Jet OEM Qualification Matrix, Durability Reference, &	Instructional Bulletin #5.80
Troubleshooting Guide	
Premask Recommendations	Instructional Bulletin #5.50
Removal Instructions	Instructional Bulletin #4.10

#### Application:

Avery Dennison MPI 1105 Series is designed for application onto solid surfaces such as passenger vehicles, buses, trains, and watercraft. To ensure color consistency when wrapping a vehicle, ensure the material used is from one production lot # of material. 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.

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

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

See IB 4.07 "Application Avery Dennison SuperCast films on Irregular Substrates" for complete application recommendations. For cleaning and care recommendations see IB 1.50.

NOTE: MPI1105 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.

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 alcohol (non isopropyl), acids, ammonia, chlorine, glycol ethers, harmful detergents, petroleum distillates and phosphates

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#### **Unsuitable Uses:**

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

- 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
- 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 features 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 will reimburse a reasonable portion of extra removal costs, not to exceed the cost of the film used on the application.

#### 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
- Horizontally exposed outdoor applications (as defined in Instructional Bulletin 1.30).
- Stainless Steel

#### **Avery Dennison makes no warranty for:**

- Paint Staining: Avery Dennison does not warrant vehicle paint staining that may be visible
  after removing material which has cracked or discolored. To reduce the risk of this
  problem, always remove the graphic at the first sign of a change in the surface of the
  material.
- 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.
- Removal from horizontally-exposed outdoor 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.

Revisions are italicized

#### Patent Registration:

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

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