

Avery Dennison® V-6790 Series Conspicuity Tape for Contour Marking

Issued: March 2015

Avery Dennison® V-6790 Series Conspicuity Tape meets the stringent requirements of the ECE 104, Class C regulation. Designed for use on PVC curtain sided vehicles, V-6790 provides superior reflectivity and enhanced nighttime safety. It is a high quality, durable, microprismatic retroreflective material with a pressure sensitive adhesive. The single layer construction does not require edge sealing.

Many accidents are avoidable if the driver of the other vehicle had only been able to detect the truck. Reflective contour markings on trucks make detection easy, giving drivers time to see a vehicle, react and avoid a collision. In fact, NHTSA studies demonstrate 41 percent reduction in side and rear trailer impact when using conspicuity tape. Avery Dennison V-6790 Series Conspicuity Tape provides superior reflectivity and may help reduce accidents, prevent injuries and can decrease related costs such as repairs, insurance expenses and fees.



Performance:
ECE 104, Class C



Durability: 3 years
Vertical exposure only



Orientation: Omni-Directional



Face: Vinyl Retroreflective
Film with Microprisms



Adhesive: Permanent
Pressure Sensitive



Liner: Polymeric Film



Application Surface: New
PVC Curtains

Features:

- Single layer construction does not require edge sealing
- Provides exceptional all-distance viewing at dawn, dusk, and night
- Flexibility allows for easy application and durability
- Approval marks are protected against abrasion ensuring continual compliance
- Die cut contour marking separated by small gaps allow curtains to bend easier
- Integrated application tape allows contour marking to be applied as one piece

Finishes:

2" x 50 meter Rolls

Product Availability:



White



Red



Yellow

Applications:

PVC Curtain Side Vehicles

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Retroreflectivity:

V-6790 **exceeds** all minimum coefficients of retroreflection requirements for ECE 104, Class C as shown in **Table A**.

Table A:

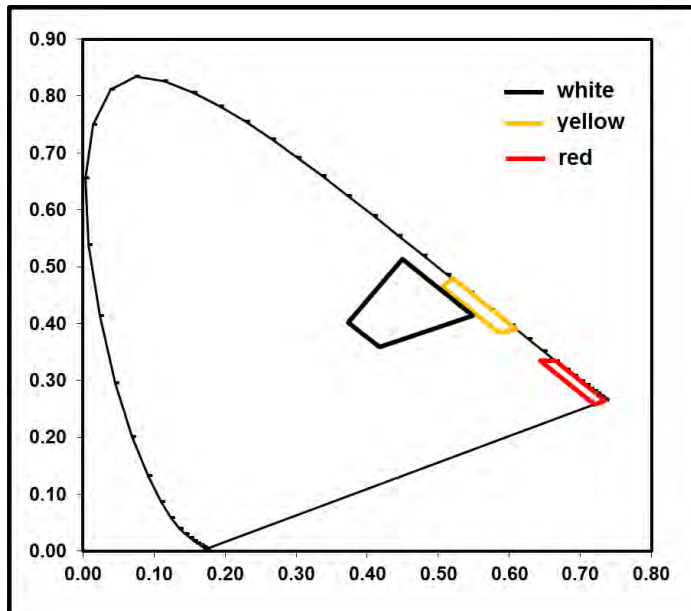
Minimum Coefficient of Retroreflection (R_A)¹

Observation Angle	Entrance Angle (β_1)	Entrance Angle (β_2)	Minimum		
			White	Yellow	Red
0.333°	0°	5°	450	300	120
		20°	--	--	60
		30°	200	130	30
		40°	90	75	10
		60°	16	10	--

Colors and Specification Limits:

V-6790 meets the colorimetric specifications requirements² for ECE 104, Class C shown in **Figure A**.

Figure A: CIE Color Diagram



Avery Dennison V-6790 meets the current applicable requirements for the following specifications:

ECE 104, Class C EU

Avery Dennison suggests you obtain the current requirements from your local agency and ensure product conformance with such requirements. Your Avery Dennison Representative can assist you in this regard.

¹ R_A =
candelas per m² per lux (cd/m²/lux)

²When illuminated by the CIE Standard Illuminant A at an entrance angle $\beta_1 = \beta_2 = 0^\circ$ or, if this produces a colourless surface reflection, an angle $\beta_1 = \pm 5^\circ$, $\beta_2 = 0^\circ$, and measured at an observation angle of $= 20^\circ$, the colour of the material in new condition shall be within the limits according to paragraph 2.30. of Regulation No.48.

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Characteristics:

Shelf Life

The shelf life of V-6790 Series Conspicuity Tape is 1 year from date of purchase when stored in a cool, dry area out of direct sunlight at temperature range of 18 - 24°C (65 - 75°F) and 50% ± 5%.

Typical Film Caliper

The typical film caliper of V-6790 Series Conspicuity Tape is 330 – 381 µm (13.0 – 15.0 mils).

Application Temperature

V-6790 Series Conspicuity Tape should be applied to surfaces with a minimum temperature of 15°C (59°F)

Service Temperature

The service temperature for V-6790 Series Conspicuity Tape is -23°C to + 60°C (-10°F to +140°F).

Application Information:

The following Avery Dennison literature will provide information to the user for proper application, storage, and other requirements. Find the latest information on the Avery Dennison website, reflectives.averydennison.com. We encourage you to check our website periodically for updates.

Instructional Bulletins:

Substrate Requirements	#8.01
Application & Care: Conspicuity Tape	#8.12

Application Guidelines:

- Do not overlap sheeting
- Recommended to apply at least 15cm above buckles
- Do Not apply under buckles
- Remove pre-mask using a 180° peel off angle
- Curtain must remain undisturbed at application temperature for 2 hours after application
- Allow 72 hours before washing

E-Mark

Avery Dennison V-6790 Conspicuity Tape contains the E-Mark seen in **Figure B**

Figure B



What is it?

The E-Mark is an approval marking that indicates the Conspicuity Tape meets the stringent requirements of ECE 104. Authorization to display this mark is granted by a certified European test agency that conducts extensive testing to ensure the product meets reflective, color, durability, and other specified requirements.

How do I read an E-Mark?

C – Indicates the product meets Class C requirements, the correct class for contour/strip marking tapes. Other classes are defined by ECE 104, such as Class D and E, but apply to graphics marking materials, and not contour marking.

E13 – Identifies the country of the European test agency granting approval. E13 indicates that the approval was granted in Luxembourg.

104R-000004 – A unique homologation number provided by the test agency to the manufacturer of the Conspicuity Tape. This unique number applies to Avery Dennison V-6790 for vehicles with flexible sides.

Can it be used in all EU Member States?

Yes. Directive 2007/46 defines the European Community Whole Vehicle Type Approval (ECWVTA). This allows an approval issued by one authority to be accepted in all of the Member States. In other words, an OEM with a vehicle type approval in Luxembourg can sell that vehicle throughout the EU without requiring additional Type Approvals. In order to obtain an ECWVTA, the vehicle must meet the requirements of Regulation 48, which calls for Conspicuity Tape that complies with ECE 104.

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Where to Apply:

Please check for any changes to local, state, or Federal regulations that are relevant to Conspicuity Tape markings. For large trucks and trailers, exemplary standards include ECE regulations 48 and 104. Section 6.21 of ECE Regulation No. 48 provides detailed instructions on where to apply the amount of Conspicuity Tape that is required. Appendix 9 of Regulation 104 provides exemplary illustrations of Conspicuity Tape on common vehicle and trailer types.

Maintenance:

Regular cleaning is recommended to ensure maximum performance for vehicle identification day and night. The following cleaning methods are recommended.

- A.) By hand with a sponge, cloth, or other non-abrasive media using mild detergent and water.
- B.) Pressure washed according to the following parameters:
 - Maximum Pressure: 80 bar
 - Maximum wash temperature: 60°C
 - Water jets must be a minimum of 30cm from the Conspicuity Tape
 - Spray water jets at an angle of 90° ($\pm 45^\circ$) from the surface
 - Cleaning solution should have a pH of 3-11. Follow dilution ratios of cleaning solutions per manufacturer recommendations.

Substrates:

The application of Avery Dennison V-6790 is limited to new properly prepared PVC curtains. Users are urged to carefully evaluate, under actual use conditions, any film application to other substrates. Failure of film caused by other substrates, materials, contamination, or improper surface preparation is not the responsibility of Avery Dennison. See Instruction Bulletin #8.01 for full details on substrate requirements.

Warranty:

Avery Dennison products are warranted to be free from defects in material and workmanship for one year from date of purchase. Avery Dennison further warrants that Avery Dennison® V-6790 Series ("Products") will retain its effectiveness for its intended use for a period of 3 years when mounted vertically $\pm 10^\circ$ and applied to new curtains. 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.

For up to date information regarding the detailed warranty including conditions, limitations, and definitions, contact your Avery Dennison representative.

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