# Avery® T-1500 Reflective Class II Engineer Grade Reflective Sheeting

## **Features**

- Meets requirement for Type I retroreflective sheeting as per ASTM D 4956
- · Excellent sheet stability and layflatness for precise register and printing
- · Excellent printability, conversion and application characteristics
- · High gloss for superior appearance
- · Excellent dimensional stability during use
- Excellent outdoor durability
- Brilliant Class 2 reflectivity
- · Excellent adhesion to Aluminium
- Available in 7 colours White, Yellow, Orange, Blue, Green, Red, Brown

# Conversion

■ Flat bed cutters
 ■ Friction fed cutters
 ■ Die cutting
 □ Thermal transfer
 ■ Screen printing
 □ Mild solvent inkjet

# **Application**

- · Not recommended for direct application to unpainted stainless steel
- Wet application method is not recommended
- · Application to flat surfaces only

# Uses

Avery T-1500 Reflective is a high quality, durable, enclosed lens retroreflective material design specifically for permanent Traffic signage on flat surfaces.

# **Description**



**Film**: 127 micron high gloss retro reflective urethane

Reflectivity: Class II Engineer Grade

CPL Value: 70 CPL typical\*



Adhesive: Permanent acrylic



**Backing**: Two side polyethylene coated StaFlat paper



Outdoor life: Up to 7 years (3 years for Orange)



Colours: 7 standard

# **Common Applications**

- Traffic signage
- Architectural signage
- Directional signage
- Promotional signage
- Flat sided fleet



# Physical characteristics

# General

| Calliper, face film            | ISO 534                    |   |  |  |  |
|--------------------------------|----------------------------|---|--|--|--|
| Calliper, face film & adhesive | ISO 534                    | 127 micron (+/- 13 mic)                           |  |  |  |
| Dimensional stability          |                            | ***   |  |  |  |
| Tensile strength               | DIN 53455                  | ***   |  |  |  |
| Elongation                     | DIN 53455                  | ***   |  |  |  |
| Gloss                          | ISO 2813, 20°              | ***   |  |  |  |
| Adhesion, initial              | Meets Class 1              |   |  |  |  |
| Adhesion, ultimate             | Meets class 1              |   |  |  |  |
| Flammability                   |                            | Self extinguishing                                |  |  |  |
| Shelf life                     | Stored at 22° C/50-55 % RH | 1 year  |  |  |  |
| Durability **                  | Vertical exposure          | Up to 7 years (unprinted)<br>(3 years for Orange) |  |  |  |

# **Thermal**

| Application temperature | Minimum: + 4°C   |  |  |  |  |
|-------------------------|------------------|--|--|--|--|
| Temperature range       | - 40°C to + 82°C |  |  |  |  |

# Reflectivity\*

| Observation Angle | Entrance<br>Angle | White | Yellow | Orange | Green | Red | Blue | Brown |
|-------------------|-------------------|-------|--------|--------|-------|-----|------|-------|
| 0.2°              | -4°               | 70    | 50     | 25     | 9     | 14  | 4    | 1     |
|                   | 30°               | 30    | 22     | 7      | 3.5   | 6   | 1.7  | 0.3   |
| 0.5°              | -4°               | 30    | 25     | 13     | 4.5   | 7.5 | 2    | 0.3   |
|                   | 30°               | 15    | 13     | 4      | 22    | 3   | 0.8  | 0.2   |

<sup>\*</sup>Minimum Coefficient of Retro reflection (R<sub>A</sub>) (cd / lx / m<sup>2</sup>)

# **Other Tests**

Meets all other requirements as per ASTM D 4956 including Shrinkage, Flexibility, Liner removal, Impact resistance, Specular gloss & Outdoor weathering

### Important

Information on physical characteristics is based upon tests we believe to be reliable. The values listed herein are typical values and are not for use in specifications. They are intended only as a source of information and are given without guarantee and do not constitute a warranty. Purchasers should independently determine, prior to use, the suitability of any material for their specific use.

All technical data is subject to change without prior notice.

### Warranty

Avery® materials are manufactured under careful quality control and are warranted to be free from defect in material and workmanship. Any material shown to our satisfaction to be defective at the time of sale will be replaced without charge. Our aggregate liability to the purchaser shall in no circumstances exceed the cost of the defective materials supplied. No salesman, representative or agent is authorised to give guarantee, warranty, or make any representation contrary to the foregoing.

All Avery® materials are sold subject to the above conditions, being part of our standard conditions of sale, a copy of which is available on request.

### \*\*Durability

The durability is based on Australian exposure conditions. Actual performance life will depend on substrate preparation, exposure conditions and maintenance of the marking. For instance, in the case of signs facing north; in areas of long high temperature exposure such as northern Australia; in industrially polluted areas or high altitudes, exterior performance will be decreased.

\*\*\*Information unavailable at time of printing.

# **Test Methods**

# Dimensional stability:

Is measured on a 150 x 150 mm aluminium panel to which a specimen has been applied; 72 hours after application the panel is exposed for 48 hours to + 70°C, after which the shrinkage is measured.

### Adhesion:

(FTM-1, FINAT) is measured by peeling a specimen at a 180° angle from a stainless steel or float glass panel, 24 hours after the specimen has been applied under standardised conditions. Initial adhesion is measured 20 minutes after application of the specimen.

# Flammability:

A specimen applied to aluminium 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.

### 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. 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.

### Corrosion Resistance:

A specimen applied to aluminium is exposed to saline mist (5% salt) at 35°C. After exposure, the film is removed and the panel is examined for traces of corrosion.



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