



Transport
Roads & Maritime
Services

Test method T1411

The adhesion of retro-reflective sheeting

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Revision Summary

Ed/Rev Number	Clause Number	Description of Revision	Authorisation	Date
		Reformatted and Revision Summary Added	D.Dash	June 2001
Ed 2/ Rev 0	All	Reformatted RMS template	J Friedrich	November 2012

Note that Roads and Maritime Services is hereafter referred to as 'RMS'.

The most recent revision to Test method T1411 (other than minor editorial changes) are indicated by a vertical line in the margin as shown here.

Test method T1411

The adhesion of retro-reflective sheeting

1. Scope

This test method sets out the procedure for measuring the adhesion limit of retro-reflective sheeting under dry conditions and after water immersion. This method conforms with Australian Standard 1906.

2. Apparatus

- (a) Stainless steel strips 250 mm long with a width in excess of 50 mm and 0.900 mm thick, polished to a mirror finish and consisting of 18/8 Austenitic grade steel to ASG31/302 in a degreased condition
- (b) A steel roller 83 ± 2 mm diameter and 45 ± 2 mm wide covered with rubber approximately 5 mm thick having a Shore durometer hardness of 80 ± 5 . The mass of the roller is to be 2.0 ± 1 kg. This roller is to be used for the pressure application of simple pressure adhesive materials
- (c) Clip or Clamp with an attached pan for weights
- (d) Assorted weights to 0.4kg
- (e) A timing device such as a stopwatch or clock with a seconds sweep hand

3. Preparation

- (a) Cut strips of the retro-reflective sheeting 25 mm wide and 250 mm long
- (b) Remove the liner from 200 mm of the prepared strips noting whether the liner breaks or tears or removes any adhesive from the backing
- (c) Apply the retro-reflective sheeting to the panel in the recommended manner leaving the one end free
- (d) Condition the panel at $20 \pm 2^\circ\text{C}$ and a relative humidity of $50 \pm 5\%$ for 24 hours

4. Procedure

Carry out the following procedure at a temperature of $20 \pm 2^\circ\text{C}$ and a relative humidity of $50 \pm 5\%$.

4.1 Dry Adhesion Test

- (a) Suspend the panel in a horizontal position with the free end of the retro-reflective material hanging down
- (b) By means of a clip or clamp suspend the pan from the free end of the test piece
- (c) Load the pan successively with weights until the test piece peels away from the test panel at a rate equal to or slightly in excess of 10 mm per minute
- (d) Record the mass including the clip and pan required to produce this effect

4.2 Wet Adhesion Test

- (a) Immerse the test panels prepared and cured as above in a distilled water bath maintained at $35 \pm 3^\circ\text{C}$ for a period of 24 hours
- (b) Remove from the water bath inspect for the presence of air pockets or blisters and subject immediately to the adhesion test described above

5. Reporting

- (a) Report the respective loads in grams required to cause the sheeting in the dry state and in the wet state to peel from the test panel at the specified rate
- (b) Report the presence, if any, of air pockets and blisters