

TEST METHOD T1413

SEA SALT TEST ON RETRO-REFLECTIVE SHEETING

1. SCOPE:

This test method sets out the procedure for assessing the resistance of retro-reflective sheeting to deterioration due to attack by a prepared brine solution. This test method conforms to the method set out in Australian Standard 1906.

2. APPARATUS AND REAGENTS:

- (a) Aluminium panel 2 mm thick 200 mm by 100 mm with a 5 mm hole 12.5 mm from the end of the longest axis and made from aluminium alloy conforming to AS 1734, Alloy 5052-H38 (or H36) or Alloy 5251-H38 (or H36) which has been degreased and lightly acid etched.
- (b) A steel roller $83 \pm$ mm diameter by 45 ± 2 mm wide covered with rubber approximately 5 mm thick having a Shore Durometer hardness of 80 ± 5 , the mass of the roller proper being 2.0 ± 0.1 .
- (c) A brine solution prepared from salts or analytical purity up as follows:

<u>Salt</u>	<u>Concentration</u> <u>Grams per litre</u>
Sodium Chloride Na Cl	23.0g
Sodium Sulphate Na ₂ 2SO ₄ 10H ₂ O	8.9g
Magnesium Chloride Mg Cl ₂ 6H ₂ O	9.8g
Calcium Chloride (anhydrous) CA Cl ₂	1.2g

- (d) A spray cabinet similar to that illustrated in figure 3.5 of Australian Standard 1906.

3. PREPARATION OF TEST PANELS:

- (a) Apply the retro-reflective material to the aluminium test panel by the method recommended by the manufacturer. In the case of pressure sensitive material apply to the aluminium sheet by use of the rubber-coated steel roller.
- (b) Condition the prepared panels for a period of 24 hours at a temperature of $20 \pm 2^\circ\text{C}$, and relative humidity of $50 \pm 5\%$.

4. PROCEDURE:

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

- (b) Place the test panel in the spray cabinet and apply a spray of salt to the surface of the panel by the hand atomiser so that the sample is covered with droplets of solution approximately 1mm in diameter and of such an intensity that the droplets are just short of coalescing.
- (c) Remove the panel from the spray cabinet and place on a rack to dry out.
- (d) After drying out, repeat steps B) and C) twice in each period of 24 hours for seven days.
- (e) After final drying out wash the heavily encrusted specimens with clean water to remove all the salt.
- (f) Dry the specimens and examine alongside an untreated control sample for signs of deterioration.

5. REPORTING:

Report any signs of deterioration with a description of the defect otherwise report as "Pass".