

# Australian Standard®

## Paints and related materials—Methods of test

### Method 452.1: Resistance to humidity under condensation conditions

#### PREFACE

This Standard was prepared by the Standards Australia Committee on Paints and Related Materials under the direction of the Multitechnics Standards Board to supersede the 1981 edition. This test method differs from the previous method in that two panels are tested for each product being evaluated.

This Standard differs markedly from ISO 6720, *Paints and varnishes — Determination of resistance to humidity (continuous condensation)*, in that —

- (a) the test is performed inside a closed test cabinet, at a uniform temperature;
- (b) the test panel is maintained at  $45 \pm 3^\circ\text{C}$ , rather than permitting a temperature gradient of  $38.5 \pm 3.5^\circ\text{C}$  to  $23 \pm 2^\circ\text{C}$  across the panel; and
- (c) the panels are tested in the vertical and not the inclined position.

#### METHOD

**1 SCOPE** This Standard sets out a procedure for determining the resistance to humidity of a scored or unscored paint coating under water condensation conditions.

**2 REFERENCED DOCUMENTS** The following documents are referred to in this Standard:

##### AS

1580	Paints and related materials—Methods of test
1580.101.1	Method 101.1: Air drying conditions
1580.408.4	Method 408.4: Adhesion (cross-cut)
1580.481.1	Method 481.1: Coatings
1580.481.1.5	Method 481.1.5: Exposed to weathering — Change in gloss
1580.481.1.7	Method 481.1.7: Exposed to weathering — Degree of checking
1580.481.1.8	Method 481.1.8: Exposed to weathering — Degree of cracking
1580.481.1.9	Method 481.1.9: Exposed to weathering — Degree of blistering
1580.481.1.10	Method 481.1.10: Exposed to weathering — Degree of flaking and peeling
1580.481.1.11	Method 481.1.11: Exposed to weathering — Degree of chalking
1580.481.1.12	Method 481.1.12: Exposed to weathering — Degree of colour change
1580.481.3	Method 481.3: Coatings — Exposed to weathering — Degree of corrosion of coated metal substrates
2331	Method of test for metallic and related coatings
2331.1	Local thickness tests
2331.1.3	Method 2331.1.3: Magnetic method
2331.1.4	Method 2331.1.4: Magnetic induction and eddy current methods
2331.1.5	Method 2331.1.5: Beta-backscatter method

**3 PRINCIPLE** A pair of coated test panels is placed for a nominated period inside a test cabinet, maintained at no less than 98 percent relative humidity (RH) and at a temperature varying continuously between  $42^\circ\text{C}$  and  $48^\circ\text{C}$ , for a nominated period and then examined for defects in the coating film.

#### 4 APPARATUS

**4.1 Test cabinet** — a closed cabinet in which the RH is maintained at no less than 98 percent and the temperature is varied continuously between  $42^\circ\text{C}$  and  $48^\circ\text{C}$ , so that copious condensation occurs on test panels placed vertically within the cabinet.