

Australian/New Zealand Standard®

Plastic roof and wall cladding materials— Methods of test

Method 7: Determination of colourfastness, light transmission and impact resistance following ultraviolet light exposure

1 SCOPE This Standard sets out a method for determining colourfastness, light transmission and impact resistance of plastic building sheets following exposure to ultraviolet light.

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

AS

2433 Plastics—Method for exposure to ultraviolet lamps

AS/NZS

1580 Paints and related materials—Methods of test

1580.601.3 Method 601.3: Colour—Instrumental measurement of colour difference using the 'Color Eye'

4257 Plastic roof and wall cladding materials—Methods of test

4257.6 Method 6: Determination of impact resistance

3 PRINCIPLE Test specimens are exposed to ultraviolet light using the test method described in AS 2433, and are compared to unexposed specimens to assess colourfastness, light transmission and impact resistance.

4 APPARATUS The test equipment specified in AS 2433 is required.

5 PREPARATION OF TEST SPECIMENS Six nominally flat test specimens of minimum size 50 mm × 50 mm shall be cut from the sheet.

6 PROCEDURE The procedure shall be as follows:

- (a) Before exposure, assess for each of the six specimens the colour coordinates L^* , a^* and b^* measured according to AS/NZS 1580.601.3.
- (b) Position five of the six test specimens on the target area under the lamps and switch on the lamps for a period of 14 days.
- (c) After exposure, for each of the five exposed specimens—
 - (i) visually compare the exposed test specimen with the unexposed specimen and assess for surface checking or crazing;
 - (ii) measure the L^* , a^* and b^* colour coordinates and the ΔE^* colour change.
- (d) Determine the impact resistance in accordance with AS/NZS 4257.6.

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7 REPORT The following information shall be reported:

- (a) Description of test specimens.
- (b) Evidence of surface checking or crazing in exposed test specimens.
- (c) L^* , a^* and b^* coordinates of the unexposed and exposed specimens; and the colour change as defined by ΔE^* .
- (d) Impact resistance of the exposed test specimens. Note whether any fracture or hole is formed.
- (e) Reference to this Australian/New Zealand Standard, i.e. AS/NZS 4257.7.

This Joint Australian/New Zealand Standard was prepared by the Joint Technical Committee PL/22, Plastic Building Sheets. It was approved on behalf of the Council of Standards Australia on 8 September 1994 and on behalf of the Council of Standards New Zealand on 17 October 1994 and published on 5 December 1994.

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