

Australian/New Zealand Standard®

Plastic roof and wall cladding materials— Methods of test

Method 1: Determination of dimensional properties

1 SCOPE This Standard sets out a method for determining the following dimensional properties of plastic building sheets:

- (a) Length, width and cover width.
- (b) Squareness.
- (c) Straightness.
- (d) Thickness.

2 APPARATUS The following apparatus is required:

- (a) Steel tape graduated in millimetres.
- (b) Micrometer.
- (c) A flat surface of length and width greater than the test specimen.
- (d) Steel square.
- (e) A straightedge 1 m in length.

3 TEST SPECIMEN A sample of the nominated size shall be tested.

4 CONDITIONING All dimensional testing shall, when practicable, be performed at $23 \pm 2^\circ\text{C}$. Where this is not practicable, the material temperature shall be measured and the dimensions shall be adjusted to those at 23°C .

NOTE: For this purpose, a coefficient of thermal expansion/contraction of 7×10^{-5} per 1°C for uPVC, 7×10^{-5} per 1°C for polycarbonate and 2.5×10^{-5} per 1°C for GRP may be used.

5 PROCEDURE The procedure shall be as follows:

- (a) **Length and width** Place the test specimen on a flat surface. Make measurements for length every 400 mm across the sheet and three equally spaced measurements for width along the sheet to the nearest millimetre for each specimen. Calculate the arithmetic means of the sets of determinations.
- (b) **Cover width** Place one sheet on another sheet to provide the recommended overlap. Scribe a line on the bottom sheet at three equally spaced measurements along the sheet at the edge of the overlap. Measure the bottom sheet from the outer edge to the scribed lines to the nearest millimetre for each determination of cover width for each specimen. Calculate the arithmetic means of the sets of three determinations.

- (c) **Squareness** Place the square against the specimen and the cut edge as illustrated in Figure 1. Measure (to the nearest 0.1 mm) the gap between the cut edge and the square 100 mm from the point of contact. Multiply this figure by 10 to give the gap at 1 m. Take a measurement of each diagonal to the nearest 1 mm. Calculate the difference.

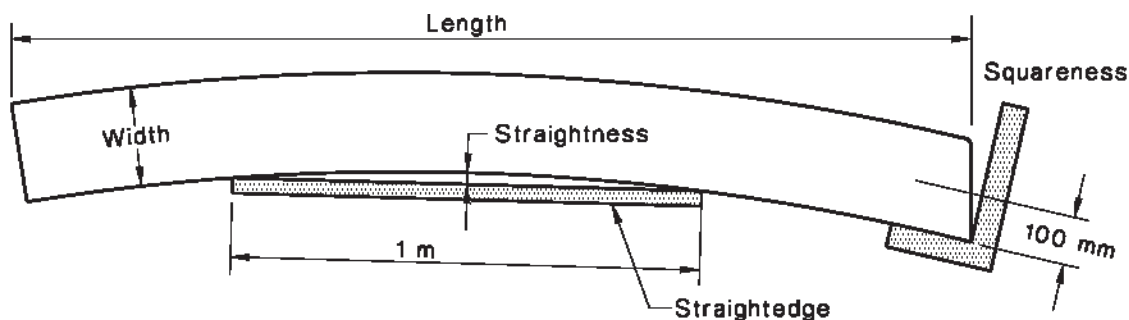


FIGURE 1 DIMENSIONAL PROPERTIES

- (d) **Thickness** Take equidistant measurements of thickness (see Table 1) to the nearest 0.05 mm across the width of the sample. Calculate the arithmetic mean of the sets of dimensions.
- (e) **Straightness** Place the straightedge against the top or bottom edge of the cladding at all places along the length (see Figure 1), and measure to the nearest 0.5 mm the greatest gap between the edge of the cladding and the straightedge.
- (f) **Profile** Scribe a point on the centreline of each rib or corrugation across the full width of a sheet at both the top and bottom of the sheet. Measure the distance between scribe marks on adjacent profiles across the width of the sheet and also between the scribe marks on the outer ribs of the sheet.

TABLE 1
SHEET WIDTH vs NUMBER
OF MEASUREMENTS
TO DETERMINE SHEET THICKNESS

Number of measurements	Sheet width mm
3	Less than 300
4	300 to 500
5	Greater than 500

6 REPORT The following information shall be reported:

- (a) Description of material.
- (b) Length, as the arithmetic means of three sets of measurements.
- (c) Width, as the arithmetic mean of each set of three measurements. Variation of width as the maximum variation of an individual width measurement to the mean width.