

Australian/New Zealand Standard™

**Masonry units, segmental pavers and flags—
Methods of test****Method 5: Determining the breaking load of
segmental pavers and flags**

This Standard incorporates Amendment No. 1 (August 2004) and Amendment No. 2 (September 2009). The changes required by the Amendment are indicated in the text by a marginal bar and amendment number against the clause, note, table, figure or part thereof affected.

1 SCOPE

This Standard sets out the method for determining the breaking load of segmental pavers and flags.

2 REFERENCED DOCUMENTS

The following documents are referred to in this Standard:

AS

2193 Methods for calibration and classification of force-measuring systems

AS/NZS

4456 Masonry units, segmental pavers and flags—Methods of test

4456.0 Part 0: General introduction and list of methods

4456.1 Method 1: Sampling for testing

4456.2 Method 2: Assessment of mean and standard deviation

BS EN ISO

7500-1 Metallic materials. Verification of static uniaxial testing machines. Tension/compression testing machines. Verification and calibration of the force-measuring system.

3 DEFINITIONS

For the purpose of this Standard, the definitions given in AS/NZS 4456.0 apply.

4 PRINCIPLE

A whole segmental paver or flag is placed with its wearing face supported by a bar at each end. A load is applied through another bar on the centre of the top face. The load is increased until the unit fails. The maximum load is the breaking load of the unit.

5 APPARATUS

The following is required:

- (a) For compliance testing, a testing machine that complies with the requirements for Grade A or Grade B machines given in AS 2193 or Grade 0.5, 1.0 or 2.0 machines to BS EN ISO 7500-1. Grade C machines are acceptable for quality assurance purposes.

The machine shall be fitted with support bars and a loading bar that will permit the loading of test specimens as simple beams with the test load applied midway between supports as shown diagrammatically in Figure 1. The support and loading bars shall be not less than 25 mm and not more than 40 mm in diameter, and shall be parallel and normal to the longer axis of the specimen. The loading bar and one support bar shall be self-aligning.

Where the supports and loading bar exceed 300 mm in length, they shall be stiffened by $100 \times 50 \times 3.0$ RHS steel sections or equivalent.

- (b) A rule that can be read accurately to 1 mm over the dimensions of the units being tested.

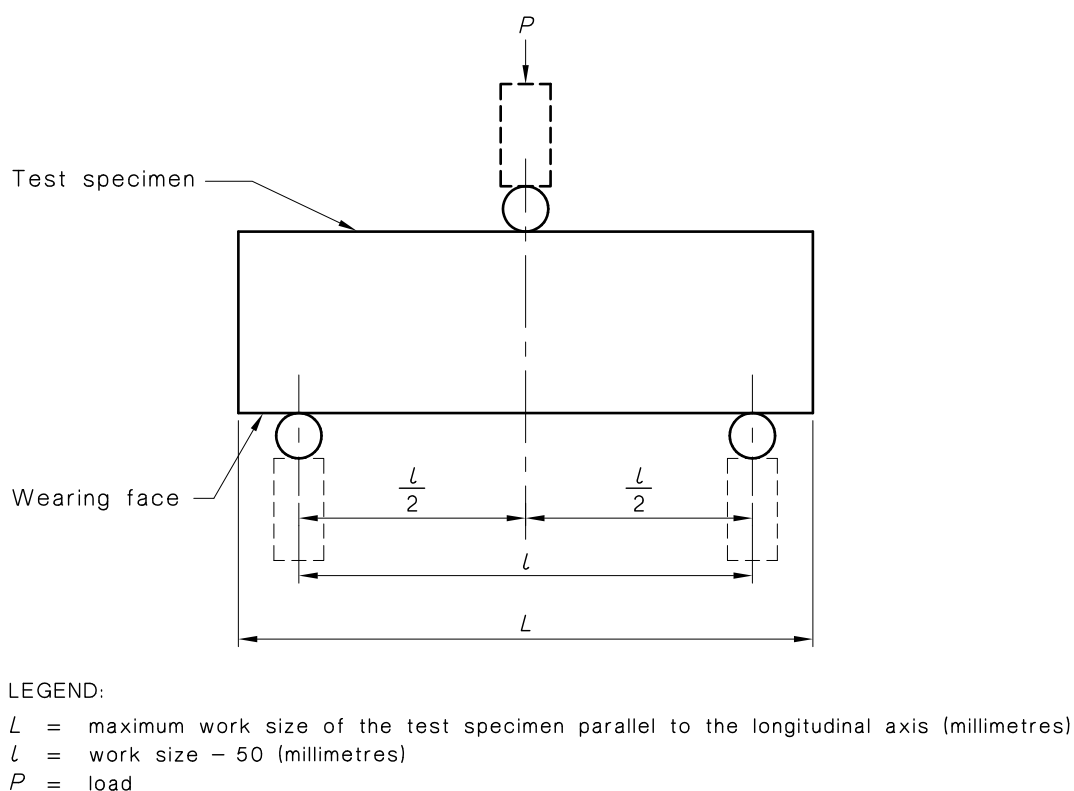


FIGURE 1 METHOD OF LOADING TEST SPECIMEN

6 PREPARATION OF TEST SPECIMENS

Specimens accumulated from continuous sampling shall be deemed to meet the requirements of this method, provided that the number of specimens accumulated is at least 10. For assessment of an individual lot, 10 units shall be selected in accordance with AS/NZS 4456.1.

7 PROCEDURE

The procedure shall be as follows:

- (a) Calculate the required span between the support bars, as work size length minus 50 mm. Set the support bars to have a span of that distance ± 5 mm. Where work size dimensions are known, the appropriate dimension shall be used for the length. Otherwise, the length of three specimens shall be measured and averaged. For common irregular shapes, see Figure 2.

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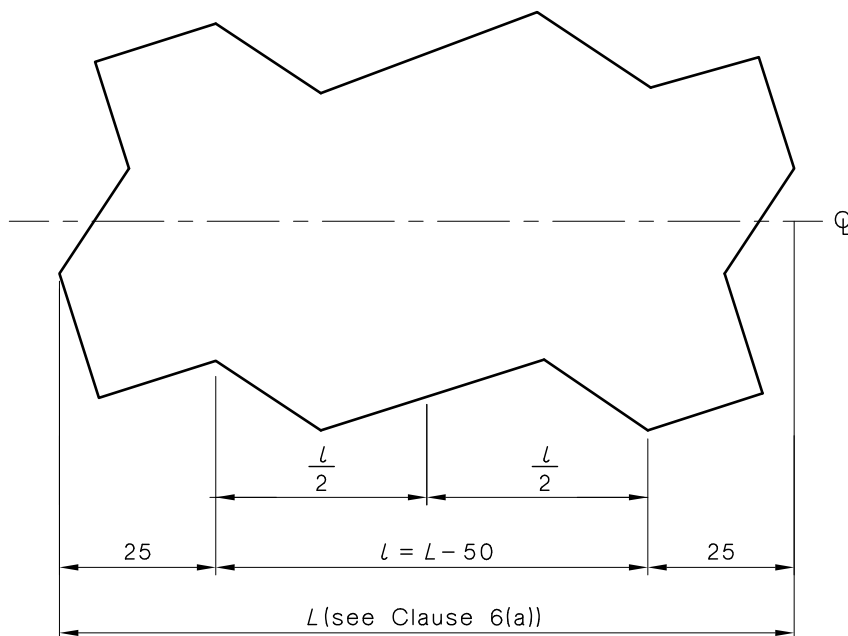


FIGURE 2 LOADING OF COMMON IRREGULAR SHAPES OF SEGMENTAL PAVING UNITS