

Australian/New Zealand Standard™

**Masonry units, segmental pavers and flags—
Methods of test****Method 1: Sampling for test**

This Standard incorporates Amendment No. 1 (August 2004). 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 methods of sampling masonry units, segmental pavers and flags for testing of a lot, for the test methods given in AS/NZS 4456.2 to AS/NZS 4456.19 inclusive.

2 SELECTION

For testing a lot, the sample shall comprise masonry units selected as being representative from an identifiable lot and the test results shall apply to that lot.

Specimens accumulated from continuous sampling shall be deemed to meet the requirements of this method, provided that the number of specimens accumulated is not less than those given in Table 1 for any particular test.

NOTES:

- 1 The most important aspect of sampling is to ensure that the units are selected from the lot in a well distributed manner. The units have to be tested without bias throughout the lot. Therefore, if the lot to be sampled is in the form of a stack, the stack should be opened up so that units can be taken from the interior and the bottom, as well as from the top and sides. A well distributed selection is easier to accomplish if the sample is taken during stacking. If the lot to be sampled comprises several stacks, an approximately equal numbers of units should be taken from each stack.
- 2 For the determination of coefficient of expansion of clay bricks (see Table 1), five bricks are to be selected to represent the range of firing temperatures of the units forming the lot. The sample should be taken from the kiln while the bricks are still sensibly warm. Because of the variations in setting patterns of different brick colours and types in different kilns, the characteristics of the setting and the kiln should be discussed with the brick manufacturer as a basis for deciding the sampling technique.
- 3 For the method for determining resistance to salt attack for fired clay products (AS/NZS 4456.10), 10 specimens should be taken. The 24 h cold water absorption values of the 10 units should be determined according to AS/NZS 4456.14. Absorption values should be used as a basis for selecting a sample of 5 units to represent the range of firing temperatures.

3 REFERENCED DOCUMENTS

The following documents are referred to in this Standard:

AS/NZS

4456	Masonry units, segmental pavers and flags—Methods of test
4456.0	Part 0: General introduction and list of methods
4456.2	Method 2: Assessment of mean and standard deviation
4456.3	Method 3: Determining dimensions
4456.4	Method 4: Determining compressive strength of masonry units
4456.5	Method 5: Determining breaking load of segmental pavers and flags
4456.6	Method 6: Determining potential to effloresce
4456.7	Method 7: Determining core percentage and material thickness
4456.8	Method 8: Determining moisture content and dry density
4456.9	Method 9: Determining abrasion resistance
4456.10	Method 10: Determining resistance to salt attack
4456.11	Method 11: Determining coefficients of expansion
4456.12	Method 12: Determining coefficients of contraction
4456.13	Method 13: Determining pitting due to lime particles
4456.14	Method 14: Determining water absorption properties
4456.15	Method 15: Determining lateral modulus of rupture
4456.16	Method 16: Determining permeability to water
4456.17	Method 17: Determining initial rate of absorption (suction)
4456.18	Method 18: Determining tensile strength of masonry units and segmental pavers
4456.19	Method 19: Determination of bow

4 DEFINITIONS

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

5 QUANTITY AND SIZE OF TEST SAMPLE

The test sample shall comprise sufficient units to provide test specimens for each specified test. The quantity and size, where applicable, of specimens required for each individual test is given in Table 1.

TABLE 1
QUANTITIES FOR INDIVIDUAL TESTS

AS/NZS number	Test	Quantity	Minimum specimen
4456.2	Mean and standard deviation	N/A	
4456.3	Dimensions	20	Unit
4456.4	Unconfined compressive strength	10	Full or half unit, or cube with sides the lesser of the minimum unit dimensions or 100 mm
4456.5	Breaking load	10	Unit
4456.6	Potential to effloresce	5 pairs	AS/NZS 4456.6
4456.7	Core percentage and material thickness	3	Unit
4456.8	Moisture content, dry density and ambient density	5	500 000 mm ³
4456.9	Abrasion resistance	18	AS/NZS 4456.9
4456.10	Resistance to salt attack		
	Method A	5	50 mm cubes
	Method B	5	50 × 25 × 20 mm (length × width × thickness)
4456.11	Coefficients of expansion	5	150 mm (length)
4456.12	Coefficients of contraction	5	150 mm (length)
4456.13	Pitting due to lime particles	5	Unit
4456.14	Water absorption properties	10	500 000 mm ³
4456.15	Lateral modulus of rupture	10 beams	Unit
4456.16	Permeability to water	3	Unit
4456.17	Initial rate of absorption	10	Unit
4456.18	Tensile splitting strength	10	Unit
4456.19	Bow	10	Unit

NOTES:

- 1 For tolerances on size, refer to individual test method
- 2 For AS/NZS 4456.15, the number of units required to prepare the test specimens is dependent on the size of the units

6 SPECIMEN PREPARATION

The sample shall comprise sufficient units so that specimens may be prepared from units in accordance with the dimensions and procedures given in each test method.

Whole units are preferred. Where necessary, the specimen may be sawn to the minimum dimensions specified in Table 1. Only one specimen may be obtained from each unit sampled, unless specifically permitted by the particular test method.