Australian Standard®

Methods of testing concrete

Method 4.3: Determination of air content of freshly mixed concrete—Measuring air volume when concrete is dispersed in water

1 SCOPE

This Standard sets out the method for determining the air content of freshly mixed concrete using the volumetric method.

This Standard is suitable for concrete made with any type of aggregate, whether it be dense, cellular or lightweight.

The results obtained are dependent on the compaction method used. This Standard provides for compaction of the sample by rodding or by vibration or by using self compacting concrete (SCC) (see Note 2) placed in the bowl.

NOTES:

1 This Standard may involve hazardous materials, operations, and equipment. The Standard does not purport to address all of the safety problems associated with its use. The user of this Standard should establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.

2 Self compacting concrete (SCC) is concrete that is able to flow and consolidate under its own weight, completely fill the formwork or bore hole even in the presence of dense reinforcement, whilst maintaining homogeneity and without the need for additional compaction. SCC is also known as self-consolidating concrete or super-workable concrete.

2 REFERENCED DOCUMENTS

The following documents are referred to in this Standard:

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1012	Methods of testing concrete	
1012.1	Method 1:	Sampling of fresh concrete
1012.2	Method 2:	Preparation of concrete mixes in the laboratory
1012.4.1	Method 4.1:	Determination of air content of freshly mixed concrete—Measuring reduction in concrete volume with increased air pressure

3 PRINCIPLE

The air content of freshly mixed concrete is determined by measuring the volume of water required to fill the air voids in the concrete.