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Test methods for determining the water/cement ratio of fresh concrete

S.R. CR 13902:2000

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Test methods for determining the water/cement ratio of fresh concrete

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1 Introduction**1.1 General**

In prEN 206-1, Concrete - Performance, production and conformity, there is a statement, in clause 5.2.2.2 Cement content and water/cement ratio, that if required, water/cement ratio may be determined by an agreed test method. This Technical Report reviews the test methods which are available for this purpose.

Before proceeding further, it is important to consider the definition of relevant terms in pr EN 206-1 and the possible constituents of cement listed in pr EN 197-1, Composition, specifications and conformity criteria for common cements.

1.2 Definitions in pr EN 206-1

Cl. 3.27 Cement (hydraulic binder): "A finely ground inorganic material which, when mixed with water, forms a paste which sets and hardens by means of hydration reaction and processes and which, after hardening, retains its strength and stability even under water".

Cl. 3.28 Effective water content: "The difference between the total water present in the fresh concrete and the water absorbed by the aggregate.

The total water is the added water plus water already contained in the aggregates and on the surface of the aggregates plus water in the admixtures and in additions used in the form of a slurry and water from any added ice or steam heating".

Cl. 3.29 Water/cement ratio: "Ratio of the effective water content to cement content by mass in the fresh concrete".

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