

Soundness and Chemical Tests

The presence of organic matter and certain chemicals can have a considerable influence on the strength and durability of concrete. The ability of aggregates to resist excessive change in volume (soundness) due to physical changes in the environment is also of importance. Knowledge of these potentially harmful factors will ensure that precautions can be taken at the mix design stage of a project.

Chloride Content: Rapid method

Quantab chloride titrators can be used for estimating the chloride content of aqueous solutions. They are suitable for site testing and quality control of aggregates requiring less than 30 minutes to obtain a result.

Ordering Information

EL42-2950

Quantab Chloride Titrator Strips. Type 1175 titration range 0.005% to 0.1% (30 to 600 ppm) NaCl. Pack of 50. *Weight 10 g*

EL42-2952

Quantab Chloride Titrator Strips. Type 1176 titration range 0.05% to 1% (300 to 6000 ppm) NaCl. Pack of 40. *Weight 10 g*



EL42-2950
Quantab Titrator Strips

Sulphate Content: Rapid method

A qualitative or semi-quantitative test is recommended for determining sulphate ions in aqueous solutions. Sulphate test strips are convenient measuring devices for preliminary assessment of sulphate content.

Ordering Information

EL42-2958

Sulphate Test Strips detection range 200 to 900 mg/l. Pack of 100. *Weight 10 g*

Soundness of Aggregates

BS 812; ASTM C88; AASHTO T104; EN 1367-2

The soundness of aggregates to physical changes caused by the environment is important to the long-term durability characteristics of concrete. Excessive changes in volume can be caused by freezing and thawing, thermal changes at temperatures greater than freezing, and cycles of wetting and drying. ASTM C88 specifies a test method to determine the potential soundness or otherwise of aggregates.

Hydrometers and Wire Baskets

see *Laboratory Equipment Section*

Shrinkage of Aggregate

BS812-120, EN 1367-4

The volume of an aggregate which is susceptible to drying shrinkage may change by as much as four times when moving from the wet to dry state. The test method described uses prisms of known dimensions made from aggregate up to a maximum size of 20 mm.

Ordering Information

EL42-2970

Three gang Prism Mould for specimens 50 x 50 x 200 mm. *Weight 8 kg*

**Steel Inserts
Measuring Apparatus
Standard Length Rod**

see *EL34-8541*

see *EL34-8500*

see *EL34-8509*

EL42-2970 Three-gang Prism Mould with Accessories



Organic Impurities in Fine Aggregate

ASTM C40

If aggregate contains organic impurities it may not be suitable for inclusion in concrete. Organic impurities, usually tannic acid and its derivatives, may interfere with the chemical reactions of hydration. Impurities are more likely to be found in fine (sand) aggregate.

Ordering Information

EL42-3000

Glass Bottle 12 ounce (300 ml approx) capacity, graduated at 2¹¹/₄₂, 4¹¹/₄₂ and 7 ounce positions. Complete with screw cap. *Weight 340 g*

EL42-3040

Colour Standard with five organic colour transparencies mounted in a holder.

Special Note:

Sodium Hydroxide pellets are required but not supplied by ELE

EL42-3040 Colour Standard

