

## Concrete and Mortar Testing



The concrete and construction materials testing department at Kiwa CMT conducts laboratory, on-site investigation and physical testing on materials used in the construction and civil engineering industries including concrete cube making, physical testing of concrete and rock cores, trial mixes and testing of admixtures, cementitious repair materials and resins.

Kiwa CMT is a UKAS-accredited testing laboratory (No. 0529) for this [scope of accreditations](#).

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### Counting the cost of cube failure

Concrete cube failure costs contractors in the UK a phenomenal amount each year:

- Losses caused by delay
- Losses due to penalties imposed by promoters under the terms of the contract
- Cost due to further investigation upon cube test failure
- Costs incurred through the litigation process
- Costs incurred due to the possible removal and replacement of 'defective' concrete

### On-Site Concrete Cube Making

It can be shown that with a large proportion of cube test failures that some deviation from BS EN 12390 has occurred in the on-site sampling, compaction and curing procedures. Kiwa CMT offers trained technicians who can be mobilised at short notice, to carry out the on-site sampling (including slump test) and making of concrete test cubes which are cured and tested in strict accordance with BS EN 12390.

### Concrete Cube Testing

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Kiwa CMT offers a cube collection service. All collected cubes are stored in water tanks to BS EN 12390 until testing is required. Air Entrainment Testing Frequent tests are essential in order to maintain at a constant level the air entrainment level that has been determined as optimal for a particular kind of cement. The Air Entrainment Meter gives a direct reading of the air content in per cent (%).

#### **Slump Tests**

As a measure of consistency, both from a quality-control perspective and to determine the workability of the concrete, a slump test is essential. Kiwa CMT offers trained technicians who can perform the slump tests along with cube making.

#### **On-Site Mortar Cube Making**

We provide an independent mortar cube making service. Ready-mix, Silo and Hand-mix mortar can all be sampled for compressive strength testing on a regular or one off basis. Kiwa CMT offers trained technicians who can be mobilized at short notice, to carry out the on-site sampling and making of mortar test cubes which are cured and tested in strict accordance with BS 4551 at our UKAS accredited laboratory.

#### **Mortar Cube Collecting**

We offer a mortar cube collection service with collected cubes being stored in lime saturated water tanks to BS 4551 until testing is required.

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