



Quantum Readymix Concrete

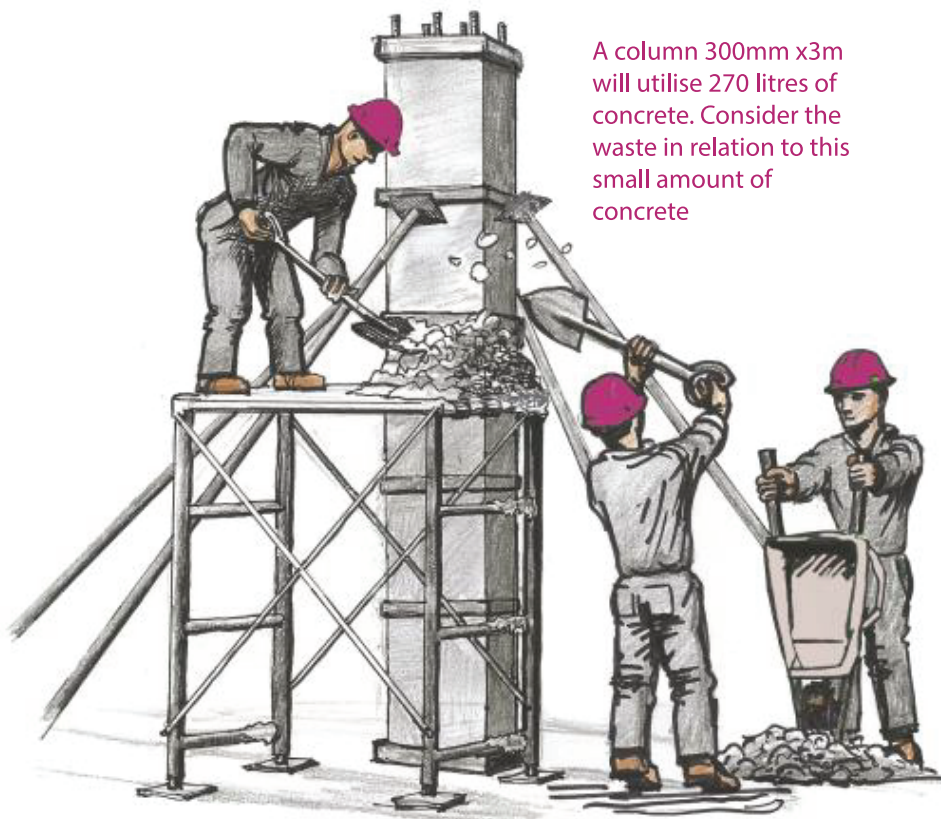
ACCURATE CONCRETE MEASUREMENT AND SUPPLY

Strength and quantity are two of the most vexing problems that can be encountered on most sites by all parties, the supplier, the contractor as well as the consultants.

As regards strength one must always remember that the cube strength result obtained gives one an indication of THE POTENTIAL STRENGTH of the in-situ concrete and as such poor curing or adverse weather conditions not catered for can result in a huge disparity between what comes out of the laboratory and what the situation is on the ground.

Differences between the amount of concrete supplied and that received is altogether another problem and the quickest way to satisfy yourself that you are indeed being supplied correctly is to weigh trucks at random. This is addressed in more detail later in this bulletin.

Likewise, one is often oblivious to what losses occur on site for the following reasons, namely:



A column 300mm x3m will utilise 270 litres of concrete. Consider the waste in relation to this small amount of concrete

Especially where hand over hand methods of filling the column boxes are used. The amount of concrete used to fill a column box in relation to the wastage associated with filling it, can be a total imbalance.

Note

The longer concrete stands the drier it will become and probably have water added to it at the cost of strength. This can be crucial especially when columns are being poured.

Don't forget curing is essential when casting columns

In the sketch above a 3M box column with sides of 300mm in cross section will require a total of 4-wheel barrows of concrete. A 6m³ truck contains 100 wheelbarrows and a single cube of concrete requires 15-wheel barrow loads. Depending on what methods are used (especially hand over hand) the waste in relation to the usage is disproportionate and will lead to disputes on site.

FOUNDATIONS

The accurate measurement of an irregularly excavated foundation is impossible.

BEAM & BLOCK SYSTEMS

At the best of times the accurate measurement of these systems is difficult. Block-ends are all too often left open and not taken into account. Fill all block ends with empty cement bags or the like and be echo friendly at the same time.

UNEVEN SURFACE BEDS

If the earthworks of a surface of say 2000m² is 15 mm too low it will require an extra 30m³ of concrete which is a considerable oversight. As the saying goes, **a surface bed is only as good as the compacted base.** G5 filling is 10% of the cost of concrete so it becomes so important to **GET YOUR LEVELS RIGHT.**

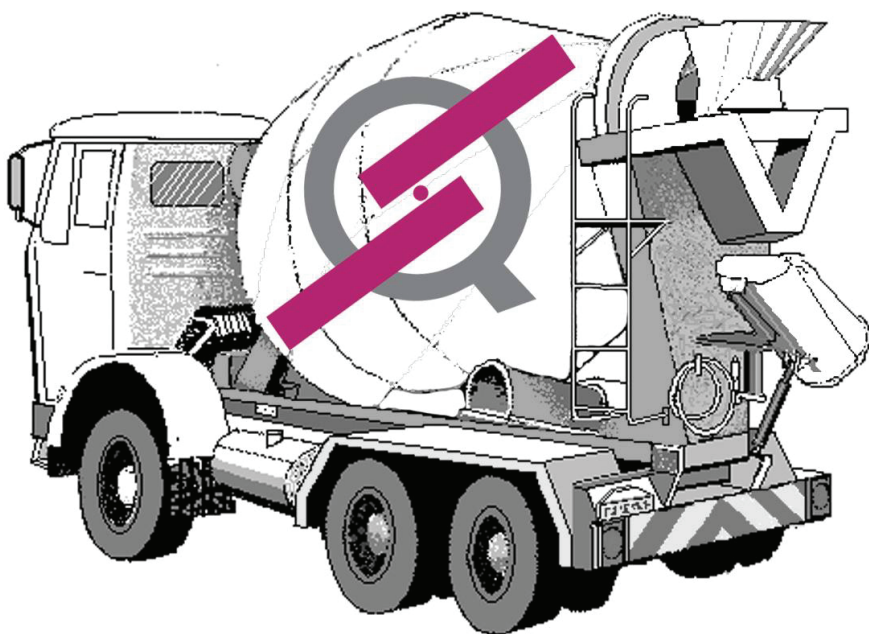
COLUMNS

Are always a bone of contention. A small quantity of concrete is required and takes a long time to discharge. Short supply and strength complaints are inevitable under such circumstances as the waste and addition of extra water required to maintain workability is unavoidable.

THE RATIONALE OF WEIGHING A TRUCK TO DETERMINE THE VOLUME

Under pressure when quick answers are being sought, it is generally highly impractical to determine the volume of the concrete delivered. However, since the volume OF CONCRETE is linked to the weight of concrete which is 2450Kg/m³ +- 2.5% it can make more sense to weigh the truck as weigh bridges can be found in most any industrial area. As stated this quick method can be expected to be at best 97.5% accurate but it will help one determine the extent of the problem and further volume related tests can be undertaken, if necessary.

THE EXPECTED WEIGHTS IN RELATION TO THE VOLUME ORDERED IS DEPICTED IN THE SKETCH BELOW:



1m³ of concrete = 2 475kg

6m³ of concrete = 14 850kg

8m³ of concrete = 19 800kg

