

Durability of Concrete

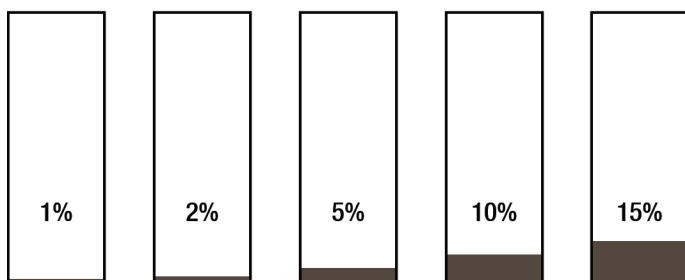
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Chemistry

Pressure Test

Concrete can be tested for strength using the pressure testing procedure. Different proportions of cement, gravel and sand are mixed to form different concrete samples which are set. The concrete is then placed in a hydraulic press and weight applied until the concrete cracks, crumbles, or breaks. The breaking point is then recorded for each sample and then compared against each other to find the sample with highest breaking point. This would need to be repeated three times to ensure accuracy of readings.

Hypothesis

As the concentration of gravel in concrete is increased, the breaking point of the concrete ought to also increase.



Evaluation - Improvements

- Due to the nature of this experiment, it may be difficult to measure the exact point at which the concrete breaks - it is difficult to measure when the first external cracks appear as they may be hidden by the testing system.
- Pressure may not be the only factor which causes the concrete to break, fluctuations in humidity, light, or heat when the concrete is setting may cause differences in the strength between samples. All these ought to be controlled.
- Different samples may not be mixed thoroughly, different substances may be mixed differently between samples. All samples should be mixed using the same method for the same amount of time in order to prevent this, although this is a difficult factor to control.