Sample Compaction

To ensure uniformity and comparability in test results, having compacted cylinder samples is essential. There are various options for compacting cylinders including tamping, external and internal vibrating. AS1012.8.1 Chapter 7 gives advice on the moulding of lab specimens. Vibration must be used on samples with slump less than 40mm, as rodding or tamping must not be used in those circumstances. Segregation can occur when specimens of concrete have a slump greater than 100mm. To make sure this doesn't occur, great care must be taken with the specimens.

The procedure for the compaction by vibration of specimens shall be as follows:

1. Fill the moulds in two approximately equal layers.
2. Vibrate each layer until the surface becomes relatively smooth in appearance. If mortar begins to collect on the surface, stop the vibration immediately.
3. Place adequate concrete in the top layer, to overfill the mould when compacted; if the mould is not completely filled after partial compaction of the top layer, add some additional concrete and complete compaction.
4. Strike off and smooth the surface of the concrete. Make sure to avoid a mirror finish.

Vibrating Tables

Vibrating tables provide external vibration and can be used in all circumstances regardless of concrete slump etc. Two vibrating table models are available, small vibrating table UTC-0900 and large vibrating table UTC-0910. The small vibrating table can have two 100 mm cylinders moulds placed on top. As for the large table, eight 100 mm cylinder moulds are allowed. Special installation is not required as the frame of the machine dampens the vibration.

Vibrating Pokers

The UTEST Vibrating Pokers have been designed for the internal compaction of lab samples. They are a suitable alternative to the traditional tamping rod, especially if there is a large number of samples that needs to be prepared.

Technical Specifications

Models	UTC-0900	UTC-0910
Table top length (mm)	400	620
Table top width (mm)	650	1260
Weight (kg)	60	154
Vibrating motor (kW)	0.17	0.17

Product Code	Type and Shaft	Frequency
UTC-0928	Ø 22x350mm tip-1m shaft	10,000 vib/min
UTC-0930	Ø 22x350mm tip-2m shaft	12,000 vib/min
UTC-0932	Ø 27x350mm tip-2m shaft	12,000 vib/min
UTC-0935	Ø 32x350mm tip-2m shaft	12,000 vib/min

About PCTE

PCTE have over 30 years' experience in the measurement and testing of construction materials. PCTE can provide more than just the equipment, they can provide expert training. PCTE have a service centre in Sydney in which they can provide calibration, repairs and warranty repairs.

Other Equipment

PCTE supply three main ranges: NDT, Lab and Geotech Instrumentation.

- NDT includes: Rebound Hammers, Covermeters, Ultrasonics, GPR, Corrosion Testing, Coating Testing and Foundation Testing
- Lab includes equipment for: Concrete, Cement, Aggregate, Soil, Asphalt and Metal
- Geotech Instrumentation includes: Strain Gauges, Piezometers, Inclinometers, Extensometers, Tiltmeters, Load Cells and Dataloggers