Concrete

Concrete is used more than any other man-made material in the world, it is a composite construction material composed of cement (commonly Portland cement), coarse aggregates, sand, water and chemical admixtures. The word concrete comes from the Latin word “concretus” (meaning compact or condensed) hence, concrete solidifies and hardens after mixing with water and placement due to a chemical process known as hydration.

The water reacts with the cement, which bonds the other components together, eventually creating a robust stone-like material that can be moulded in any shape we desire. The quality of concrete is important if structures formed from this versatile material are to be safe and serve the purpose for which they were constructed therefore, several tests are conducted to identify the characteristics and parameters of concrete.

The testing equipment described in this section are special selected to test the physical parameters of concrete for consistency, degree of compaction, workability, setting time, segregation resistance, confined flowability, air content, bulk density, specific gravity, adhesion, water permeability and strength.
GEOTECHNICAL TESTING EQUIPMENT

**Slump Cone Test set**

**DESCRIPTION:**
Slump Cone test set is used for the determination of the consistency and workability of fresh concrete. The Concrete Slump Test Set is supplied complete with: Slump Cone, Slump Funnel, Base Plate, Tamping Rod, Rubber mallet, Steel ruler

**TECHNICAL SPECIFICATIONS:**

<table>
<thead>
<tr>
<th>Dimensions</th>
<th>Weight (approx.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CN 0101-2 500x500x60 mm</td>
<td>6 kg</td>
</tr>
<tr>
<td>CN 0101-4 Ø 16x600 mm</td>
<td></td>
</tr>
<tr>
<td>CN 0101-6 300x1 mm</td>
<td></td>
</tr>
<tr>
<td>CN 0101-1 100 ±2 mm Dia</td>
<td></td>
</tr>
<tr>
<td>Base 200 ±2 mm Dia</td>
<td></td>
</tr>
<tr>
<td>Height 300 ±2 mm Dia</td>
<td></td>
</tr>
<tr>
<td>Dimensions 550x600x250 mm</td>
<td></td>
</tr>
</tbody>
</table>

**MAIN FEATURES:**
- Heavy duty
- Made of thick galvanized steel

**ORDERING:**
- CN 0101 Slump Cone test complete

**ACCESSORIES:**
- CN 0101-1 Slump Cone
- CN 0101-2 Base Plate
- CN 0101-3 Slump Funnel
- CN 0101-4 Tamping Rod
- CN 0101-5 Rubber Mallet
- CN 0101-6 Steel Ruler

**Concrete Flow Table**

**DESCRIPTION:**
The test set is used for concrete mixes of high workability and determines the flow index as an arithmetic means of the diameter of the specimen after working on a flow table. The apparatus consists of a double steel table, an upper table measuring 700x700 mm and hinged at one side to the lower table.

The top table is inscribed and all parts are protected against corrosion. The stainless steel cone has a 130 ±2 mm top diameter, 200 ±2 mm base diameter and 200 ±2 mm height and 1.5 mm thickness.

The Concrete Flow Table Set is complete with flow cone and wooden tamper

**TECHNICAL SPECIFICATIONS:**

<table>
<thead>
<tr>
<th>Dimensions</th>
<th>Weight (approx.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>700x850x300 mm</td>
<td>40 kg</td>
</tr>
</tbody>
</table>

**MAIN FEATURES:**
- High workability
- The apparatus consists of a double steel table
- All parts are protected against corrosion

**ORDERING:**
- CN 0102 Concrete Flow Table Set

**ACCESSORIES:**
- CN 0102-1 Flow Cone
- CN 0102-2 Wooden Tamper
The Waltz Container is used to measure the degree of compactability of fresh concrete. It consists of a 200x200x400 mm metal container with two carrying handles. Coated against corrosion.

J-ring, narrow gap

DESCRIPTION:
The J-RING test, in conjunction with the Slump-flow test, is one way to determine the passing ability of SCC, defined as the ability of the concrete to flow under its weight to fill all spaces within the formwork.

The J-RING test set includes the J-RING, Modified Slump Cone, Strike-off bar and a plastic base plate with convenient cut-out carrying handles.

TECHNICAL SPECIFICATIONS:

<table>
<thead>
<tr>
<th>CN 0103</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimensions</td>
<td>350x350x140 mm</td>
</tr>
<tr>
<td>Weight (approx.)</td>
<td>10 kg</td>
</tr>
</tbody>
</table>

Waltz Container

DESCRIPTION:
The Waltz Container is used to measure the degree of compactability of fresh concrete.

It consists of a 200x200x400 mm metal container with two carrying handles. Coated against corrosion.

TECHNICAL SPECIFICATIONS:

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimensions</td>
<td>200x200x400 mm</td>
</tr>
<tr>
<td>Weight (approx.)</td>
<td>5 kg</td>
</tr>
</tbody>
</table>
**Water Cement Analyser**

**DESCRIPTION:**
Precise measurement of the water content of fresh concrete mixtures. As a user, you will obtain not only the percent moisture value but also the water content in liter per m^3^ by considering the mass density entered by hand inside the measurement device.

Determination of the radar-based electrical conductivity which allows an evaluation of the used cement type. As a user, you can thus quickly see what is going on concerning the used cement type and if this value corresponds to the expected exposure class.

Simply place the innovative lance probe model 1 inside the fresh concrete. After 4 to 5 single measurements with the measuring device, an automatic averaging ensures precise results within 1 to 2 minutes – directly on site.

The Water Cement Analyser is delivered with a universal calibration that provides reliable results for most used concrete types. It is possible to adjust the measuring device with a correction value for measuring special concrete types like fiber concrete.

**Plasticity Meter**

**DESCRIPTION:**
The Plasticity Meter is used for quick and easy determination of the plasticity of a specimen, especially concrete, in order to easily detect a possible excess of water.

The measurement is related to shear concrete applied by a finned rod on the specimen. It is possible to measure plasticity at different points, immediately in the test tube, with several controls. The results can be compared with the values obtained by the cone of Abrams.

**TECHNICAL SPECIFICATIONS:**

<table>
<thead>
<tr>
<th>Dimensions</th>
<th>130x180 mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weight (approx.)</td>
<td>2 kg</td>
</tr>
</tbody>
</table>

www.Geotechnical-equipment.com  Tel: +441908 766 400, 401
**Bulk Unit Weight Measures**

**DESCRIPTION:**
The Bulk Density Measures are used to determine the weight per cubic meter of freshly mixed and compacted concrete.

Manufactured from heavy gauge steel complying with the related standard.

Available in 1, 3, 5, 7, 10, 15, 20 and 28 ltr. capacity models according to the requirements of different standards. Coated against corrosion.

**TECHNICAL SPECIFICATIONS:**

<table>
<thead>
<tr>
<th>Product code</th>
<th>Dimensions</th>
<th>Weight (approx.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CN 0107</td>
<td>100x170x150 mm</td>
<td>2.8 kg</td>
</tr>
<tr>
<td>CN 0108</td>
<td>150x210x210 mm</td>
<td>3.7 kg</td>
</tr>
<tr>
<td>CN 0109</td>
<td>170x240x250 mm</td>
<td>5.0 kg</td>
</tr>
<tr>
<td>CN 0110</td>
<td>190x260x270 mm</td>
<td>6.3 kg</td>
</tr>
<tr>
<td>CN 0111</td>
<td>210x290x310 mm</td>
<td>7.7 kg</td>
</tr>
<tr>
<td>CN 0112</td>
<td>250x340x330 mm</td>
<td>10 kg</td>
</tr>
<tr>
<td>CN 0113</td>
<td>270x370x380 mm</td>
<td>12 kg</td>
</tr>
<tr>
<td>CN 0114</td>
<td>310x410x430 mm</td>
<td>20 kg</td>
</tr>
</tbody>
</table>

**Vebe Consistometer**

**DESCRIPTION:**
The Vebe Consistometer is used to determine the consistency of fresh concrete by subjecting the concrete specimen to vibration after removal of the slump cone.

The assembly is mounted upon a small vibrating table operating at a fixed amplitude and frequency.

The time to complete the required vibration indicates concrete consistency.

The set consists of a vibrating table, slump cone, graduated rod with transparent plate, filling cone and tamping rod.

**TECHNICAL SPECIFICATIONS:**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>CN 0115</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power</td>
<td>170 W</td>
</tr>
<tr>
<td>Dimensions</td>
<td>570x460x670 mm</td>
</tr>
<tr>
<td>Weight (approx.)</td>
<td>87 kg</td>
</tr>
</tbody>
</table>
**Pocket Penetrometer**

**DESCRIPTION:**
The Pocket Penetrometer is designed for the determination of setting time of fresh concrete for field and laboratory use.

The stainless steel plunger has a 32.3 mm² (1/20 in²) area and 0-5 MPa measuring range.

**TECHNICAL SPECIFICATIONS:**

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total length</td>
<td>155 mm</td>
</tr>
<tr>
<td>Maximum diameter</td>
<td>20 mm</td>
</tr>
<tr>
<td>Diameter of the tip</td>
<td>6.35 mm (1/4&quot;)</td>
</tr>
<tr>
<td>Penetration of the tip</td>
<td>6.35 mm</td>
</tr>
<tr>
<td>Cross section of the tip</td>
<td>0.3165 cm²</td>
</tr>
<tr>
<td>Net weight</td>
<td>0.150 kg</td>
</tr>
<tr>
<td>Force required to read 3 kg/cm²</td>
<td>5.10 ± 0.25 kgf</td>
</tr>
<tr>
<td>Force required to read 4.5 kg/cm²</td>
<td>7.71 ± 0.28 kgf</td>
</tr>
<tr>
<td>Compression of the spring</td>
<td>35.6 mm</td>
</tr>
<tr>
<td>Nominal calibration factor of 4.5 kg/cm²</td>
<td>0.2166 ± 0.01 kg/cm²</td>
</tr>
</tbody>
</table>

**Concrete Mortar Penetrometer**

**DESCRIPTION:**
The Concrete Mortar Penetrometer consists of a cylindrical spring housing with a plunger attached to the top of the spring. Penetration needle is attached to the other end of the spring housing.

The plunger is graduated in 1 kg divisions, to a maximum capacity of 60 kg, which can be read concerning the top end of the spring housing.

A set of six needle points with areas of 645, 323, 161, 65, 32, and 16 mm² are provided.

The Concrete Mortar Penetrometer is supplied complete with:

- Set of interchangeable needle points of 645, 323, 161, 65, 32, and 16 mm² area

**TECHNICAL SPECIFICATIONS:**

<table>
<thead>
<tr>
<th>Needle Pos.</th>
<th>Face areas</th>
<th>Dimensions</th>
<th>Weight (approx.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CN 0117-2</td>
<td>11 mm² (1/40 inch²)</td>
<td>540x260x60 mm (packed)</td>
<td>5 kg</td>
</tr>
<tr>
<td>CN 0117-3</td>
<td>12 mm² (1/20 inch²)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CN 0117-4</td>
<td>12 mm² (1/10 inch²)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CN 0117-5</td>
<td>12 mm² (1/4 inch²)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CN 0117-6</td>
<td>12 mm² (1/2 inch²)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CN 0117-7</td>
<td>12 mm² (1 inch²)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
V-Funnel Apparatus

**DESCRIPTION:**
The V-Funnel Apparatus is used to evaluate the segregation resistance of freshly mixed self-compacting concrete by observing the flowing speed due to the difference of samples remaining period in the funnel.

The test set consists of a stainless steel funnel placed vertically on a supporting stand. The discharge orifice is equipped with a lid, which can be momentarily opened.

**TECHNICAL SPECIFICATIONS:**

<table>
<thead>
<tr>
<th>Dimensions</th>
<th>Weight (approx.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>525x300x1040 mm</td>
<td>18 kg</td>
</tr>
</tbody>
</table>

**MAIN FEATURES:**
- Stainless steel funnel

**ACCESSORIES:**
- CN 0118
  - V-Funnel Apparatus
- CN 0118-1
  - Filling Hopper
- CN 0118-2
  - Base

**ORDERING:**
- EN 12350-9

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U Shape Box Apparatus

**DESCRIPTION:**
The U shape Box is used to determine the confined (flowability) and the capacity of SCC concrete to flow within confined spaces.

The box is made of a galvanized steel frame consisting of four 10 mm diameter and three 13 mm diameter bars.

The U Shape box is mounted on a frame with a fixing mechanism.

**TECHNICAL SPECIFICATIONS:**

<table>
<thead>
<tr>
<th>Dimensions</th>
<th>Weight (approx.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>650x650x1100 mm</td>
<td>20 kg</td>
</tr>
</tbody>
</table>

**MAIN FEATURES:**
- Stainless steel funnel

**ACCESSORIES:**
- CN 0119
  - U Shape Box Apparatus
- CN 0119-1
  - Filling Hopper
- CN 0119-2
  - Base

**ORDERING:**
- UNI 11044

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Compacting Factor Apparatus

**DESCRIPTION:**
The Apparatus enables a check to be made on the weight of concrete when it falls from fixed heights into a cylindrical container of standard capacity.

The apparatus consists of two conical hoppers each with a hinged trap with a quick-release mechanism to allow free flow of the concrete sample.

A cylindrical mold is fitted beneath the hoppers.

**TECHNICAL SPECIFICATIONS:**

<table>
<thead>
<tr>
<th>Dimensions</th>
<th>Weight (approx.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>300x400x1300 mm</td>
<td>41 kg</td>
</tr>
</tbody>
</table>

**MAIN FEATURES:**
- Heavy duty
- Made to last

**ACCESSORIES:**
- CN 0120
  - Compacting Factor Apparatus

**ORDERING:**
- BS 1881-103 5075
L Shape Apparatus

**DESCRIPTION:**
The L Shape Box is used for evaluation of self compact ability (confined flowability) of freshly mixed self-compacting concrete.

The box allows evaluating different properties, such as filling ability, passing ability and resistance to segregation.

**TECHNICAL SPECIFICATIONS:**

<table>
<thead>
<tr>
<th>Dimensions</th>
<th>Weight (approx.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>300x1000x1350 mm</td>
<td>35 kg</td>
</tr>
</tbody>
</table>

**MAIN FEATURES:**

- L shape box apparatus has resistance to segregation.

**ORDERING:**

- CN 0121
  L Shape Box apparatus

**ACCESSORIES:**

- CN 0121-1
  Filling Hopper
- CN 0121-2
  Base

Air Entrainment Meter

**DESCRIPTION:**
The Air Entrainment Meter is used to determine the air content of fresh concrete. Our air entrainment meter is one of the most precise air content measuring devices available in the market. With heat-treated cast aluminum construction and cast in handles on the base, it is heavy-duty, yet lightweight, and easy to handle.

Our unit utilizes the best clamping system available, with large stainless steel clamp levers and a holding capacity of about 7 ltr each. This clamping system provides an easy, dependable operation.

Employing the use of a superior high volume Ultra Pump, this system makes operation efficient yet rapid. This includes a larger more accurate pressure gauge with safety glass and bold color dial face. Color-coded for entrapped and entrained air readings.

Our equipment comes complete:

- B pressure meter
- Calibrated Vessel
- Calibration Outside Tube
- Calibration Inside Tube
- Strike-Off Bar
- Tamping Rod rounded to a hemispherical tip at both ends
- Bulb Syringe
- Rubber Mallet
- carrying case

**TECHNICAL SPECIFICATIONS:**

<table>
<thead>
<tr>
<th>Capacity</th>
<th>7ltr</th>
</tr>
</thead>
<tbody>
<tr>
<td>air content range</td>
<td>0-22%</td>
</tr>
<tr>
<td>Dimensions</td>
<td>700x300x500 mm</td>
</tr>
<tr>
<td>Weight (approx.)</td>
<td>18 kg</td>
</tr>
</tbody>
</table>
Specific Gravity Frame

**DESCRIPTION:**
Specific Gravity Frame is used in conjunction with electronic balance for specific gravity or density determination of hardened concrete and aggregates.

Consisting of a purpose-built robust frame designed to support the electronic balance. The lower part of the frame incorporates a moving platform, which carries the water tank allowing the test specimens to be weighed in both air and water.

There are 3 choices of balances to choose from with different capacities.

Supplied complete with Cradle, Density Basket, hook and water tank.

**TECHNICAL SPECIFICATIONS:**

<table>
<thead>
<tr>
<th>Dimensions</th>
<th>600x500x1100 mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weight (approx.)</td>
<td>25 kg</td>
</tr>
</tbody>
</table>

Grout Flow Cones and Sets

**DESCRIPTION:**
Grout Flow Cones measure the flowability of hydraulic grout used in preplaced aggregate concrete. Flowability is measured by the time of discharge of a 1.725L sample of grout through a 12.7mm dia. discharge tube orifice from the cone. The cast aluminum Flow Cones all come with an adjustable point gauge assembly to indicate initial sample level.

Grout Flow Cone Set has a 12.7mm dia Orifice already installed, and a 3-Legged Steel Support Stand, and 2L stainless steel Beaker for use as a receiving container.

Grout Flow Cone Set has a 19mm Orifice to be used with alternate test methods.

**TECHNICAL SPECIFICATIONS:**

<table>
<thead>
<tr>
<th>Dimensions</th>
<th>178mm dia for top 76mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cone section</td>
<td>190mm</td>
</tr>
<tr>
<td>Discharge Tube</td>
<td>38.1mm</td>
</tr>
<tr>
<td>Grout volume</td>
<td>1,725 ±5ml</td>
</tr>
</tbody>
</table>

Grout Flow Cone Set has a 12.7mm dia Orifice already installed, and a 3-Legged Steel Support Stand, and 2L stainless steel Beaker for use as a receiving container.

Grout Flow Cone Set has a 19mm Orifice to be used with alternate test methods.
Pan Concrete Mixer

DESCRIPTION:
The Concrete Mixer is designed for laboratory use to give efficient mixing of both wet and dry materials.

The mixing pan is rotated by a turntable driven by an electric motor by a reduction gearbox. It has easily adjustable blades to fit different types and volumes of material to be mixed.

TECHNICAL SPECIFICATIONS:

<table>
<thead>
<tr>
<th>Product code</th>
<th>Dimensions</th>
<th>Weight (approx.)</th>
<th>Drum Capacity</th>
</tr>
</thead>
<tbody>
<tr>
<td>CN 0125</td>
<td>950x1050x1250 mm</td>
<td>255 kg</td>
<td>56 ltr YIELD</td>
</tr>
<tr>
<td>CN 0126</td>
<td>950x1050x1270 mm</td>
<td>285 kg</td>
<td>100 ltr YIELD</td>
</tr>
</tbody>
</table>

ORDERING:

- CN 0125 Pan concrete Mixer type 56 ltr
- CN 0126 Pan concrete Mixer type 100 ltr

Drum Concrete Mixer

DESCRIPTION:
The Mixer is used for the efficient mixing of concrete, plaster, and mortars.

The Concrete Drum Mixer comes complete with Drum, Lightweight mixer, Stand, rubber Wheels which provide high portability and a motor.

TECHNICAL SPECIFICATIONS:

<table>
<thead>
<tr>
<th>Product code</th>
<th>Dimensions</th>
<th>Weight (approx.)</th>
<th>Drum Capacity</th>
</tr>
</thead>
<tbody>
<tr>
<td>CN 0127</td>
<td>145 x 80 x 125 mm</td>
<td>95 kg</td>
<td>110 ltr.</td>
</tr>
<tr>
<td>CN 0128</td>
<td>165 x 80 x 135 mm</td>
<td>120 kg</td>
<td>190 ltr.</td>
</tr>
<tr>
<td>CN 0129</td>
<td>175 x 96 x 145 mm</td>
<td>170 kg</td>
<td>242 ltr.</td>
</tr>
<tr>
<td>CN 0130</td>
<td>198 x 100 x 150 mm</td>
<td>220 kg</td>
<td>312 ltr.</td>
</tr>
<tr>
<td>CN 0131</td>
<td>200 x 100 x 150 mm</td>
<td>355 kg</td>
<td>355 ltr.</td>
</tr>
</tbody>
</table>
Cylinder Molds

**DESCRIPTION:**

The Cylinder Molds are designed to produce accurate specimens while avoiding distortion over the length of the mold.

Made from a reinforced steel construction for added rigidity and long service life.

The edge of the rim is of accurate finish to insure clean specimen results. Each mold is tested for conformity, supplied with an individual certificate.

Several models and sizes available 100x200, 150x300, 160x320mm, available in ring or clamp type.

**TECHNICAL SPECIFICATIONS:**

<table>
<thead>
<tr>
<th>Model</th>
<th>Dimensions</th>
</tr>
</thead>
<tbody>
<tr>
<td>CN 0132</td>
<td>200x100 mm</td>
</tr>
<tr>
<td>CN 0133</td>
<td>300x150 mm</td>
</tr>
<tr>
<td>CN 0135</td>
<td>360x160 mm</td>
</tr>
<tr>
<td>CN 0136</td>
<td>100x200 mm</td>
</tr>
<tr>
<td>CN 0137</td>
<td>150x300 mm</td>
</tr>
</tbody>
</table>

Plastic Molds

**DESCRIPTION:**

Our Plastic Cube and Cylinder Mold is manufactured from rigid high-quality plastic that is weather-resistant and has an unlimited shelf life. Cured specimens can easily be molded from the mold.

**TECHNICAL SPECIFICATIONS:**

<table>
<thead>
<tr>
<th>Model</th>
<th>Dimensions</th>
</tr>
</thead>
<tbody>
<tr>
<td>CN 0138</td>
<td>160x160 mm</td>
</tr>
<tr>
<td>CN 0139</td>
<td>160x160 mm</td>
</tr>
<tr>
<td>CN 0140</td>
<td>110x220 mm</td>
</tr>
<tr>
<td>CN 0141</td>
<td>160x160 mm</td>
</tr>
<tr>
<td>CN 0142</td>
<td>150x300 mm</td>
</tr>
<tr>
<td>CN 0143</td>
<td>160x320 mm</td>
</tr>
<tr>
<td>CN 0144</td>
<td>100x200 mm</td>
</tr>
</tbody>
</table>

**MAIN FEATURES:**

- Durable, corrosion resistant and easy to clean.

**ORDERING:**

<table>
<thead>
<tr>
<th>Model</th>
<th>Dimensions</th>
</tr>
</thead>
<tbody>
<tr>
<td>CN 0138</td>
<td>Plastic Cube Mold 150mm 1gang-standard density g. 1,200</td>
</tr>
<tr>
<td>CN 0139</td>
<td>Plastic Cube Mold 150mm 1gang - high density g. 1,700</td>
</tr>
<tr>
<td>CN 0140</td>
<td>Plastic Cube Mold 100mm. 2 gang</td>
</tr>
<tr>
<td>CN 0141</td>
<td>Plastic Cube Mold 150mm with steel base and handle</td>
</tr>
<tr>
<td>CN 0142</td>
<td>Plastic Cylindrical Mold 150x300mm.</td>
</tr>
<tr>
<td>CN 0143</td>
<td>Plastic Cylindrical Mold 160x320mm.</td>
</tr>
<tr>
<td>CN 0144</td>
<td>Plastic Cylindrical Mold 100x200mm.</td>
</tr>
</tbody>
</table>
Beam Molds

DESCRIPTION:
Steel beam molds are manufactured by dimensions and tolerances stated in the related standards.

There are two types of either heavy-duty plastic or steel.

The steel beam molds are made of Two-part and clamp attached base plate steel molds are designed to be durable, resistant and easy to clean.

The heavy-duty plastic beam mold which is much lighter is built to last a long time.

<table>
<thead>
<tr>
<th>TECHNICAL SPECIFICATIONS:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimensions</td>
</tr>
<tr>
<td>CN 0145 / CN 0149 100x100x400 mm</td>
</tr>
<tr>
<td>CN 0146 / CN 0150 100x100x500 mm</td>
</tr>
<tr>
<td>CN 0147 / CN 0151 150x150x600 mm</td>
</tr>
<tr>
<td>CN 0148 / CN 0152 150x150x750 mm</td>
</tr>
</tbody>
</table>

Ordering:

- Heavy duty

Cube Molds and Tamping Rods

DESCRIPTION:
The cast iron steel cube molds are manufactured from heavy-duty durable material and per the dimensions and tolerances acceptable by the standard.

Each mold is numbered and tested for conformity, supplied with an individual certificate. There are several models and sizes available, 2 parts and 4 parts, 100mm, 150mm, and 200mm.

The Tamping Rod for compacting concrete into cube molds. This rod is made of steel bar it is 25 mm square face x 380 mm long with round side handle

<table>
<thead>
<tr>
<th>TECHNICAL SPECIFICATIONS:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimensions</td>
</tr>
<tr>
<td>CN 0153 100 mm 2 parts</td>
</tr>
<tr>
<td>CN 0154 100 mm 4 parts</td>
</tr>
<tr>
<td>CN 0155 150 mm 2 parts</td>
</tr>
<tr>
<td>CN 0156 150 mm 4 parts</td>
</tr>
<tr>
<td>CN 0157 200 mm 2 parts</td>
</tr>
<tr>
<td>CN 0158 200 mm 4 parts</td>
</tr>
</tbody>
</table>

Ordering:

- Durable, resistant and easy to clean.

- Heavy duty
**Curing Tank**

**DESCRIPTION:**
The Curing Tanks are designed for curing concrete cubes, beams, and cylinders.

The temperature can be adjusted and can be set and maintained to the required value by an electric resistance incorporating as thermoregulator which maintains set temperature between ambient and 65 °C with ± 1 °C accuracy.

The tank is also supplied with a submersible circulator pump to assure good temperature uniformity and a bottom rack.

**TECHNICAL SPECIFICATIONS:**

<table>
<thead>
<tr>
<th>Product Code</th>
<th>Dimensions</th>
<th>Capacity</th>
<th>Weight approx</th>
</tr>
</thead>
<tbody>
<tr>
<td>CN 0161</td>
<td>660 mm x 480 mm x 510 mm</td>
<td>12 x 150 mm cubes</td>
<td>20 kg</td>
</tr>
<tr>
<td>CN 0162</td>
<td>970 mm x 610 mm x 610 mm</td>
<td>24 x 150 mm cubes</td>
<td>25 kg</td>
</tr>
<tr>
<td>CN 0163</td>
<td>1130 mm x 1130 mm x 760 mm</td>
<td>36 mm cubes</td>
<td>60 kg</td>
</tr>
<tr>
<td>CN 0164</td>
<td>1550 mm x 805 mm x 820 mm</td>
<td>64 mm cubes</td>
<td>110 kg</td>
</tr>
</tbody>
</table>

**Melting Pot**

**DESCRIPTION:**
The Melting Pot is mainly used for the melting capping compound.

The apparatus consists of an aluminum container in a well-lagged steel jacket, lid cover and a thermostatic control heater to adjust the temperature constant as required.

**TECHNICAL SPECIFICATIONS:**

<table>
<thead>
<tr>
<th>Product code</th>
<th>Dimensions</th>
<th>Weight (approx.)</th>
<th>Power</th>
</tr>
</thead>
<tbody>
<tr>
<td>CN 0165</td>
<td>350 x 320 x 290 mm</td>
<td>9 kg</td>
<td>600 W</td>
</tr>
</tbody>
</table>

**Melting Pot**

**MAIN FEATURES:**
- Manufactured from rigid material.
- Adjustable temperature
- Circulating pump for temp uniformity.

**ORDERING:**

- CN 0165 Melting Pot 2.5 ltr
- CN 0166 Melting Pot 5 ltr
- CN 0167 Melting Pot 9 ltr

**Melting Pot**

**MAIN FEATURES:**
- Adjustable thermostat
- Complete with cover.

**ORDERING:**

- CN 0161 Small Curing Tank complete
- CN 0162 Medium Curing Tank complete
- CN 0163 Large Curing Tank complete
- CN 0164 Extra Large Curing Tank complete
Capping Compound

DESCRIPTION:
100 kg bag of sulfur-based, flake-form capping compound melts and sets within minutes. The silica-filled compound has 150 psi bond strength, 9000 psi compressible strength, and 605 psi tensile strength. Compound pours between 129 and 143°C. Over-heated material's viscosity is reinstated by decreasing temperature.

TECHNICAL SPECIFICATIONS:

<table>
<thead>
<tr>
<th>Strength Compressive</th>
<th>Strength Tensile</th>
<th>Compound pours</th>
<th>Weight approx.</th>
</tr>
</thead>
<tbody>
<tr>
<td>9000 psi</td>
<td>605 psi</td>
<td>265 and 290°F (129 to 143°C)</td>
<td>22.5 kg</td>
</tr>
</tbody>
</table>

Cylinder Capping Equipment

DESCRIPTION:
The Cylinder Capping Frame is used to assure plane and surfaces perpendicular to the axis of the cylinder during the capping.

Built to last the frame comprising vertical supports mounted on a steel base that can be disassembled for easy machining.

The Cylinder Capping is used in conjunction with flake capping compound and melting pot.

The equipment comes complete with: capping flame with one size capping flat to choose from.

TECHNICAL SPECIFICATIONS:

<table>
<thead>
<tr>
<th>Product</th>
<th>Dimensions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cylinder carriers</td>
<td>50 mm (6&quot;x12&quot;9 and 160x320 mm sizes)</td>
</tr>
<tr>
<td>Melting pot</td>
<td>internal 200 mm dia.160 mm depth external 285 mm dia x 275 mm high</td>
</tr>
<tr>
<td>Capping plate for concrete blocks</td>
<td>500x300 mm, 20 mm thick</td>
</tr>
<tr>
<td>Weight</td>
<td>13 kg</td>
</tr>
</tbody>
</table>
### Steel Retainer Set

**DESCRIPTION:**

Steel Retainer Set is used with neoprene pads (sold separately) in unbounded capping for compressive strength testing of Concrete Cylinders.

They hold and confine the neoprene pads, which are placed at each end of the concrete cylinder before testing.

Steel Retainers are constructed of alloy steel, precisely machined to specified dimensions and are plated inside out to resist corrosion.

Bearing surfaces are plane to within 0.002 in (0.05mm). Sold in sets of 2.

**MAIN FEATURES:**

- Rugged alloy steel construction
- Corrosion-resistant plating inside and out
- Plane bearing surfaces

**ORDERING:**

- **CN 0170** Steel Retainer Set 100mm
- **CN 0171** Steel Retainer Set 150mm
- **CN 0172** Steel Retainer Set 160mm

### Neoprene Pads

**DESCRIPTION:**

Neoprene Pads are available in 50, 60, or 70 durometers for compressive strength testing of concrete cylinders, and meet requirements of ASTM C1231 and AASHTO T 22.

These thick pads flow during compression to fill irregularities in-cylinder ends and assure uniform load distribution.

Two pads are required for testing. Pads are reusable in up to 100 tests and are sold as a pair.

**TECHNICAL SPECIFICATIONS:**

<table>
<thead>
<tr>
<th>Specimen Diameter</th>
<th>Duro Strength</th>
</tr>
</thead>
<tbody>
<tr>
<td>100X20mm/ 150x20mm/160x20mm</td>
<td>50 Duro: 1,500-6,000 psi (10-40 mPa)</td>
</tr>
<tr>
<td></td>
<td>60 Duro: 2,500-7,000 psi (17-50 mPa)</td>
</tr>
<tr>
<td></td>
<td>70 Duro: 4,000-7,000 psi (28-50 mPa)</td>
</tr>
</tbody>
</table>

**ORDERING:**

- **CN 0173** Neoprene Pad in 50 Duro 100X20mm
- **CN 0174** Neoprene Pad in 60 Duro 100X20mm
- **CN 0175** Neoprene Pad in 70 Duro 100X20mm
- **CN 0176** Neoprene Pad in 50 Duro 150X20mm
- **CN 0177** Neoprene Pad in 60 Duro 150X20mm
- **CN 0178** Neoprene Pad in 70 Duro 150X20mm

### ASTM C1231; ASHTO T22

**TECHNICAL SPECIFICATIONS:**

<table>
<thead>
<tr>
<th>Specimen Diameter</th>
<th>Duro Strength</th>
</tr>
</thead>
<tbody>
<tr>
<td>100X20mm/ 150x20mm/160x20mm</td>
<td>50 Duro: 1,500-6,000 psi (10-40 mPa)</td>
</tr>
<tr>
<td></td>
<td>60 Duro: 2,500-7,000 psi (17-50 mPa)</td>
</tr>
<tr>
<td></td>
<td>70 Duro: 4,000-7,000 psi (28-50 mPa)</td>
</tr>
</tbody>
</table>

**ORDERING:**

- **CN 0179** Neoprene Pad in 50 Duro 160X20mm
- **CN 0180** Neoprene Pad in 60 Duro 160X20mm
- **CN 0181** Neoprene Pad in 70 Duro 160X20mm

### AASHTO T 22, ASTM C1231, AASHTO T22,T851

**TECHNICAL SPECIFICATIONS:**

<table>
<thead>
<tr>
<th>Specimen Diameter</th>
<th>Duro Strength</th>
</tr>
</thead>
<tbody>
<tr>
<td>100X20mm/ 150x20mm/160x20mm</td>
<td>50 Duro: 1,500-6,000 psi (10-40 mPa)</td>
</tr>
<tr>
<td></td>
<td>60 Duro: 2,500-7,000 psi (17-50 mPa)</td>
</tr>
<tr>
<td></td>
<td>70 Duro: 4,000-7,000 psi (28-50 mPa)</td>
</tr>
</tbody>
</table>

**ORDERING:**

- **CN 0179** Neoprene Pad in 50 Duro 160X20mm
- **CN 0180** Neoprene Pad in 60 Duro 160X20mm
- **CN 0181** Neoprene Pad in 70 Duro 160X20mm
Concrete bleed water tester

**DESCRIPTION:**
Concrete bleed water tester is used for the determination of the relative quantity of mixing water that will bleed from a sample of freshly mixed concrete.

**TECHNICAL SPECIFICATIONS:**

<table>
<thead>
<tr>
<th>Dimensions</th>
<th>Weight (approx.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>290x255x350 mm</td>
<td>6 kg</td>
</tr>
</tbody>
</table>

ASTM C 232 EN 480-4

**MAIN FEATURES:**
- Heavy Duty material.

**ORDERING:**
- CN 0182
  - Concrete bleed water tester

Concrete electric masonry saw

**DESCRIPTION:**
The Concrete Masonry Saws is ideal for trimming concrete, asphalt and other specimens to the desired size preparing a sample for testing.

It is designed to work in different cutting length and depth which allows cutting pre-cast concrete and blocks very easy and simple.

The Blade can be adjusted to suit several cutting heights in a single pass.

The equipment comes with a heavy duty belt driven by a high efficiency electric motor mounted on robust chassis and re-enforced based frame.

It comes complete with heavy duty water pump for wet cutting and blade cooling, automatic starter, slide rolling conveyor and movable wheels.

**TECHNICAL SPECIFICATIONS:**

<table>
<thead>
<tr>
<th>Motor Voltage</th>
<th>Max. cutting depth</th>
<th>Net weight</th>
<th>Packaging Dimensions</th>
</tr>
</thead>
<tbody>
<tr>
<td>230 V</td>
<td>200 mm</td>
<td>89 kg</td>
<td>1214x839x1374 mm</td>
</tr>
<tr>
<td>230 V</td>
<td>270 mm</td>
<td>128 kg</td>
<td>1543x851x1571 mm</td>
</tr>
<tr>
<td>230 V</td>
<td>420 mm</td>
<td>303 kg</td>
<td>1982x1207x1549 mm</td>
</tr>
</tbody>
</table>

**MAIN FEATURES:**
- Delta motor starter
- Long life and easy cleaning
- High cutting performance
- Heavy duty water pump, High flow to improve blade cooling

**ORDERING:**
- CN 0183
  - Concrete electric masonry saw, max 200
- CN 0184
  - Concrete electric masonry saw, max 270
- CN 0185
  - Concrete electric masonry saw, max 420

**ACCESSORIES:**
- CN 0183-1
  - Saw Blade 200
- CN 0183-2
  - Saw Blade 270
- CN 0183-3
  - Saw Blade 420
**Specimen Grinding machine**

**DESCRIPTION:**
The Grinding machine is used to grind and polish rock and concrete specimens, natural stones, ceramic materials, etc.

The cube and cylinder specimens can be easily locked on the table and the grinding head, 330 mm dia., can be radially moved either manually or automatically in both directions so, the only manual operation requested is the lowering of the grinding head by the top handwheel.

The machine is supplied complete with a safety chip guard that, when removed, stop automatically the machine, with coolant tank, motor pump and one set of abrasive sectors. Diamond grinding sectors are available on request.

The machine is supplied complete with a clamping element for 100, 150 and 200 mm cubes. Clamping devices for cylinders and device for the dry grinding procedure is also available on request.

The Core face preparation jigs can be easily fitted by the clamping element supplied with the machine.

**MAIN FEATURES:**
- To grind concrete specimens, natural stones, tiles, block pavers, ceramic materials etc.
- Large base table for grinding contemporaneously up to three 100 mm cubes, or three 150 mm cubes, or two 200 mm cubes and concrete/tile blocks of various sizes.
- Suitable for cubes up to 200 mm and cylinders up to dia. 160x320 mm.

**TECHNICAL SPECIFICATIONS:**

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Table dimension</td>
<td>775x280 mm</td>
</tr>
<tr>
<td>Grinding wheel dia</td>
<td>330 mm</td>
</tr>
<tr>
<td>Max vertical daylight</td>
<td>350 mm</td>
</tr>
<tr>
<td>Min vertical daylight</td>
<td>145 mm</td>
</tr>
<tr>
<td>Max specimen size cubes</td>
<td>200 mm</td>
</tr>
<tr>
<td>Max specimen size cylinders</td>
<td>160x320 mm</td>
</tr>
<tr>
<td>Grinding head stroke</td>
<td>205 mm</td>
</tr>
<tr>
<td>N of grinding segments</td>
<td>10</td>
</tr>
<tr>
<td>Grinding wheel speed</td>
<td>1400 r.p.m.</td>
</tr>
<tr>
<td>Overall dimensions</td>
<td>1200x1020x1640 mm</td>
</tr>
<tr>
<td>Overall weight approx.</td>
<td>350 kg</td>
</tr>
</tbody>
</table>

There are two models available:

- Standard model in which the radial displacement of the grinding head is motor operated and actuated by a push-button.
- Automatic model in which the radial displacement is fully automatic and controlled by travel limit switches.

**ACCESSORIES:**
- **CN 0186-1** Set of 10 diamond impregnated sectors.
- **CN 0186-2** Accessory to connect an aspirator for drying grinding procedure.
- **CN 0186-3** Clamping device for concrete cylinders from dia. 100x200 mm to 160x320 mm.
- **CN 0186-4** Device for clamping one additional cylindrical specimen from 100 up to 160 mm dia.
- **CN 0186-5** Clamping device for concrete cylinders from 50 to 100 mm dia.
- **CN 0186-6** Large base table for grinding contemporaneously up to three 100 mm cubes, or three 150 mm cubes, or two 200 mm cubes and concrete/tile blocks of various sizes.
Poker Vibrator

**DESCRIPTION:**
The Concrete Poker Vibrator removes air bubbles and settles concrete quickly and effectively. It’s designed to be used in freshly poured concrete, such as slabs, footings, small columns, and masonry blocks.

The powerful vibrations from this compact machine force air bubble out of the concrete, settling it as you watch.

The concrete vibrator can be used vertically, horizontally or at an angle. The 1.5m shaft and rotatable base make it easy to reach the required areas without excessive bending or stooping.

It operates with minimal noise, so you won’t need protection during use.

**TECHNICAL SPECIFICATIONS:**

<table>
<thead>
<tr>
<th>Concrete Vibrator</th>
<th>with 35mm dia Vibrating Poker and 1.5m Hose</th>
</tr>
</thead>
<tbody>
<tr>
<td>Item Weight</td>
<td>6.46 Kg</td>
</tr>
<tr>
<td>Package Dimensions</td>
<td>70 x 25.4 x 8 cm.</td>
</tr>
</tbody>
</table>

Vibrating Table of Concrete

**DESCRIPTION:**
The Vibrating Table is used to compact concrete materials inside cubes, cylinders and beam molds.

It can deliver the vibrating movement controls by Vibro compacting motor with fixed amplitude.

Vibrating tables consist of vibrating motor, control unit, and clamping assembly.

The table is available in two sizes: 610 x 380 mm and 1260 x 620 mm.
Water Absorption

DESCRIPTION:
The Water Absorption set measures the penetration of water into the test surface under applied pressure, can be used to determine the water penetration characteristics of alternative concrete mixtures or surface sealers and also for in-place testing to demonstrate the characteristics of the concrete level of permeation.

The water absorption kit comes complete with:

Pressure chamber unit with 0-1.5 bar* gauge
Wrench for pressure lid, Extra 0-6.0, bar gauge, Water filling cup, Adjustable clamping suppliers, Set of anchoring tools, Wrenches: 14 and 17 mm, Sealant tape, Bottles with boiled water, Gaskets, 10 mm thick, Gaskets, 15 mm thick.

TECHNICAL SPECIFICATIONS:

<table>
<thead>
<tr>
<th>Wrenches</th>
<th>14 and 17 mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pressure chamber unit</td>
<td>0-1.5 bar</td>
</tr>
<tr>
<td>Weight</td>
<td>3 kg</td>
</tr>
</tbody>
</table>

Initial Absorption

DESCRIPTION:
This apparatus is used to assess the surface absorption characteristics of concrete. The rate of flow of water per unit area into a concrete surface when subjected to a constant head of 200 mm is measured.

The unit consists of a capillary tube mounted on a scale, a water reservoir & connecting tubes.

TECHNICAL SPECIFICATIONS:

<table>
<thead>
<tr>
<th>Size</th>
<th>200 mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Material for Construction</td>
<td>Stainless steel, Plastic</td>
</tr>
<tr>
<td>Accuracy</td>
<td>+/- 1%</td>
</tr>
</tbody>
</table>
**DESCRIPTION:**
The Concrete Impermeability Apparatus is used for the determination of the depth of penetration of water to hardened concrete specimens under pressure. 3 and 6 specimen capacity models are available.

The system can test 150x150x150 mm, 200x200x200 mm cube or 150x300 mm cylinder specimens. The pressure to the sample, up to 10 bar with 0.2 bar precision is generated by way of compressed air applied to the integral water tank and controlled by a pressure regulator; with a pressure gauge.

The penetration of water is measured through the buttresses supplied complete with the system.

There are two main models available, it can be with or without quantitative measure. The quantitative model allows you to measure water penetration through individual burettes. The system comprises impermeability gaskets for every cell. The measurement apparatus is supplied as standard either in a 3 or 6 sample model.

**MAIN FEATURES:**
- Quantitative measurements of water penetration.
- Without quantitative measurements of water penetration.
- Accurate readings.
- High performance clamping system.

**ORDERING:**

**ACCESSORIES:**
- **CN 0193**
  Concrete impermeability apparatus with quantitative measure, for 3 places
- **CN 0194**
  Concrete impermeability, Without quantitative measure, for 3 places
- **CN 0195**
  Concrete impermeability, with quantitative measure, for 6 places
- **CN 0196**
  Concrete water impermeability, Without quantitative measure, for 6 places

**TECHNICAL SPECIFICATIONS:**

<table>
<thead>
<tr>
<th>Dimensions</th>
<th>Weight (approx.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1400x750x1850 mm</td>
<td>430 Kg</td>
</tr>
</tbody>
</table>

**EN 12390-8**

www.Geotechnical-equipment.com  Tel: +441908 766 400, 401
Crack Detection Microscope

**DESCRIPTION:**
The Crack Detection Microscope is a precision apparatus, used for measuring cracks in concrete.

It has its adjustable light source for darkened conditions.

The image is focused by turning a knurled knob on the side and the eyepiece scale can be rotated through 360 degrees to align with the crack under examination.

The 4mm range of measurement is divided into 0.02mm divisions.

The Crack Detection Microscope comes complete with a wooden box

<table>
<thead>
<tr>
<th>TECHNICAL SPECIFICATIONS:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Magnification</td>
</tr>
<tr>
<td>Measuring Range</td>
</tr>
<tr>
<td>Subdivision</td>
</tr>
<tr>
<td>Dimensions</td>
</tr>
<tr>
<td>Weight approx</td>
</tr>
</tbody>
</table>

**MAIN FEATURES:**
- It has its own adjustable light source for darkened conditions.

**ORDERING:**
CN 0197
Crack Detection Microscope

Ultrasonic Apparatus, Pundit Lab

**DESCRIPTION:**
An essential tool for investigating the structural integrity of a wide range of materials. This new generation Concrete Ultrasonic can be used in the laboratory or on-site to investigate uniformity, cavities, cracks, fire/frost damage, declamation, deterioration, and strength.

It has memory storage of up to 100 sets of readings and a built-in RS232 serial port for download of data.

**MAIN FEATURES:**
- Measurement performance
- Integrated waveform display
- On-line data acquisition
- USB interface and data analysis software

**ORDERING:**
CN 0198
Ultrasonic Apparatus, Pundit Lab

**ACCESSORIES:**
CN 0198-1
Transder 24 kHz (Two required for operation)
CN 0198-2
Transducer 54 kHz (Two required for operation)
CN 0198-3
Transducer 150 kHz (Two required for operation)

Supplied with a simple software download utility kit and does not require a reference bar as calibration is done by ‘zeroing’. It can calculate and display additional parameters – velocity, pathlength, and Young’s Modulus. It can be set to any pulse repetition frequency from 1 to 100 and has a pulse delay mode which allows the user to take readings at specified intervals from 1 per second up to 99 hours.

Pundit Lab consisting of Display unit, 2 transducers (54kHz), 2 BNC cables 1.5 m, couplant, calibration rod, battery charger with USB-cable, 4x AA(LR6) batteries, data carrier with software, documentation and carrying case.
Construction Scan

DESCRIPTION:
The Construction Scan is used for Detection and location of different defects in reinforced concrete such as Cells, cavities, Foreign inclusions, Cracks, layering, it determines the reinforcement specifications such as Size Occurrence depth, Degree of corrosion, detect the buried wiring, cables and communications lines, the plastic and metal pipelines, the heterogeneities, anomalies and other buried in solid environment (which wood, brick, reinforced concrete, building constructions, soil, etc). It also Discovers the ventilation and communication channels and Detects shelters and covered-up holes.

Construction Scan includes a control processing unit, LCD display, the antenna unit and a power supply unit in one enclosure. The control processing unit provides processing, displaying and saving of the scanning results. The apparatus accumulates information in the internal 2 GB Flash memory card and transfers it to the PC via the USB interface. There is a special marking rug with a bar code for precision 3D scanning of objects.

ArmScan 3D

Specialized software ArmScan is a new solution for automated location of reinforcement, cables, pipes. The software allows users to build the utilities (reinforcement, pipes, etc) in 3D. the user can locate defects, different anomalies, and other objects.

MAIN FEATURES:
- All-in-one GPR system
- 5" colour display
- 3D visualization
- Built-in USB interface
- Internal 2 GB Flash memory card
- Detachable SD-card
- Guiding laser
- Data collection grids (3D system)
- Built-in bar code reader
- Quickly-detachable Li-io battery 15V

ORDERING:
CN 0199 Construction scan model 1
CN 0200 Construction scan model 2

TECHNICAL SPECIFICATIONS:

<table>
<thead>
<tr>
<th></th>
<th>Model 1</th>
<th>Model 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum Penetration depth</td>
<td>1 m</td>
<td>0.6 m</td>
</tr>
<tr>
<td>Maximum Resolution</td>
<td>3 cm</td>
<td>2 cm</td>
</tr>
<tr>
<td>Minimum diameter of detected semiconductor</td>
<td>0.3 mm</td>
<td>0.2 mm</td>
</tr>
<tr>
<td>Maximum Rate of penetration</td>
<td>1m/sec</td>
<td>1m/sec</td>
</tr>
<tr>
<td>Antenna central frequency</td>
<td>1700MHz</td>
<td>2500MHz</td>
</tr>
<tr>
<td>Weight</td>
<td>1.5 kg</td>
<td>1.5 kg</td>
</tr>
<tr>
<td>Dimensions</td>
<td>22x17x14 cm</td>
<td>22x17x14 cm</td>
</tr>
<tr>
<td>Running time</td>
<td>4 hours</td>
<td>4 hours</td>
</tr>
</tbody>
</table>
CONCRETE EQUIPMENT

Crack Meter Angular and Linear

DESCRIPTION:
Crack meters are used to monitor the progress of surface cracks in structural components and buildings caused by subsidence or mechanical failure.

They are composed of two transparent acrylic resin plates, overlapping and able to move relative to each other.

The upper plate is engraved with a reference cross, while the underlying one is marked with a grid in millimeters, both horizontal and vertical, which can be zeroed along its axes.

MAIN FEATURES:
• Static monitoring of cracks
• Low risk applications

ORDERING:
CN 0201
Linear crack meters
CN 0202
Angular crack meters

TECHNICAL SPECIFICATIONS:
| Linear crack meters quantity | 10 pcs |
| Angular crack meters         | 5 pcs  |

Profoscope

DESCRIPTION:
The Profoscope uses electromagnetic pulse induction technology to detect rebars. Coils in the probe are periodically charged by current pulses and thus generate a magnetic field.

The Profoscope uses different coil arrangements to generate several magnetic fields.

Advanced signal processing allows
1. Localization of a rebar
2. Localization of the mid-point between rebars.
3. Determination of the cover
4. Estimation of the bar diameter

MAIN FEATURES:
• Designed for single handed operation
• Intuitive icon-based interface for fast operation
• Rugged water-proof construction

ORDERING:
CN 0203
Profoscope

TECHNICAL SPECIFICATIONS:
| Measuring Range       | Up to 185 mm |
| Cover Measuring Accuracy | ± 1 to 4 mm, depending on cover |
| Diameter Measuring Range       | Up to 63 mm |
| Diameter Measuring Accuracy | ± 1 rebar size |
DESCRIPTION:

The Profometer 630 is the all-in-one solution for rebar assessment and corrosion analysis which increases productivity for civil engineers and inspection companies in charge of assessing the conformity of concrete cover of a new structure (quality check and fire resistance assessment) or dealing with corrosion analysis on Large elements.

Profometer Link PC tool is included with all Profometer Cover Meter and Corrosion units. It is based on an integrated suite enabling the user to process the data coming from rebar detection / concrete cover as well as corrosion potential measurement. The Profometer units can be connected to the PC via USB and the software is fully compatible.

Consisting of Profometer touchscreen, universal probe with ruggedized scan cart, probe cable 1.5 m (5 ft), power supply, USB cable, chalk, DVD with software, documentation, carrying strap and carrying case.

ORDERING:

CN 0204
Profometer 630 complete

<table>
<thead>
<tr>
<th>TECHNICAL SPECIFICATIONS:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cover measuring range</td>
</tr>
<tr>
<td>Cover measuring accuracy</td>
</tr>
<tr>
<td>Path measuring accuracy on smooth surface</td>
</tr>
<tr>
<td>Diameter measuring range</td>
</tr>
<tr>
<td>Diameter measuring accuracy</td>
</tr>
<tr>
<td>Memory Internal</td>
</tr>
</tbody>
</table>
**Resipod Resistivity Meter**

**DESCRIPTION:**
Surface resistivity measurement provides extremely useful information about the state of a concrete structure. Not only has it been proven to be directly linked to the likelihood of corrosion and the corrosion rate, but recent studies have also shown that there is a direct correlation between resistivity and chloride diffusion rate.

ResiPod is a fully integrated 4-point Wenner probe, designed to perform concrete resistivity measurement in a completely non-destructive test. It is the most accurate instrument available, extremely fast and stable and packaged in a robust, waterproof housing designed to operate in a demanding site environment.

Resipod Concrete Resistivity Meter has probe spacing fixed at 38mm as required in AASHTO T 358 or 50mm probe spacing. The wider spacing allows a greater sampling size, but is still narrow enough to avoid interference from reinforcing steel in most cases.

**AASHTO T 358 Provisional Standard TP 95-11**

**MAIN FEATURES:**
- Easy to use, little training required
- Delivers fast, accurate measurement results
- Wide range of resistance measurement, 1 to 1000 kΩcm
- Dedicated Windows-based software
- Charger connects to standard USB computer or laptop ports

**ORDERING:**

| CN 0205 | Resipod resistivity meter complete 38mm Probe Spacing |
| CN 0206 | Resipod resistivity meter complete 50mm Probe Spacing |

**ACCESSORIES:**

| CN 0205-1 | Geometric Accessory (4-Probe Wenner Array Attachment) with adjustable spacing for testing different types of concrete samples and mix designs |
| CN 0205-2 | Replacement Foam Contact Pads |
| CN 0205-3 | Bulk Resistivity Accessory for measuring resistivity 100 x 200mm concrete cylinders |
| CN 0205-4 | Resipod Test Strip to verify performance |

**TECHNICAL SPECIFICATIONS:**

<table>
<thead>
<tr>
<th>Specification</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Range</td>
<td>0–1000 kΩcm (depending on probe spacing)</td>
</tr>
<tr>
<td>Resolution (nominal current 200µA)</td>
<td>±0.2 kΩcm or ±1% (whichever is greater)</td>
</tr>
<tr>
<td>Resolution (nominal current 50µA)</td>
<td>±2 kΩcm or ±5% (whichever is greater)</td>
</tr>
<tr>
<td>Frequency</td>
<td>40 Hz</td>
</tr>
<tr>
<td>Memory</td>
<td>Non volatile 500 measured values</td>
</tr>
<tr>
<td>Power Supply</td>
<td>&gt; 50 hours autonomy</td>
</tr>
<tr>
<td>Charger connection</td>
<td>USB type B, (5V, 100mA)</td>
</tr>
<tr>
<td>Dimensions</td>
<td>197 x 53 x 69.7 mm</td>
</tr>
<tr>
<td>Weight</td>
<td>318 g</td>
</tr>
<tr>
<td>Operating temperature</td>
<td>0° to 50°C</td>
</tr>
<tr>
<td>Storage temperature</td>
<td>-10° to 70°C</td>
</tr>
</tbody>
</table>
Ultrasonic Pulse Velocity

DESCRIPTION:
The Velocity of the Ultrasonic waves in concrete is affected by elastic property or strength.

The equipment applies a high voltage and sends it to transit transducer to generate ultrasonic waves. This ultrasonic wave reaches the receive transducer through concrete. When elastic property or strength of concrete is high, the transit time is short. On the other hand, when the materials are contrary, the velocity is low.

The instrument measures the ultrasonic transit time accurately so it makes it possible to evaluate a material or find elastic properties non-destructively to investigate uniformity, cavities, cracks, fire/frost damage, declamation, deterioration, and strength.

It uses 54 kHz concrete transducers which were designed to send and receive ultrasonic signals effectively in highly attentive materials, including concrete, wood, stone, and plastic.

The Ultrasonic equipment contains:
The main machine
A pair of 54 kHz UT Transducer
RG 58 cable with BNC to XTR-9 Connector
Ultrasonic Couplant
Reference Block
Instruction Manual
Portable Aluminum Bag

BS 1881-203, EN 12504-4; ASTM C597

MAIN FEATURES:
- Excellent accuracy
- Color LCD background changes according to measurement mode
- Perfect in thick and attentive materials
- It is possible to connect 2 to 16 transducers
- Rugged Aluminium case

ORDERING:

ACCESSORIES:

CN 0207-1
A pair of 54 kHz UT Transducer

CN 0207-2
RG 58 cable with BNC to XTR-9 Connector

CN 0207-3
Ultrasonic Couplant

CN 0207-4
Reference Block

www.Geotechnical-equipment.com Tel: +441908 766 400, 401
Mechanical Strain Gauge

DESCRIPTION:
The mechanical strain gauge allows strain measurement to be made at different parts of a structure using a single instrument that comes with a digital gauge.

A fixed conical point is mounted at one end of the bar, and a moving conical point is mounted on a knife-edge pivot at the opposite end. A setting out bar is used to position pre-drilled stainless steel discs which are attached to the structure using a suitable adhesive.

The mechanical strain gauge is available in several sizes 100, 150 200, 250 and 300 mm.

TECHNICAL SPECIFICATIONS:

<table>
<thead>
<tr>
<th>Accuracy</th>
<th>Repeatability</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.001 mm type M 0.01 mm series C</td>
<td>0.001 mm e 0.01 mm</td>
</tr>
</tbody>
</table>

MAIN FEATURES:
- Manual single axis measurement of change in cracks
- Able to measure distance between two measurement points to a precision of 1 micron

ORDERING:
- CN 0208 Mechanical strain gauge 100 mm
- CN 0209 Mechanical strain gauge 150 mm
- CN 0210 Mechanical strain gauge 200 mm
- CN 0211 Mechanical strain gauge 250 mm
- CN 0212 Mechanical strain gauge 300 mm

BS 1881-206
Concrete Test Hammer

DESCRIPTION:
The Concrete Test Hammer is the traditional instrument used for the non-destructive testing of hardened concrete. This easy-to-use instrument provides a quick and simple test for obtaining an immediate indication of concrete strength in various parts of a structure. The verifiable strength is between 5 and 120N/mm²

There are four models available:

• Concrete test hammer normal type complete with carrying case, PSI curve, and carborundum stone.

• Concrete test hammer new shape comes complete with carrying case, PSI curve carborundum stone, Plastic grid 30x30 cm, Pencil, Fenolfteleina 100ml, Paper note, Operating manual and Calibration report


ORDERING:
CN 0213
New Shape Concrete Hammer
CN 0214
Rock Concrete Hammer
CN 0215
Normal Concrete Hammer
CN 0216
Digital Concrete Hammer
CN 0217
Calibration anvil

TECHNICAL SPECIFICATIONS:

<table>
<thead>
<tr>
<th>Range of Measurement</th>
<th>Impact energy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rock</td>
<td>10-200 N/mm²</td>
</tr>
<tr>
<td>Normal</td>
<td>5-120 N/mm²</td>
</tr>
<tr>
<td>Digital</td>
<td>5-120 N/mm²</td>
</tr>
</tbody>
</table>

The test Anvil, on the other hand, is an essential semi-spherical steel block made of hard steel C45 with a diameter of about 150 mm and 150 mm in height. A semi-spherical shape which mirrors the rebound hammer strike piston surface has been created on one of the two flat surfaces.

The shaped surface where the impact occurs is characterized by a surface hardness no less than 52 HRC, the weight of this cylinder is 16Kg ±0.5 in full compliance with reference standards
Covermter

DESCRIPTION:
The covermeter provides rebar location, sizing and cover measurement in a single weather-resistant instrument. For immediate results on-site, the onscreen gauge and audio feedback rapidly pin-point rebar location and orientation.

The Micro Covermeter is a developed model with a newly designed probe believed to incorporate the most accurate depth and bar size determination routines available.

Combined with extremely good resolution of multiple bars, sets the unit apart from others and sets the benchmark for covermeter surveying.

The Covermeter kit comes complete with:

- Probe with integral cable
- Battery charger
- Spare probe sole-plate
- Certificate of Conformity
- Light & tough equipment bag

MAIN FEATURES:

- Fast, accurate measurement of concrete cover
- Quick, clear indication of rebar location
- Automatic measurement of bar size
- Rapid area scanning for low-cover
- Built-in data logging

ORDERING:
CN 0218
Standard Covermeter kit

ACCESSORIES:
CN 0218-1
Probe with integral cable
CN 0218-2
Battery charger
CN 0218-3
Spare probe sole-plate
CN 0218-4
Light & tough equipment bag

TECHNICAL SPECIFICATIONS:

<table>
<thead>
<tr>
<th>Cover Range</th>
<th>Accuracy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cover measurement</td>
<td>5 mm – 185 mm</td>
</tr>
<tr>
<td>Accuracy</td>
<td>± 1 mm up to 60 mm depth</td>
</tr>
<tr>
<td></td>
<td>± 2 mm up to 120 mm depth</td>
</tr>
<tr>
<td></td>
<td>± 3 mm up to 160 mm depth</td>
</tr>
<tr>
<td></td>
<td>± 4 mm over 160 mm depth</td>
</tr>
</tbody>
</table>

Operating Weight (instrument+probe+cable) 800 g
Battery Operation 20 hrs
**DESCRIPTION:**

The Rapid Chloride Permeability apparatus is a laboratory test device for the measurement of the electrical resistance of concrete against the penetration of chloride (RCPT) according to the standard methods such as ASTM C1202, AASHTO T277, and ASTM C1760.

The measurement data can be used to estimate the chloride diffusion coefficient of concrete for the service life prediction and design of concrete structures as well as the durability-based quality control of the concrete.

In concrete materials, the DC electrical resistance of concrete is correlated with important durability parameters of concrete such as chloride diffusion coefficient and the chloride migration coefficient that are used for the durability design or service life design of concrete structures.

The set comes complete with:
- 4 set of test cells
- 4 set of temperature sensors
- 4 pairs of test cables
- Power cord
- USB cable
- User manual
- Standard Sample Preparation Package.

**TECHNICAL SPECIFICATIONS:**

<table>
<thead>
<tr>
<th>Specifications</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Testing up to</td>
<td>4 cells simultaneously</td>
</tr>
<tr>
<td>Voltage settings in 5 V increments</td>
<td>5 to 60 VDC</td>
</tr>
</tbody>
</table>

**MAIN FEATURES:**

- Digital Readout and logging system
- Stand alone operation
- Easy-to-assemble
- Accurate (±0.1 mA)
- Flexible logging interval time (1 to 10 min)
- Four measurement channels

**ORDERING:**

**ACCESSORIES:**

- **CN 0219**
  - Rapid Chloride Permeability test set
- **CN 0219-1**
  - Test Cell
- **CN 0219-2**
  - Stainless Steel Mesh - Pair
- **CN 0219-3**
  - Sample Prep Package
- **CN 0219-4**
  - Rubber Gasket Cast – Pair
- **CN 0219-5**
  - Test Cable Set
- **CN 0219-6**
  - Temperature Sensor
**Carbonation Depth Determination**

**DESCRIPTION:**
Carbonation is a precursory condition for corrosion, which will take place when there are oxygen and water present. Preventing carbonation is the only possible way of preventing the decay of a reinforced concrete structure. Therefore, carbonation test is used to establish the depth of carbonation.

The test is based on collecting the powder, after analysis of the powder, making use of the chemical color change of phenolphthalein.

**TECHNICAL SPECIFICATIONS:**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hole Depth</td>
<td>40 cm</td>
</tr>
<tr>
<td>Hole Diameter</td>
<td>10 mm</td>
</tr>
<tr>
<td>Phenolphthalein: Sensitivity</td>
<td>pH 8.3 to pH 10.0</td>
</tr>
<tr>
<td>Dimensions</td>
<td>390x340x140 mm</td>
</tr>
<tr>
<td>Weight approx.</td>
<td>3 Kg</td>
</tr>
</tbody>
</table>

Kit is complete with:
- 1 no. picker to collect the powder.
- 25 no. test tubes
- 1 no. measuring ruler
- 1 no. bottle of 1% solution of phenolphthalein
- 1 no. Pasteur pipette
- 1 no. cartridge
- 1 no. block of survey sheets

**Rebar Pull Out Force Test**

**DESCRIPTION:**
The Apparatus is used for determining the bond strength between anchored reinforcing steel bar (rebar) and concrete and for checking anchorage performance in-situ.

Digital Readout Unit connected to a 30 tons capacity hydraulic jack and hand pump provides 1% sensitive load or tensional strength value readings.

The Digital Rebar Pull-Out Force Tester has a steel hydraulic cylinder. For ease of handling.

The apparatus is supplied complete with three different jaw sets which allow the user to test anchorage rebar with different diameters. These jaws are made of high strength steel. The three-jaw sets are for 4-8 mm, 10-20 mm and 20-32 mm dia. rebars.

## EN 13295 ; UNI 9944

**MAIN FEATURES:**
- Innovative, easy to use and portable.

**ORDERING:**
- **CN 0220** Carbonation Depth Determination kit.

**ACCESSORIES:**
- **CN 0220-1** 1 no. picker to collect the powder.
- **CN 0220-2** 25 no. test tubes
- **CN 0220-3** 1 no. bottle of 1% solution of phenolphthalein
- **CN 0220-4** 1 no. Pasteur pipette
- **CN 0220-5** 1 no. cartridge
- **CN 0220-6** 1 no. block of survey sheets

**ASTM C1583/D4541/D7234/D7522, ISO 4624/16276-1, BS EN 12004-2, AS/NZS 1580.408.5**

**ORDERING:**
- **CN 0221** Rebar Pull Out Force Test complete

**ACCESSORIES:**
- **CN 0221-1** Jaw set
Rebar Pull Out Force Test

**ASTM C1583/D4541/D7234/D7522, ISO 4624/16276-1, BS EN 12004-2, AS/NZS 1580.408.5**

**TECHNICAL SPECIFICATIONS:**

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Working ability</td>
<td>30 tons</td>
</tr>
<tr>
<td>Rebar diameters can be tested</td>
<td>Up to 32 mm</td>
</tr>
<tr>
<td>Tension journey (stroke)</td>
<td>50 mm</td>
</tr>
<tr>
<td>Dimensions</td>
<td>205x175x175 mm</td>
</tr>
<tr>
<td>Weight (approx.)</td>
<td>28 kg</td>
</tr>
</tbody>
</table>

**DESCRIPTION:**

Bond Strength Pull off tester is used to measure the adhesion of coatings to metal, wood, concrete.

It measures the force required to pull a specified test diameter of coating away from its substrate using hydraulic pressure.

The pressure is displayed on a precision digital indicator and can be related to the strength of adhesion to the substrate.

There are 2 models available:

- Manual Hydraulic pump with:
  - Digital Read-out
- Automatic Electronically controlled Hydraulic pump with Digital Read-out

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Bond Strength/Pull Off Test Digital

**ASTM C1583/D4541/D7234/D7522, ISO 4624/16276-1, BS EN 12004-2, AS/NZS 1580.408.5**

**MAIN FEATURES:**

- Portable requires no external power source
- Can be used in any position
- Self-aligning dolly enables accurate measurements on smooth or uneven surfaces
- Sealed USB port for fast, simple connection to a PC

**DESCRIPTION:**

Bond Strength Pull off tester is used to measure the adhesion of coatings to metal, wood, concrete.

It measures the force required to pull a specified test diameter of coating away from its substrate using hydraulic pressure.

The pressure is displayed on a precision digital indicator and can be related to the strength of adhesion to the substrate.

There are 2 models available:

- Manual Hydraulic pump with:
  - Digital Read-out
- Automatic Electronically controlled Hydraulic pump with Digital Read-out
The Bond Strenght Pull off tester comes complete with all accessories.

<table>
<thead>
<tr>
<th>Ordering guide</th>
<th>50 mm Kit</th>
<th>50 x 50 mm Tile Kit (BS EN 12004-2)</th>
<th>50 mm C1533 Kit (ASTM C1583)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Typical application</td>
<td>Lower bond strength coatings on wood, concrete and plastic</td>
<td>Cementitious adhesive for tiles</td>
<td>Concrete surfaces and overlays</td>
</tr>
<tr>
<td>Manual model with protective case</td>
<td>0.4 – 3.3 MPa 50 – 480 psi</td>
<td>0.4 – 2.585 MPa 50 – 375 psi</td>
<td>0.4 – 3.3 MPa 50 – 480 psi</td>
</tr>
<tr>
<td>Automatic Models with protective case</td>
<td>0.4 – 3.8 MPa 50 – 560 psi 100 – 7550 N</td>
<td>0.4 – 3.033 MPa 50 – 440 psi 100 – 7550 N</td>
<td>0.4 – 3.8 MPa 50 – 560 psi 100 – 7550 N</td>
</tr>
<tr>
<td>Typical Application</td>
<td>Lower bond strength coatings on wood, concrete and plastic</td>
<td>Cementitious adhesive for tiles</td>
<td>Concrete surfaces and overlays</td>
</tr>
<tr>
<td>Included Dollies</td>
<td>Ø50 mm (qty 8) Aluminum</td>
<td>50 x 50 mm Plate (qty 4) with threaded post Steel</td>
<td>Ø50 mm (qty 4) with &gt;25 mm thickness Steel</td>
</tr>
<tr>
<td>Cutting Tool</td>
<td>50 mm hole saw</td>
<td>-----</td>
<td>50 mm diamond grit hole saw with arbor</td>
</tr>
</tbody>
</table>

**ORDERING:**

| CN 0222 | Adhesion Tester Manual Model 50 mm kit |
| CN 0223 | Adhesion tester Automatic Model 50 mm kit |
| CN 0224 | Adhesion Tester Manual Model 50X50 mm (BS EN 12004-2)Tile Kit |
| CN 0225 | Adhesion Tester Automatic Model 50X50 mm (BS EN 12004-2)Tile Kit |
| CN 0226 | Adhesion Tester Manual Model 50 mm C1533 Kit |
| CN 0227 | Adhesion Tester Automatic Model 50 mm C1533 Kit |

**ACCESSORIES:**

| CN 0222-1 | Dollies Ø50 mm |

**COLUMN LOAD CELL**

**DESCRIPTION:**

The high accuracy column load cell is designed for use in applications where precise compression measurement of mid to high loads and forces is required.

The majority of high accuracy canister load cells that we manufacture are used as reference standards for the calibration or verification of other force transducers and testing machines such as compression testers.

The high accuracy column load cell can be supplied with a calibration certificate issued by a UKAS laboratory or the National Physical Laboratory (NPL) if required.

**MAIN FEATURES:**

- Capacities 500 KN to 3000 KN

**ORDERING:**

| CN 0228 | Column Load Cell 500 |
| CN 0229 | Column Load Cell 1000 |
| CN 0230 | Column Load Cell 2000 |
| CN 0231 | Column Load Cell 3000 |

**TECHNICAL SPECIFICATIONS:**

- Weight (approx.)
  - 3kg
Handheld Load Cell Indicator

DESCRIPTION:
The handheld load cell indicator is a high-resolution handheld load cell indicator designed to work with all types of load cell and strain gauge based transducer.

The handheld load cell indicator’s dual-range facility allows for calibration in two different engineering units, i.e. Newton and kg. Alternatively, it is possible to calibrate two separate load cells or sensors with a single handheld load cell indicator display.

TECHNICAL SPECIFICATIONS:

<table>
<thead>
<tr>
<th>Dimensions</th>
<th>Weight</th>
<th>Depth</th>
<th>Height</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>90 mm</td>
<td>34 mm</td>
<td>152 mm</td>
</tr>
</tbody>
</table>

MAIN FEATURES:
- Portable for On-Site Monitoring
- Simple to Use
- Calibrate 2 Individual Load Cells

ORDERING:

CN 0232
The Handheld Load Cell Indicator

CN 0233
The Wireless Handheld Load Cell Indicator

Compressometer

DESCRIPTION:
Concrete Compressometers are used to determine the deformation (both axial and diametrical) of concrete cylinder specimens during the compression test.

There are 4 different models available for Ø4”x8” or Ø100x200 mm cylinders, Ø6”x12” or Ø150x300 mm.

The apparatus work in conjunction with a Data Logger ordered separately.

Compressometer Ø4”x8” or Ø100x200 mm cylinders comes complete with 2 transducers.
Compressometer Ø6”x12” or Ø150x300 mm cylinders comes complete with 2 transducers.
Compressometer Ø4”x8” or Ø100x200 mm cylinders comes complete with 2 dial gauge.
Compressometer Ø6”x12” or Ø150x300 mm cylinders comes complete with 2 dial gauge.

TECHNICAL SPECIFICATIONS:

| Weight (approx.) | 1kg |

ASTM C469

ORDERING:

CN 0234
Compressometer Ø100x200 mm with 2 transducers.

CN 0235
Compressometer Ø150x300 mm cylinders with 2 transducers.

CN 0236
Compressometer Ø100x200 mm cylinders with 2 dial gauge.

CN 0237
Compressometer Ø150x300 mm cylinders with 2 dial gauge.

ACCESSORIES:

CN 0234-1
Digital dial Gauge

CN 0234-2
LVDT displacement and position transducer

CN 0234-3
Data Acquisition 4 Channels

CN 0234-4
Data Acquisition 8 Channels

CN 0234-5
Connection wires
Concrete Embedded Strain Gauge

DESCRIPTION:
The Concrete-embedded Strain Gauge is designed to measure shrinkage and stress of cement and concrete materials.

The Strain Gauge is connected to the Datalogger using the thermocouple wire.

There are several forms and shapes of a strain gauge that can be ordered, please consult with our sales team for available options.

MAIN FEATURES:
• Strain Gauge for Static and Dynamic Applications
• Very Flexible, Mechanically Strong
• Broad Temperature Range

ORDERING:
CN 0238
Concrete-embedded Strain Gauge

ACCESSORIES:
CN 0238-1
Thermocouple wire

Compression Testing Machine

DESCRIPTION:
The Compression Testing Machine is a very common testing method that is used to establish the compressive force or crush resistance of a material and the ability of the material to recover after a specified compressive force is applied and even held over a defined period of time by measuring fundamental variables, such as, strain, stress, and deformation.

There are several models and capacities available for the compression test machine designed to meet the need for reliable and consistent testing of concrete samples.

Ranging from Full automatic or Semi-automatic, hydraulic controlled or servo-controlled. Designed to meet all standards requirements, BE, EN, ASTM.

Our range of compression machines vary from 1500 KN up to 5000 KN compression capacity.

The compression frame can be purchased separately or with a hydraulic or servo-controlled power pack.

The Control Power Pack, in turn, can be connected to another frame, such as a flexural machine or another compression machine. Additional accessories such as distance pieces, Printer connection, software, block testing assembly, rail.

EN 12390-3, 4, 5,6; EN 12504-1, 1354, 1521, 13161, 1338, 1340, 196, 772-1, -6, 13286-41, BS 1881 3892-3, 187, 6073-1, 6717 ASTM C39

MAIN FEATURES:
• Designed for reliable and consistent testing of a wide range of specimens.
• User-friendly design enable an inexperienced operator to perform the test.
GEOTECHNICAL TESTING EQUIPMENT

Compressional Testing Machine

TECHNICAL SPECIFICATIONS:

<table>
<thead>
<tr>
<th></th>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>CN 0239-CN 0249</td>
<td>1500 kN</td>
<td>EN 12390-4</td>
<td>Ø300 mm</td>
<td>Ø300 mm</td>
<td>340 mm</td>
<td>300 mm</td>
<td>50 mm</td>
<td>385 mm</td>
<td>280 Bar</td>
<td>CN 0259</td>
<td>CN 0269/CN 0270</td>
</tr>
<tr>
<td>CN 0240-CN 0250</td>
<td>2000 kN</td>
<td>EN 12390-4</td>
<td>Ø300 mm</td>
<td>Ø300 mm</td>
<td>340 mm</td>
<td>300 mm</td>
<td>50 mm</td>
<td>385 mm</td>
<td>280 Bar</td>
<td>CN 0260</td>
<td>CN 0269/CN 0270</td>
</tr>
<tr>
<td>CN 0241-CN 0251</td>
<td>3000 kN</td>
<td>EN 12390-4</td>
<td>Ø300 mm</td>
<td>Ø300 mm</td>
<td>340 mm</td>
<td>300 mm</td>
<td>50 mm</td>
<td>385 mm</td>
<td>310 Bar</td>
<td>CN 0261</td>
<td>CN 0269/CN 0270</td>
</tr>
<tr>
<td>CN 0242-CN 0252</td>
<td>4000 kN</td>
<td>EN 12390-4</td>
<td>Ø300 mm</td>
<td>Ø300 mm</td>
<td>340 mm</td>
<td>300 mm</td>
<td>50 mm</td>
<td>385 mm</td>
<td>315 Bar</td>
<td>CN 0262</td>
<td>CN 0269/CN 0270</td>
</tr>
<tr>
<td>CN 0243-CN 0253</td>
<td>5000 kN</td>
<td>EN 12390-4</td>
<td>Ø300 mm</td>
<td>Ø300 mm</td>
<td>340 mm</td>
<td>300 mm</td>
<td>50 mm</td>
<td>385 mm</td>
<td>350 Bar</td>
<td>CN 0263</td>
<td>CN 0269/CN 0270</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td>CN 0244-CN 0254</td>
<td>1500 kN</td>
<td>ASTM C39</td>
<td>Ø300 mm</td>
<td>Ø300 mm</td>
<td>370 mm</td>
<td>300 mm</td>
<td>50 mm</td>
<td>385 mm</td>
<td>280 Bar</td>
<td>CN 0264</td>
<td>CN 0269/CN 0270</td>
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<tr>
<td>CN 0245-CN 0255</td>
<td>2000 kN</td>
<td>ASTM C39</td>
<td>Ø300 mm</td>
<td>Ø300 mm</td>
<td>370 mm</td>
<td>300 mm</td>
<td>50 mm</td>
<td>385 mm</td>
<td>280 Bar</td>
<td>CN 0265</td>
<td>CN 0269/CN 0270</td>
</tr>
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<td>CN 0246-CN 0256</td>
<td>3000 kN</td>
<td>ASTM C39</td>
<td>Ø300 mm</td>
<td>Ø300 mm</td>
<td>370 mm</td>
<td>300 mm</td>
<td>50 mm</td>
<td>385 mm</td>
<td>310 Bar</td>
<td>CN 0266</td>
<td>CN 0269/CN 0270</td>
</tr>
<tr>
<td>CN 0247-CN 0257</td>
<td>4000 kN</td>
<td>ASTM C39</td>
<td>Ø300 mm</td>
<td>Ø300 mm</td>
<td>370 mm</td>
<td>300 mm</td>
<td>50 mm</td>
<td>385 mm</td>
<td>315 Bar</td>
<td>CN 0267</td>
<td>CN 0269/CN 0270</td>
</tr>
<tr>
<td>CN 0248-CN 0258</td>
<td>5000 kN</td>
<td>ASTM C39</td>
<td>Ø300 mm</td>
<td>Ø300 mm</td>
<td>370 mm</td>
<td>300 mm</td>
<td>50 mm</td>
<td>385 mm</td>
<td>350 Bar</td>
<td>CN 0268</td>
<td>CN 0269/CN 0270</td>
</tr>
</tbody>
</table>

The full automatic models come with a complete automatic test cycle, a closed-loop digital readout unit. Once the specimen parameters have been introduced, it is sufficient to press the START button to complete the test.

Full automatic compression machines consist of their main parts: Frame, power pack and data acquisition control system.

The compression machines consist of a heavy-duty frame, 4 columns or welded type, depending on the standard required. Connected to the automatic hydraulic power pack with data acquisition and digital control system.

The digital control system Button type or touch screen models are also available, depending on the user preference.

The Full automatic compression machine can be fully controlled and operated from a PC connected directly to the machine. A small printer’s connection is also available for a quick printout.
DESCRIPTION:
The dual stage power pack which controlled by the control system is designed to supply the required oil pressure to the frame.

The Semi-automatic models come with a complete valve controlled test cycle, There are two valves on the oil tank. One valve is the pacing rate control valve. It is used for controlling the pacing rate. When you push it forward, the pacing rate increases fast.

To make fine-tuning, the top valve is turned clockwise to increase the load in a small amount or counter-clockwise direction to decrease.

The Semi-automatic compression machines consist of their main parts: Frame, power pack with valve control and digital readout unit.

The valve control power pack is designed to supply the required oil pressure to the frame. The very silent power pack can load specimens between 1KN/sec to 20KN/sec. On all power packs, the maximum pressure valve is used to avoid machine overloading.

The very silent power pack can load specimens between 1KN/sec to 20KN/sec. On the dual-stage pump, a high delivery low-pressure pump is used for rapid approach and delivery high-pressure radial piston pump is used for test execution. On all power packs, the maximum pressure valve is used to avoid machine overloading.

The Servo controlled hydraulic pack is an advanced system that can very accurately control the speed loading rate.

The user has full control of the load cycle before or during the test. In a way that you can set the machine preplanned cycle or change speed, even hold the load during the test cycle for a period of time.

The servo-controlled hydraulic system comes complete with a digital touch screen control system and data acquisition that can send the result either by blue tooth, email, printout or save.
The shaped surface where the impact occurs is characterized by a surface hardness no less than 52 HRC, the weight of this cylinder is 16Kg ±0.5 in full compliance with reference standards.

• Pace rate control from 0.01 kN/s to 100kN/s (depend on the specimen stiffness)
• Extra channels for displacement transducers, extensometers, etc.
• built in the system as an addition to frame loadcell (pressure transducer) or displacement transducer
• Ethernet port for connecting to computer
• 240x320 pixel LCD digital display, Touchscreen operator panel, Can control 2 frames
• Can execute load, displacement or strain controlled tests.
• Free of charge PC software for test control and advanced report printout
• Multiple language support
• Real time clock/date

MAIN FEATURES:

ORDERING:

CN 0239
Full Auto Compression Machine, 1500KN, EN
CN 0240
Full Auto Compression Machine, 2000KN, EN
CN 0241
Full Auto Compression Machine, 3000KN, EN
CN 0242
Full Auto Compression Machine, 4000KN, EN
CN 0243
Full Auto Compression Machine, 5000KN, EN
CN 0244
Full Auto Compression Machine, 1500KN, ASTM
CN 0245
Full Auto Compression Machine 2000KN, ASTM
CN 0246
Full Auto Compression Machine, 3000KN, ASTM
CN 0247
Full Auto Compression Machine, 4000KN, ASTM
CN 0248
Full Auto Compression Machine, 5000KN, ASTM
CN 0249
Semi Automatic Compression Machine, 1500KN, EN
CN 0250
Semi Automatic Compression Machine, 2000KN, EN
CN 0251
Semi Automatic Compression Machine, 3000KN, EN
CN 0252
Semi Automatic Compression Machine, 4000KN, EN
CN 0253
Semi Automatic Compression Machine, 5000KN, EN
CN 0254
Semi Automatic Compression Machine, 1500KN, ASTM
CN 0255
Semi Automatic Compression Machine, 2000KN, ASTM
CN 0256
Semi Automatic Compression Machine, 3000KN, ASTM
CN 0257
Semi Automatic Compression Machine, 4000KN, ASTM
CN 0258
Semi Automatic Compression Machine, 5000KN, ASTM
CN 0259
Frame 1500KN, EN
CN 0260
Frame 2000KN, EN
CN 0261
Frame 3000KN, EN
CN 0262
Frame 4000KN, EN
CN 0263
Frame 5000KN, EN
CN 0264
Frame 1500KN, ASTM
CN 0265
Frame 2000KN, ASTM
CN 0266
Frame 3000KN, ASTM
CN 0267
Frame 4000KN, ASTM
CN 0268
Frame 5000KN, ASTM
CN 0269
Full Automatic Hydraulic Power Pack, Rapid approach pump, data acquisition and control system, Digital display, pressure transducers sensors. The unit can be used for 2 frames.
CN 0270
Semi Automatic Power pack, variable output pump, Rapid approach pump, pressure transducer, digital readout unit.
CN 0271
Full Automatic Servo Hydraulic Power Pack, Rapid approach pump, data acquisition and control system, Digital display, pressure transducers sensors. The unit can be used for 4 frames.
Block Test Platens Sliding

DESCRIPTION:
The Block Platens 460x280x65 mm with Sliding Rail Assembly are installed on the compression testing machines for testing concrete blocks and other structural materials. The Sliding Rail Assembly allows the platens to be easily installed without removing the existing compression platens. This assembly should be factory installed.

Block Platen Lifting Assembly is used for easy removal of the lower platen and easy replacement of the distance pieces between the piston and the lower platen without lifting the heavy platform or causing injury.

TECHNICAL SPECIFICATIONS:

<table>
<thead>
<tr>
<th>Dimensions</th>
<th>Weight (approx.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>500x300x150 mm</td>
<td>175 kg</td>
</tr>
</tbody>
</table>

Splitting Tensile Device

DESCRIPTION:
The Splitting Tensile Device consists of two column steel frame with a self-centering base specimen holder and an upper load beam suspended with springs for easy adjustment of the specimen. The devices can be easily placed on the lower platen of the compression tester using suitable distance pieces to adjust the vertical daylight. The device have to be completed with the packing strips to be inserted between the specimen and the load beams.

CN 0275 is used for splitting tensile tests on cylindrical specimens. CN 0276 is used for splitting tensile tests on concrete block pavers and concrete cubes.

For both models, the max total height is 370 mm. The 370 mm vertical daylight can easily obtain removing the lower platen of the compression tester.

TECHNICAL SPECIFICATIONS:

<table>
<thead>
<tr>
<th>Dimensions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cylindrical Specimens</td>
</tr>
<tr>
<td>Concrete Block Pavers</td>
</tr>
<tr>
<td>Concrete Cubes</td>
</tr>
</tbody>
</table>
Flexural Test Equipment

**DESCRIPTION:**
The Flexural test equipment is used to test flexural strength of concrete beams, kerbs, interlocking pavers, flagstones and blocks of different sizes.

The flexural test equipment ranges from 100 kN to 300 kN capacity, it has been designed for reliable and consistent testing due to its heavy steel fabrication and design.

The flexural test equipment comes in two types of frames, the U type and the C type frame. Both very rigid design is ideal either for a conventional flexural test or for more sophisticated tests such as deformability and ductility index.

The Flexural machines feature the complete automatic test cycle with a closed-loop digital readout. Once the specimen parameter has been introduced, it is sufficient to press the START button to complete the test.

The Flexural Frame can be connected to any Geotechnical compression machine as a second frame or can be used individually with any power pack as an independent Flexural Machine.

Flexural test assemblies should be ordered separately.

- Bearers for flexure test on flagstones and kerbs to EN 1339 and 1340. Consist of two lower rollers of 20 mm dia. x 600 mm length and upper load point of 40 mm dia with ball seating
- Bearers for flexural test on concrete blocks Consist of two lower rollers and one upper roller of 20 mm dia. x 600 mm length
- Bearers for flexural test on concrete beams of 100x100x400-500 mm, 150x150x600-750 mm. Consist of two upper rollers and two lower rollers of 40 dia and 160 mm length. Complying to EN 12390-5 and ASTM C78.

The distance of the lower bearers can be adjusted between 100mm and 800mm. The distance between upper bearers can be set to 100mm or 150 mm.

During the 3 point Flexural testing one of the bearers can be removed and the other placed in the centre.

**MAIN FEATURES:**
- 2 different designs
- 4 different capacities
- Safety limit switch for 100 or 120 mm piston stroke
- High accuracy load measurement with strain gauge load cells
- Accept a wide range of assemblies to satisfy all tests
- Can be connected to compression machine or power pack

**TECHNICAL SPECIFICATIONS:**

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
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</thead>
<tbody>
<tr>
<td>Max. Vertical Clearance</td>
<td>425 mm (without accessories)</td>
</tr>
<tr>
<td>Max. Horizontal Clearance</td>
<td>650 mm</td>
</tr>
<tr>
<td>Max. Clearance Between Lower Rollers</td>
<td>900 mm</td>
</tr>
<tr>
<td>The Distance Between The Center of The Piston to The Side of The Frame</td>
<td>320 mm</td>
</tr>
<tr>
<td>Overall Dimensions</td>
<td>1000x950x1250 mm</td>
</tr>
<tr>
<td>Weight (approx.)</td>
<td>425 kg</td>
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### ACCESSORIES:

<table>
<thead>
<tr>
<th>Flexural Testing Machine</th>
<th>CN 0278-1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bearers for flexure test on flagstones and kerbs</td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Flexural Testing Machine</th>
<th>CN 0278-2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bearers for flexure test on concrete blocks</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Flexural Testing Machine</th>
<th>CN 0278-3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flexural Test assembly on Concrete Beams</td>
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</table>

### ORDERING:

<table>
<thead>
<tr>
<th>CN 0278</th>
<th>Flexural Testing Machine, 100 kN capacity U Type Frame</th>
</tr>
</thead>
<tbody>
<tr>
<td>CN 0279</td>
<td>Flexural Testing Machine, 150 kN capacity U Type Frame</td>
</tr>
<tr>
<td>CN 0280</td>
<td>Flexural Testing Machine, 200 kN capacity U Type Frame</td>
</tr>
<tr>
<td>CN 0281</td>
<td>Flexural Testing Machine, 300 kN capacity U Type Frame</td>
</tr>
<tr>
<td>CN 0282</td>
<td>Flexural Testing Machine, 100 kN capacity C Type Frame</td>
</tr>
<tr>
<td>CN 0283</td>
<td>Flexural Testing Machine, 150 kN capacity C Type Frame</td>
</tr>
<tr>
<td>CN 0284</td>
<td>Flexural Testing Machine, 200 kN capacity C Type Frame</td>
</tr>
<tr>
<td>CN 0285</td>
<td>Flexural Testing Machine, 300 kN capacity C Type Frame</td>
</tr>
</tbody>
</table>

| Full Automatic Hydraulic Power Pack, Rapid approach pump, data acquisition and control system, Digital display, pressure transducers sensors. The unit can be used for 2 frames. |
| Semi Automatic Power pack, variable output pump, Rapid approach pump, pressure transducer, digital readout unit. |

| Full Automatic Servo Hydraulic Power Pack, Rapid approach pump, data acquisition and control system, Digital display, pressure transducers sensors. The unit can be used for 4 frames. |

### ACCESSORIES:

| CN 0278-1 | Bearers for flexure test on flagstones and kerbs |
| CN 0278-2 | Bearers for flexure test on concrete blocks |
| CN 0278-3 | Flexural Test assembly on Concrete Beams |