CECB Laboratory Services.....

At CECB Laboratory Services we are equipped to perform traditional laboratory testing for projects in different geographical areas across Sri Lanka. Our highly trained Engineers are more than capable of conducting a range of testing methods simultaneously, whether it be testing of soil, aggregate, concrete, cement, asphalt or clay bricks. Now laboratories are located throughout the country to provide quality laboratory testing in Colombo, Digana, Badulla, Monaragala, Anuradhapura, and Galle.

Contact Us....

Main Laboratory - Colombo
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Our Project Laboratories....

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Concrete Durability Testing

A Structure built up of concrete is designed to withstand most of the environmental impacts. Hence the durability of concrete plays a vital role in the area of concrete constructions. Tremendous efforts have been made to qualitatively measure the durability affecting factors. CECB laboratory has now implemented Advanced Durability Testing Facilities utilizing the modern standard technology.

As durability of concrete thoroughly depends upon permeability, it is necessary that permeability test is made mandatory for all hardened concrete. Permeability test is often used to measure the resistance of concrete against the penetration of water exerting pressure. Concrete cubes of 150 mm are used to determine the compressive strength of it. CECB laboratory is considered to be the pioneer of conducting the Permeability Testing and the Abrasion Test in Sri Lanka comprising the latest technology in the world. We are deterministic to ensure the safety of constructions in our country through early detection of defects and proper maintenance.

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CECB Laboratory Services

Concrete / Cement Testing Facilities

CECB Laboratory Services
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Concrete & Cement Testing

The evolutionary world constantly requires an evolution in construction methods for the well-being of humankind. Cement is one such invention of scientists which is now used as a binding agent in cement mortar and concrete. Concrete has become a major component in almost all the constructions. It is a mixture of proper proportions of sand, crushed rock aggregates, cement and water. In addition fine mineral powders (additives) and admixtures are also used to improve the characteristics of fresh concrete. Concrete plays a pivotal role in many fields including structural, architectural, irrigation, dams, highways, tunnels etc. where a world without concrete has now become nearly inconceivable.

Cement Physical Testing (ASTM / BS / SLS)

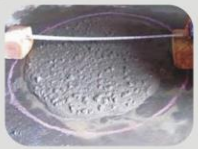
Abrasion Resistance Test (BS EN 13892-3 (2004) Part 3)
Compressive /Flextural Strength of Cement (SLS ISO 679 : 2008)
Initial & Final Setting Time (SLS ISO 679:2008)
Determination of Soundness (BS EN 196-3)
Cement Motar Cube Strength (ASTM C-109/ C109m

Cement Chemical Testing

ASTM C114-10 / BS EN 196-2 :1995 / SLS :107:part 1 2008

Insoluble Residue
Loss on Ignition
Silicon Dioxide content (SiO_2)
Aluminum Oxide content (Al_2O_3)
Chloride Content (Cl-)
Calcium Oxide content (CaO)
Magnesium oxide content (MgO)
Iron Oxide Content (Fe_2O_3)
Sulphate Content (as SO_3)
Lime Saturated Factor (LSF)

Fresh Concrete Testing (ASTM / BS)

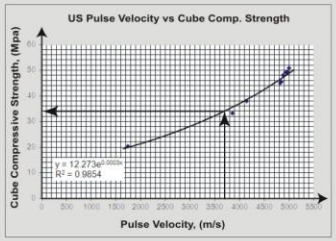


Mix Design for G15/G20/G25/G30/G35/G45
Slump Cone Test (BS 1881:part 102)
Flow Table (BS 1881:part 105)
Temperature Monitoring (BS 1881-130)
Bulk Density Measurement (ASTM C642-97)

Non Destructive Testing Facility

Observing deterioration in a concrete structure during the post construction phase may require performing a structure quality assessment which is usually done by destructing a sample of the material. However CECB has now established a laboratory with modern facilities to conduct non destructive testing methods which imply little or no damage to the concrete.

The production of concrete is a non-reversible process involving many sensitive techniques. Hence quality control and monitoring is strictly focused throughout the process in order to sustain its durability, hardness and position of reinforcement with minimum defects.



Non-destructive concrete testing facility provides essential and important information regarding unexpected or unseen defects of concrete or verifies the quality of construction. It is also useful in evaluating the potential durability of concrete as well as monitoring long term changes in properties of concrete. The cost of repair could be significantly reduced from the use of proper testing and verification methods.

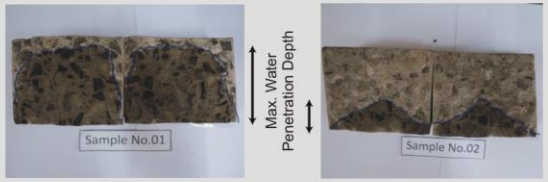
Our laboratory is facilitated with most of the latest techniques related to non-destructive testing of concrete and thus our clients are able to accomplish every task at one door step saving their valuable time and money.

Non Destructive Testing of Concrete (ASTM / BS)

Schmidt Hammer Test (Rebound Hammer Test) (ASTM C805)
Bar Spacing/Cover Detection using Cover Meter (BS 1881-204)
Flow Table (BS 1881:part 105)
Ultra Sound Pulse Velocity Meter (BS 1881-203)

Durability Testing for Hardened Concrete (ASTM / BS / DIN)

Coring of 50mm/100mm Diameter Cores(BS 1881:Part 44 & BS 6089:1981)
Carbonation Depth Determination (BS EN 14630 : 2006)
Concrete Permeability Test (DIN 1048 : Part5)
Concrete Abrasion Test (BS EN 13892-3:2004)
Concrete Water Absorption Test (BS 1881-120:1983)



Test Methods for Compressive Strength (ASTM / BS)

Concrete Cube Compressive Strength Test(150mm, 200mm) (BS 1881-116 1983)
Cylinder Compressive Strength (150mm,) (ASTM D- 39- 96)
Flextural Strength Beam (BS 1881-118)
Indirect Tensile Strength (ASTM D - 3967-2008)
Concrete Core (BS 1881: Part 120)

Cement Blocks/Paving Blocks Testing ASTM / BS / SLS

Compressive Strength of Cement Block - 4",6",8" (SLS 855 (part 2) : 1989)
Compressive Strength of Paving Blocks (BS 6717-1-1983)
Abrasion Resistance of Paving Blocks (SLS 39 : 1978)
Water Absorption Test (SLS 855:1989)

Analysis of Hardened Concrete (BS)

Cement and Aggregate Testing (BS 1881 : Part 124 : 1988)
Aggregate Grading (BS 1881 : Part 124 : 1988)
Original Water Content (BS 1881 : Part 124 : 1988)
Type of Cement (BS 1881 : Part 124 : 1988)
Type of Aggregate (BS 1881 : Part 124 : 1988)

Admixtures Test (ASTM)

Specific Gravity of Industrial Chemicals (ASTM D 891 - 95)