BAMBURI CEMENT

CONCRETE TESTING SERVICES

Committed to provision of quality testing services

A member of LafargeHolcim

Bamburi cement

Part of you. From the start

BAMBURI CEMENT

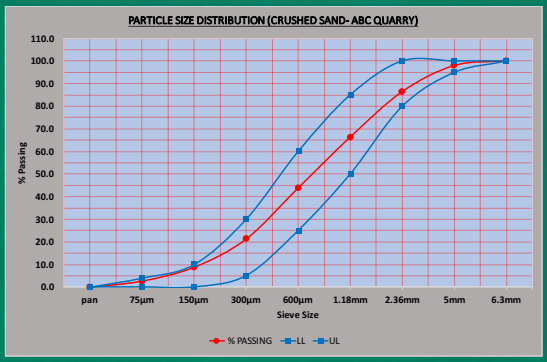
offers a wide range of concrete and constituent materials testing services in fixed and mobile concrete laboratories.

The mobile concrete laboratory is mounted in a van able to travel to far off sites countrywide. All tests are made in accordance to current Kenyan and international standards.

1. AGGREGATE TESTS

Bamburi is able to do a full range of tests highlighted below on aggregates to ensure their suitability for concrete works.

- Particle size distribution/sieve analysis
- Fineness Modulus
- Water absorption
- Specific gravity
- Bulk density
- Clay content - Methylene Blue Value (MBV)
- Flakiness Index
- Los Angeles Abrasion (LAA)



Particle size distribution charts

Oven

Aggregates sieve shaker

Flakiness Index test apparatus

Methylene Blue Value (MBV) test apparatus for clay content determination

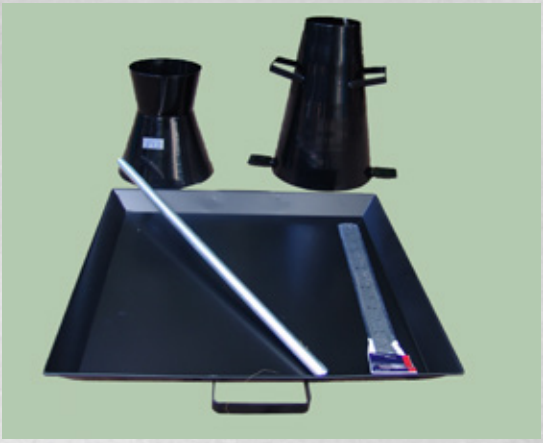
2. FRESH CONCRETE

This component of Bamburi Cement Concrete Testing Services tests for:

- Slump/slump retention
- Flow
- Plastic density
- Air content

Concrete mixer and slump equipment in mobile concrete laboratory

Concrete air meter



Concrete slump equipment

3. HARDENED CONCRETE TESTS

- Compression strength tests (cubes, cylinders, paving blocks).
- Splitting strength test

Cube moulds

3,000 KN Concrete compressive Machine in fixed and mobile laboratories

4. CONCRETE MIX DESIGN

Bamburi uses state of the art proprietary global LafargeHolcim software in all concrete mix designs, that optimize the aggregates granular skeleton while balancing cement content and workability. The mix designs cover all concrete classes from:

- Normal concrete (15 to 30MPa)
- High strength concrete (>35MPa)
- Self-compacting concrete
- Low heat concrete
- Water proof concrete
- Self compacting concrete
- Fiber reinforced concrete
- High early strengths concrete

All designs utilize the wide and innovative cement range that Bamburi offers including:

- Nguvu CEM IV/B (P) 32,5 R
- Tembo CEM V/B (S-P) 32,5 N
- Nguvu CEM II/B-L 32,5 R
- Powermax CEM II/B-P 42,5 N
- Powermax CEM II/B-L 42,5 N
- Powermax SR CEM IV/A-P 42,5 N LH/SR
- Duracem CEM III/B 42,5 N - LH/SR
- Powercrete CEM I 52,5 N
- Powerplus CEM I 42,5 N

*LH - Low Heat of Hydration

*SR - Sulphate Resistant

5. SPECIALISED TESTS – IN SITU CONCRETE

Cores are cut in concrete for various tests. A rebar scanner is additionally used to assist in avoiding reinforcement during coring.

Sample preparations and tests include;

- Concrete capping with sulphur
- Concrete compression test
- Rebound/Schmidt hammer
- Ultrasonic pulse velocity analyser

Concrete core cutter

Rebound/Schmidt hammer

Concrete cores sulphur capping equipment

Reinforcement bar scanner

Concrete ultrasonic pulse velocity analyser

6. SPECIALISED TESTS

Tests are conducted at our laboratories for highly specialised concrete applications using state of the art LafargeHolcim test equipment and softwares.

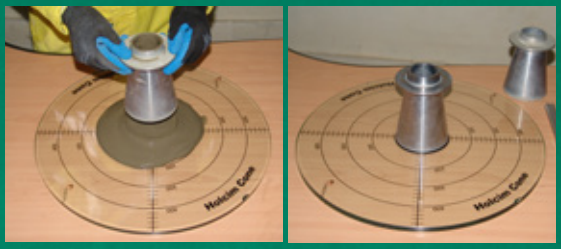
V funnel, L-box and U-box

6.1 Self-compacting concrete

- V-funnel
- L - box
- U - box
- Flow table

6.2 MeToo Cone™ for workability

This cone rapidly measures cement workability , admixture and sand impact on concrete workability



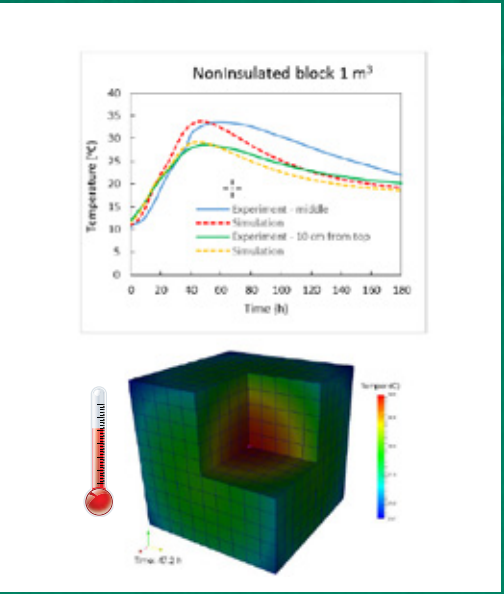
LafargeHolcim MeToo™ Cone

6.3 HEAT OF HYDRATION

Bamburi uses proprietary LafargeHolcim equipment and software to initially determine and compare the heat evolution of concrete mixes using a MeToo™ calorimeter box equipped with a computerized data logger.

The information is input into LafargeHolcim Contemp™ finite element modelling software to predict concrete thermal signatures in mass applications e.g. Foundation rafts taking cognizance of ambient temperatures, formwork and curing methods.

The derived temperature differentials assist in predicting the potential for thermal cracking of various concrete mixes for clients to initiate mitigation practices. e.g. use of Low Heat of Hydration Bamburi cements.



Contemp™ thermal simulation imagery

MeToo™ Heat Calorimeter Box

6.4 CONCRETE PERMEABILITY

Bamburi tests permeability of concrete mixes by checking capillary movement of water in hardened concrete cubes.

The equipment assists in determining the performance of waterproof concrete.

Bamburi designs waterproof concrete to conform to BS EN 12390-8, Depth of penetration of water pressure, EN 206-1 and KS EAS 131-1 concrete standards.

Concrete permiability test equipment

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