

## **SECTION 1 AGGREGATES - ROCKS**

Aggregates represent the mainly used product in the building industry. They are used in concrete, bituminous conglomerates, plasters, road and railway sub grades etc.

The different international and local Standards together with the EN European Standards are requiring many different check on different features as mechanical, physical, geometrical, kind of density, strength, degradability and etc.

A rock stratum will undergo alterations in the mechanical characteristics when it is exposed to excavations, handlings and etc. For above reasons a study of the mechanical characteristics of an intact rock becomes indispensable in order to analyse the relative characteristics when realising underground or surface structures as galleries, quarried and foundations.





## **GENERAL PURPOSE LABORATORY DRYING OVENS**

Standard oven with microprocessor temperature control, safety thermostat and fan assisted air circulation is ideal for those applications where control accuracy and uniformity are required. Auto over / under temperature, audio alarm.

Labcon Standard Ovens have been designed and manufactured to the highest standards and include the following features:- 304 Stainless Steel Inner Chamber Powder Coated Mild Steel Outer Housing Non-Tip Shelves Outer Door With Peripheral Silicon Gasket Fan Assisted Air Circulation Safety Thermostat To DIN 12880 (except EFDO) Adjustable Air Vent

- Thermometer Well
- Electronic Temperature Control (FSOE models only)

<b>TEMPERATURE RANGE:</b>	+50°C to 250°C
<b>CONTROL ACCURACY:</b>	± 2.5°C @ 100°C
<b>UNIFORMITY:</b>	± 1°C @ 100°C
<b>AMBIENT</b>	@ 25°C



Model	Dimensions						Vol.	Shelves		Power		Kg
	External			Internal				Max	Suppl.	V	Kw	
	H	W	D	H	W	D						
4	465	535	525	340	340	320	40	3	2	220/240	1.0	36
8	520	680	605	400	490	400	80	4	2	220/240	1.5	51
16	660	780	705	540	590	500	160	5	2	220/240	2.0	65
24	790	860	735	665	665	525	240	7	2	220/240	2.5	94
40	1280	885	735	995	665	525	400	10	2	220/240	3.0	130
73	1400	900	1000	1120	750	790	700	12	2	380x3ph	6.0	187

Model	Cap
FSOH 4	40
FSOH 8	80
FSOH 16	160
FSOH 24	240
FSOH 40	400
FSOH 73	700





## **STANDARD ELECTRIC MUFFLE FURNACE AND ASH FURNACE**

Labcon Laboratory Furnaces have been designed and manufactured to the highest standards and include the following features:

### **MUFFLE FURNACE 1000°C and 1200°C Models:- RM and RAF**

- 304 Stainless steel front plate
- Powder coated mild steel housing
- Shelf
- Counter balanced door
- Kanthal A1 spiral elements
- Digital temperature controller
- Chimney (RAF models only)



**RM4 Furnaces**

Model	Dimensions						Volume (approx) ± Kg	Temp/ Max	Power		Weight (approx) Kg
	External			Chamber					Watts	V	
	H	W	D	H	W	D					
RM 4	595	485	640	120	180	350	7.5	1200°C	220/240	3.0	65
RAF 4	595	485	640	120	180	350	7.5	1000°C	220/240	3.0	65
RM 7	670	660	755	200	295	450	26.5	1200°C	220/240	6.0	98
RAF 7	670	660	755	200	295	450	26.5	1000°C	220/240	6.0	98
HTR 2	920	820	830	200	165	450	15	1500°C	220/240	6.0	160



# SUPPLY CHAIN, SERVICES & LOGISTICS

MINING INDUSTRIES DRILLING EXPLORATION  
CONSTRUCTION CEMENT PLANTS

## **HOT PLATES**

Complete with thermo-regulator  
Power supply 220v



## **MICROWAVE**

Used for speed drying purposes,  
moisture determination &  
conditioning



## **WARM AIR DRIER**

For general laboratory  
purposes, to dry soil  
and aggregate samples



## **MELTING POT**

Used to melt wax and other materials,  
it maintains heat from room temperature  
to max 350°C. Complete with adjustable  
thermostat and pilot lamp.



## **MAGNETIC STIRRER / HEATER**

For titration and stirring of liquid and  
semi-solid materials. Plate dia. 150mm  
Variable speed and temperature by  
electronic regulators.







## **KINGTEST TEST SIEVES** **200mm Dia, 300mm Dia & 450mm Dia**

SPECIFICATIONS ACCORDING TO:  
SANS 3310-1 (ISO 3310-1) -  
SANS 3310-2 (ISO 3310-2)

All Sieves are made with stainless steel frame, woven wire or perforated square plate. All Sieves meet International Specifications. The sieve aperture is clearly marked on the metallic label, comprising the serial number for identification and traceability. Each Sieve is supplied complete with certificate of conformity.



## **WET SIEVING PAN AND LID S/STEEL**

The water enters through the spray nozzle mounted on top of the lid and comes out with fines from the span. Supplied complete with two watertight seals.



## **SIEVING BRUSHES**

Brass brushes, soft and hard nylon Brushes, carpet brushes, bottle brushes and paint brushes.





**SUPPLY CHAIN, SERVICES & LOGISTICS**  
 MINING INDUSTRIES DRILLING EXPLORATION  
 CONSTRUCTION CEMENT PLANTS

**KINGTEST VB200/300  
 SIEVE SHAKER -  
 For 200mm Dia and  
 300mm Dia TEST SIEVES**

Sieve Shaker is activated by an electric motor and can hold up to 8 x 200mm dia. Sieves or 7 x 300mm dia with pan and lid. It is possible to perform also wet sieving tests.



**KINGTEST VB450  
 SIEVE SHAKER -  
 For 450mm Dia TEST  
 SIEVES**

Sieve Shaker is activated by an electric motor and can hold up to 7 x 450mm dia with pan and lid. It is possible to perform also wet sieving tests.







# SUPPLY CHAIN, SERVICES & LOGISTICS

## MINING INDUSTRIES DRILLING EXPLORATION

### CONSTRUCTION CEMENT PLANTS

### SAMPLE SPLITTERS (RIFFLER BOXES)

Used for the precise division into two representative portions of materials such as aggregates, sand, gravel and similar. They are supplied with three collecting pans. Spare collecting pans also available.

Riffler 6.70mm - 20 slot	Riffler 9.50mm - 20 slot
Riffler 12.5mm - 20 slot	Riffler 13.2mm - 20 slot
Riffler 19.0mm - 20 slot	Riffler 25.0mm - 20 slot
Riffler 26.5mm - 20 slot	Riffler 32.0mm - 20 slot
Riffler 37.5mm - 14 slot	Riffler 50.0mm - 14 slot
Riffler 53.0mm - 14 slot	Riffler 63.0mm - 14 slot
Riffler 75.0mm - 14 slot	



### BULK DENSITY MEASURES

Used to determine the loose bulk density and voids of aggregates

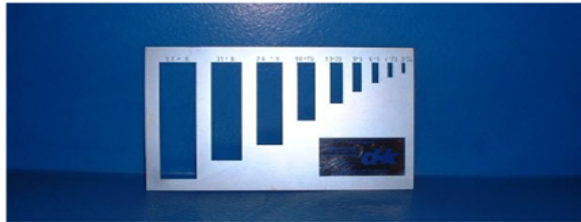
- Measure 1 litre capacity
- Measure 3 litre capacity
- Measure 5 litre capacity
- Measure 10 litre capacity
- Measure 15 litre capacity
- Measure 30 litre capacity





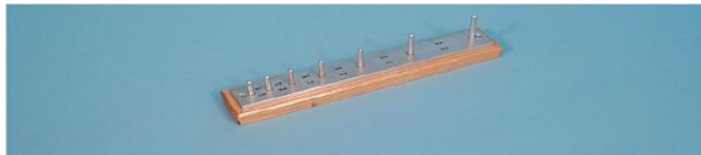
### **FLAKINESS / THICKNESS INDEX GAUGE**

Used to verify if aggregate is flaky i.e. if its thickness is less than 0.6 of its normal size.



### **ELONGATION / LENGTH GAUGE**

Used to determine if aggregate is elongated i.e. if length is more than 1.8 of its normal size.



### **SHAPE GAUGE / SHAPE INDEX**

Used for measuring the length/thickness ratio of individual particles.



### **LOS ANGELES ABRASION MACHINE**

Used to determine the resistance of aggregates to abrasion. It comprises a heavy steel cylinder mounted on a base frame. The cylinder rotates at 31-33rpm. It can be sold with protection guards.



### **SET OF 12 ABRASIVE CHARGES**







## AGGREGATE IMPACT VALUE APPARATUS

Used to determine the impact value of aggregates and select them for a given application. The machine has a trip-action hammer release, blow counter device and a built-in operator safety device. Supplied without cylindrical mould and accessories – to be ordered separately.



## SAND EQUIVALENT TEST SET (COMPLETE)

### Assessment of fine aggregates.

Plexiglass measuring cylinder graduated (3 pieces)  
Rubber stopper for cylinder ( pieces)  
Graduated ruler  
Plastic funnel (optional extra)  
Measuring cylinder  
Plastic bottle 5lt capacity  
Copper u-tube & Irrigation tube with stopcock  
Weighted foot assembly for sand level  
Test Sieve 200mm dia x 2mm wire mesh  
Concentrated stock solution 1litre  
Stop watch  
Clamp stand set  
Portable carrying box





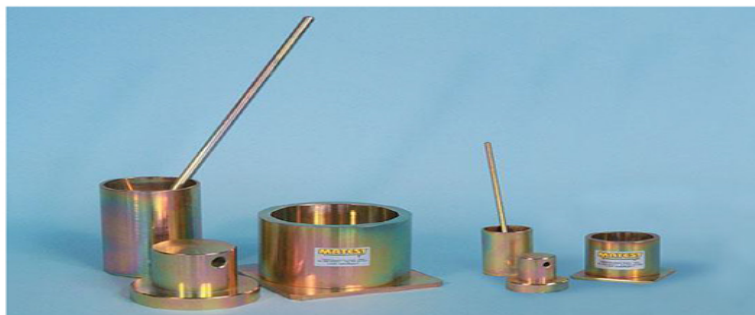
### **BOTTLE ROLLING DEVICE**

Used for determination of clay, silt and dust in fine and coarse aggregates



### **AGGREGATE CRUSHING VALUE APPARATUS 150mm & 75mm**

Steel cylinder, plunger, base plate, tamping rod and measure.



### **BOYANCY FRAME WITH DENSITY WIRE BASKET, BALANCE AND POLYCRATE NS120**

Used for determination of particle density and water absorption of aggregates







# SUPPLY CHAIN, SERVICES & LOGISTICS

MINING INDUSTRIES DRILLING EXPLORATION  
CONSTRUCTION CEMENT PLANTS

## WATER BATHS

With heating/circulating system,  
all stainless steel made.

E136	-	40 litres capacity
WBM201	-	11 litres capacity
WBM301	-	13 litres capacity
WBM401	-	18 litres capacity
WBM601	-	27 litres capacity



## SAND ABSORPTION CONE AND TAMPER

Used in determining the  
specific gravity and  
absorption of fine  
aggregates.



## PYCNOMETER

With capillary tube stopper  
500 ml, 1000 ml & 2000 ml Cap.



## SPECIFIC GRAVITY BOTTLE

50 ml Capacity  
100 ml Capacity



## PYCNOMETER

1lt Glass jar with  
aluminium cone and  
rubber





## DETERMINATION OF THE POLISHED STONE VALUE - A128N

It measures the resistance of road aggregates to the polishing action of vehicle tyres on a road surface, paving stones and paving blocks. The specimens are manufactured with suitable moulds.

The specimen is then located on the Road Wheel accepting 14 specimens.

The wheel is now rotated and enters in contact with solid rubber tyre, spring loaded. Abrasive charges are continuously fed by mechanical feeders at fixed speed. Road wheel speed: 310 to 330 r.p.m.

The flour emery is loaded on to the specimen through a suitable opening. The water is supplied at a controlled rate through a water container.

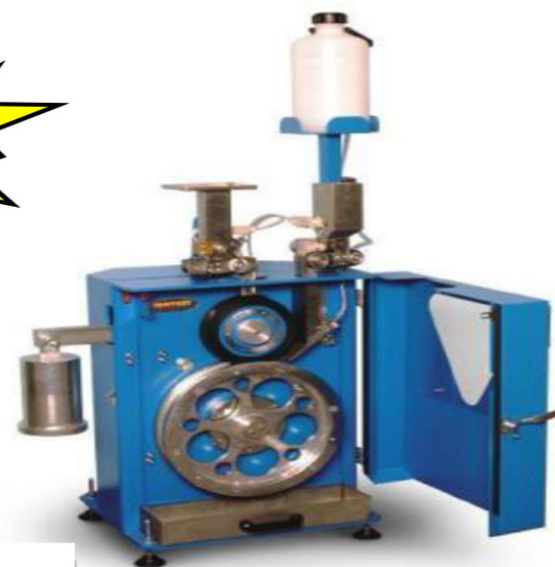
The digital control panel, foreseen in the back side of the machine, allows to select the test time.

During the test execution the display shows the remaining time and the speed rotation of the wheel holding the specimens.

The machine provides a method of preparing polished stone specimens for use with the Skid Resistance Tester mod. A113 when used in Laboratory.

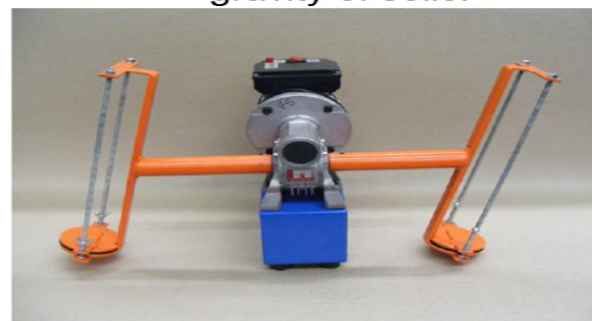
The unit is supplied complete with 2 rubber wheels (one for corn and one for flour emery), set of 4 specimen moulds and 2 mould covers, while control stone, corn and flour emery have to be ordered separately (see accessories).

**NEW**



## END-OVER-END SHAKER

Used to determine the specific gravity of soils.







## **LABORATORY JAW CRUSHERS** **SIZE: 5X3 & 5X5 & 5X8**

Designed to crush any sort of material, also the hardest. Jaws opening is regulated from 2 to 15 mm by a wedge. Complete with safety guards



## **ROCK AND MASONRY SAW**

It can accept blades up to 450mm Dia.  
Complete with safety guards



## **DRY MIXER**

Designed to mix dry materials like powders, cement, gypsum and granulometric materials.





## DETERMINATION OF DRYING SHRINKAGE

Prism mould 50x50x200mm three gang complete with steel inserts. The test is developed on concretes of fixed mix proportions and aggregates of 20mm max size



## GEOLOGICAL HAMMERS POINTED TIP AND CHISEL EDGE



## DIGITAL POINT LOAD TESTER (ROCK STRENGTH INDEX)

Used to determine the strength values of a rock specimen both in the field and in the laboratory.  
Spare set of two hardened conical points available

A125 - MATEST

PRECPLT - KINGTEST



A125



PRECPLT