aggregate equipment

production

Aggregate is a component of a composite material used to resist compressive stress and provide bulk to the composite material. For efficient filling, aggregate should be much smaller than the finished item, but have a wide variety of sizes.

It is vastly used in most combination of construction material such as concrete and asphalt technology to which aggregates may either be specified or designed to suit a particular engineering requirement while not suiting another.

The properties of aggregates can vary and hence affect the final construction material. Therefore it is important to test the different parameters such as resistance to polishing, particle size, shape and texture, relative, bulk density, crushing value, impact value, organic impurities, compacted densities, specific gravity, soundness and abrasion resistance.

Flakiness Sieves

Standards: BS 812

Flakiness Sieves are used to determine particle size shape or geometrical characteristics of the aggregates.
Each sieve made from heavy gauge steel sheets in dimensions specified in the standards and coated with electrostatic paint.

Product Code	Slot Size
AG 0101	4,9 mm slot size
AG 0102	7.2 mm slot size
AG 0103	10.2 mm slot size
AG 0104	14.4 mm slot size
AG 0105	19.7 mm slot size
AG 0106	26.3 mm slot size
AG 0107	33.9 mm slot size

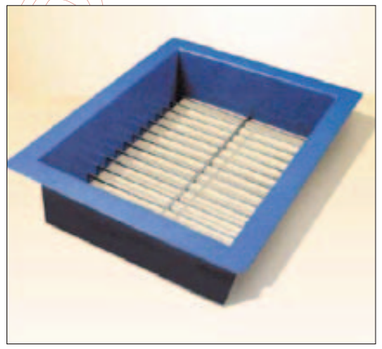
Grid Sieves

Standards: EN 933-1, EN 933-3

Grid Sieves are used to determine the flakiness index of the aggregates.

Made of electrostatic steel frame and 5 mm diameter stainless steel parallel bars.

Product Code	Aperture (mm)
AG 0108	2,5 mm
AG 0109	3.15 mm
AG 0110	4 mm
AG 0111	5 mm
AG 0112	6.30 mm
AG 0113	8 mm
AG 0114	10 mm
AG 0115	12.5 mm
AG 0116	16 mm
AG 0117	20 mm
AG 0118	25 mm
AG 0119	31.5 mm
AG 0120	40 mm



Flakiness Gauge

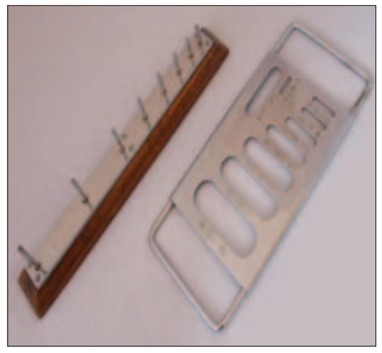
Standards: BS 812

Flakiness Gauge is used to determine if aggregate particles are to be considered flaky, i.e. their thickness is less than 0.6 of their nominal size.

AG 0121
Flakiness Gauge

Length Gauge classifies aggregate elongation by measuring the length of individual particles.

Aggregate particles are considered elongated when their length is more than 1.8 of their nominal size.
Length Gauge test is not applicable to material retained on 63.0 mm BS test sieve.
AG 0122
Length Gauge



Shape Index Gauge

Standards: EN 933-4

Shape Index Gauge is used to determine the shape factor of individual aggregates by comparing the ration of length to width.

AG 0123
Shape Index Gauge

Particle Density (specific gravity) and Water Absorption Sand Absorption Cone and Tamping Rod

Standards: EN 1097-6, 12697-6, BS 812, ASTM C127-C128, AASHTO T85, T84

The Sand Absorption Cone and Tamping Rod are used to determine the specific gravity and absorption of fine aggregates smaller than 20 mm.

The Apparatus is manufactured from plated steel for protection against corrosion.

AG 0124
Sand Absorption Cone and Tamping Rod complete set

Spares:

AG 0125
Sand Absorption Cone
AG 0126
Tamping Rod

Specific Gravity Frame and Buoyancy Balance

Standards: BS 812, ASTM C127, AASHTO T85 BS 812, ASTM C127 AASHTO T85 EN 1097-6, 12697-6, EN 12390-7
EN 1097-6, 12697-6, EN 12390-7

This method is used to determine the aggregates specific gravity.
The robust frame is designed to support the buoyancy 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.

AG 0127
Specific Gravity Frame supplied complete with water tank, Buoyancy Balance, Wire Basket and suspension hook

Spares:
AG 0128
Wire Basket and suspension hook
AG 0129
Water Tank
AG 0130
Buoyancy Balance, 6000 g x 0.1 g

Bulk Density Measures

Standards: BS 812-2, 3797, EN 1097-3, 12350-6, ASTM C138, C29

The Bulk Density Measures are used to determine the loose bulk density and voids of aggregates.

They are made from heavy steel gauge and specially coated against corrosion.

Product Code	Capacity Model
AG 0131	3 ltr
AG 0132	7 ltr
AG 0133	10 ltr
AG 0134	15 ltr
AG 0135	20 ltr
AG 0136	30 ltr

Chloride and Sulphate Content, Instant Test Strips

Quantab chloride titrators can be used for estimating the chloride content of aqueous solutions.They are suitable for site testing and quality control of aggregates requiring less than 30 minutes to obtain a result.

AG 0137
Quantab Chloride Titrator Strips.Type 1175 titration range 0.005% to 0.1% (30 to 600 ppm) NaCl. Pack of 50.
AG 0138
Quantab Chloride Titrator Strips. Type 1176 titration range 0.05% to 1% (300 to 6000 ppm) NaCl. Pack of 40.

A qualitative or semi-quantitative test is recommended for determining sulphate ions in aqueous solutions. Sulphate test strips are convenient measuring devices for preliminary assessment of sulphate content.

AG 0139
Sulphate Test Strips detection range 200 to 900 mg/l. Pack of 100.

Organic Impurities in Fine Aggregate

If aggregate contains organic impurities it may not be suitable for inclusion in concrete.

Organic impurities, usually tannic acid and its derivatives, may interfere with the chemical reactions of hydration.
Impurities are more likely to be found in fine (sand) aggregate.

AG 0140
Organic Impurities complete Test Set, containing Graduated Bottle, Reference Color Comparison Chart and Sodium Hydroxide solution
AG 0141
Graduated Bottle, 300 ml
AG 0142
Reference Color Comparison Chart
AG 0143
Sodium Hydroxide Solution

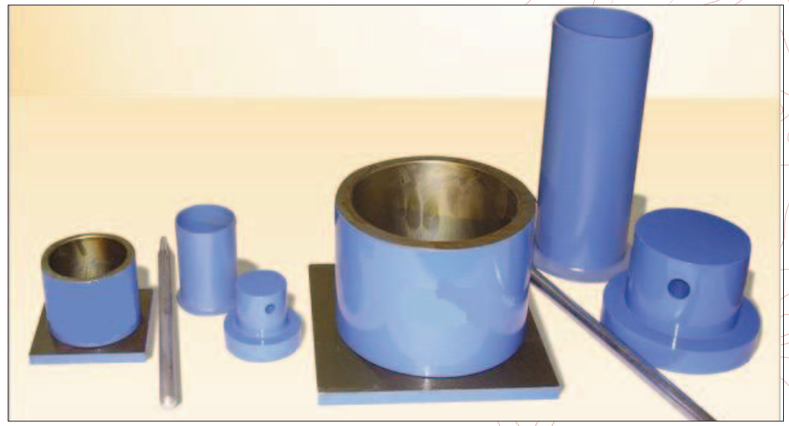
Aggregate Crushing Value and Ten Percent Fines Value (ACV / TFV)

Standards: 812-110, 111

Aggregate crushing Value provides a relative measure of the resistance of an aggregate to crushing under a gradually applied compressive load.

Ten Percent Fines Value used for testing aggregate smaller than 10 mm.

Comprises:
150 mm or 75mm diameter steel cylinder, plunger, base plate, tamping rod and metal measure. All parts are powder coated or galvanized.



Product Code	Description
AG 0144	Aggregate Crushing Value Apparatus 150 mm dia.
AG 0145	Metal Measure 115 mm diameter x 180 mm deep
For Aggregates Smaller Than 10 mm	
AG 0146	Aggregate Crushing Value Apparatus,75 mm dia.
AG 0147	Metal Measure 57 mm diameter x 90 mm deep.
Accessories:	
AG 0148	Tamping Rod 8 mm diameter x 300 mm long

Aggregate Impact Value (AIV)

Standards: 812-112

The Aggregate Impact Value machine has been developed for determining the impact value of aggregates.

Manufactured from plated steel against corrosion, a counter fitted to the machine automatically records the number of blows delivered to the sample.

The AIV is supplied complete with 75 mm diameter x 50 mm deep cylindrical measure and steel tamping rod.

AG 0149
Aggregate Impact Value apparatus complete

Los Angeles Abrasion Machine

Standards: EN 1097-2, ASTM C131, C535

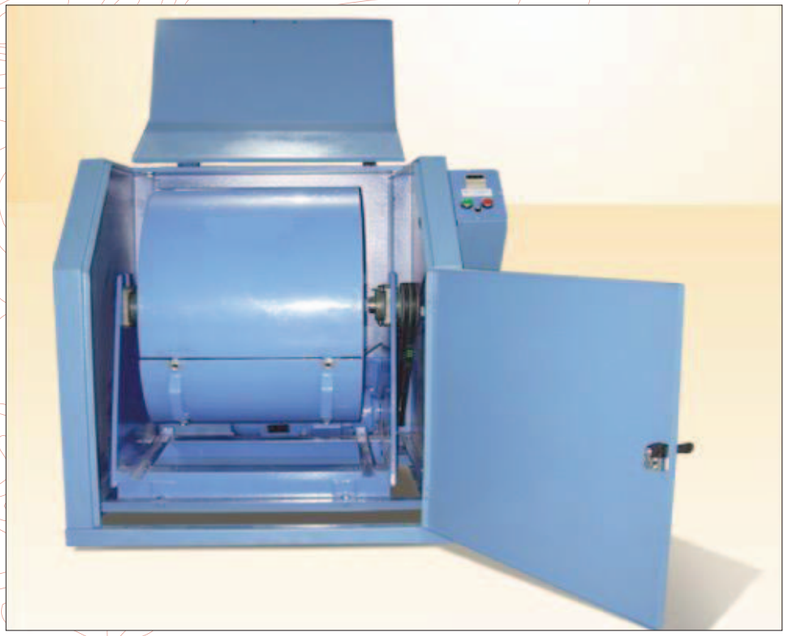
Los Angeles Abrasion Machine is used for determination of aggregates resistance to fragmentation.

The machine consists of an electronic control unit and a rolled steel drum having an inside diameter of 711 mm and internal length 508 mm.

The drum is rotated at a speed of between 31 and 33 r.p.m.
The internal shelf is provided with the machine is conforming to ASTM and EN standards.

The machine is equipped with automatic counter, which allows stopping when the preset number of revolutions is completed.
There is a steel tray supplied with machine for easy discharge of specimen.

Safety Cabinet model are installed with electronic control unit and electric safety device which automatically stops the rotation of the drum when the door is opened, conforming to CE directives.



AG 0150
Los Angeles Abrasion Machine 220 V, 50–60 Hz
AG 0151
Los Angeles Abrasion Machine with safety cabinet, 220 V, 50–60 Hz

AG 0152
Set of 11 abrasive charges conforming to EN
AG 0153
Set of 12 abrasive charges conforming to ASTM

Abrasion Testing Machine

Standards: EN 1341, 1342, 1343

Abrasion Testing Machine is designed to determine the resistance to abrasion and wear of natural stones and concrete products.

The abrasion wheel is 70 mm thick and rotates with speed of 75 r.p.m.
The machine is equipped with digital counter which stops the rotation at the preset number of revolutions.

AG 0154
Abrasion Testing Machine

Digital Point Load Apparatus

Standards: EN 1997-2, ASTM D-5731

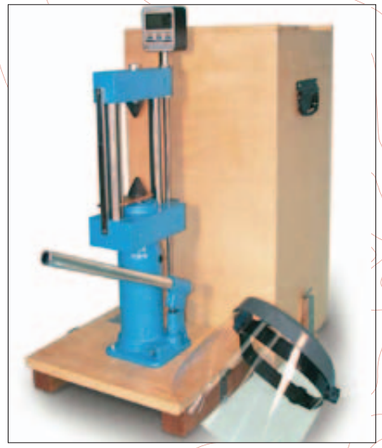
The point load tester is used to measure rock strength in the field or laboratory.

A load frame, hydraulic jack and digital display are mounted on the base of a carrying case.

With this point load tester, samples up to 4” (101.6mm) diameter can be tested on 2 conical points.

A graduated scale indicates distance between conical points and is also used to measure specimen diameter. Applied load is digitally displayed to 0.001kN; accuracy is ±1%; range is 0 to 56kN. Display shows maximum load and will also read in lb and tons.

AG 0155
Digital Point Load Apparatus



Nordic Abrasion Machine

Standards: EN 1097–9

The Nordic Abrasion Machine has been developed to test the resistance to abrasion/wear from studded tires.
Test is being performed on natural stones and aggregates between 11,2 mm and 16 mm, it consists of rotating aggregates in drum with steel abrasive balls and water.

The machine consists of an electronic control unit and a rolled stainless steel drum having an inside diameter of 206,5mm, internal length 335mm and thickness of 6mm. The drum is rotated at a speed of 90±3 r.p.m.
3 wings are installed inside of the drum to allow balls and aggregates to be mixed properly. The abrasion loss rate of aggregates is calculated after specified number of revolutions stated in the related standard.

AG 0156
Nordic Abrasion Machine

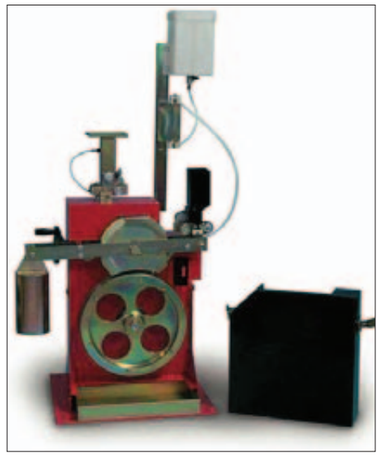
Accelerated Polishing Machine

Standards: EN 1097-8, EN 1341, 1342, 1343

The Accelerated Polishing Machine is used to measure the resistance of road stone to the polishing action of vehicle tires on a road surface.
The machine consists of road wheel rotating in the speed of between 315 and 325 r.p.m.

The machine is supplied complete with road wheel, side plate, rubber rings, abrasive feed mechanism, corn emery, flour emery, set of 4 specimen mould and 2 mould plates.

AG 0157
Accelerated Polishing Machine



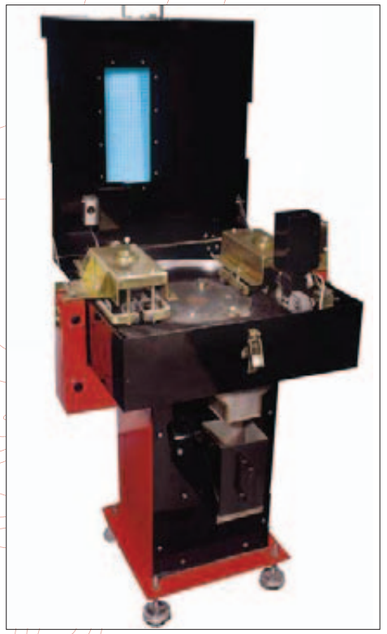
AAV Abrasion Machine

Standards: EN 1097-8, BS 812

The AAV Abrasion Machine provides a measure of the resistance of aggregate to surface wear by abrasion, it consists of a flat circular cast iron grinding lap 600 mm dia which rotates in a horizontal plane at a speed of 28/30 r.p.m.

The abrasive sand is fed across the surface of the specimen samples through a special funnel.
The machine is supplied complete with two specimen moulds, two trays, two flat plates, weights and clamps.

AG 0158
AAV Abrasion Machine



Micro-Deval Testing Machine

Standards: EN 1097-1

The Micro Deval Testing Machine used to determine the resistance of wear for 25-50mm size aggregates. The machine consists of a steel frame, four stainless steel cylinders, and 25kg of 10 mm diameter stainless steel spheres.

Fitted with an automatic digital counter that allows the machine to stop automatically at preset number of revolutions. Stainless steel Ø200 x 154 drums rotates at speed of 100 (±5) r.p.m.

AG 0159
Micro-Deval Testing Machine

Skid Resistance and Friction Tester (Skid Tester)

Standards: EN 1097-8, ASTM E103, BS 812:144

The Skid Tester is used for measuring the surface friction properties, it is suitable for both site and laboratory applications and for Polished Stone Value tests using curved specimens from accelerated polishing tests.
Supplied complete with additional scale for tests on polished stone value specimens and 6 rubber sliders for site usage.

AG 0160
Skid Resistance Tester complete with all accessories
AG 0161
Rubber Sliders for site usage
AG 0162
Claping device for tests on natural stones
AG 0163
Claping device for polish stone value tests
AG 0164
Metal base plate

High Capacity Screen Shaker

The High Capacity Screen Shaker is ideal for sizing large quantities of crushed stones, sand, gravel, slag, coal, coke, ores, pellets and similar materials.

The screen shaker has a capacity of about 30 kg of sample. For use with 457x660x75mm dimension screens.

AG 0165
High Capacity Screen Shaker
AG 0166
Set of screens

Shrinkage and Expansion of Aggregates

Standards: BS812-120, EN 1367-4

The scope of this test is the determination of the effect of aggregates on the drying shrinkage of concrete. The test is based on the testing of concretes of fixed mix proportions and aggregates of 20 mm max size.

AG 0167
Three gang Prism Mould for specimens 50 x 50 x 200 mm

Rest of the accessories are in the cement section