



GEOTECHNICAL

TESTING EQUIPMENT

THE BEST IN TEST

ASPHALT

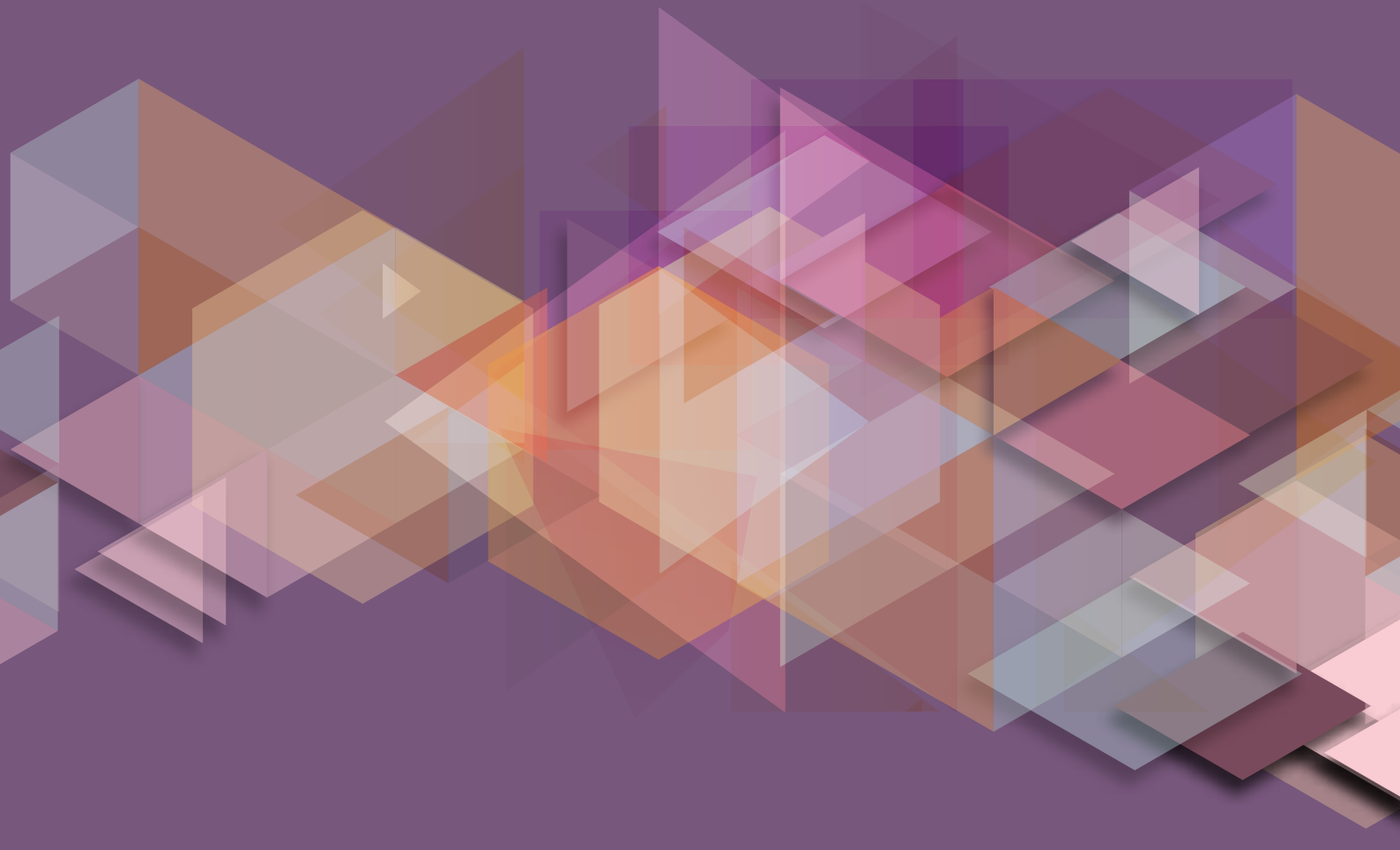


Asphalt

Asphalt is a sticky, black and highly viscous liquid or semi-solid that is present in most crude petroleum. It is most commonly used in road construction.

The material consists essentially of two ingredients, aggregate and bitumen which is the binder. A number of technologies allow this simple mix to have an almost infinite number of mixtures which may either be specified or designed to suit a particular engineering requirement.

It is therefore important that equipment and test methods are used to determine the different physical and chemical properties of any given asphalt mix. Such parameters include binder content, binder percentage, aggregate grading, void content, resilient modulus, indirect tensile fatigue cracking, creep, softening point, flash and fire point, water content, loss in mass, elongation, elasticity, viscosity and adhesion.



Reflux Extractor

DESCRIPTION:

The Reflux Extractor is used for the quantitative determination of bitumen in hot-mixed paving mixtures and pavement samples.

The bitumen content is calculated by the difference from the weight of extracted aggregates, moisture content, and ash from an aliquot part of the extract.

Two models available: 1 and 4 liters capacity. The extractors have to be used with a suitable hot plate with an aluminum disk for better heat distribution

The Reflux Extraction Test Set consist of

- Cylindrical Glass
- Extractor Jar Two Wire Mesh Cones
- Interlocking Frames
- Water Condenser with Inlet/Outlet Tubes
- Filter Paper, 50pcs.
- Hot Plate
- Iron Wire Gauze



TECHNICAL SPECIFICATIONS:

Dimensions	Weight (approx.)	Capacity
465x150 mm	3 kg	1000 g
510x265 mm	9 kg	4000 g

ASTM D2172; AASHTO T164 B

ORDERING:

AS 0101

Reflux Extractor 1000 gr complete

AS 0102

Reflux Extractor 4000 gr complete

ACCESSORIES:

AS 0101-1

Filter Paper for the 1000 gr (pack of 50)

AS 0102-1

Filter Paper for the 4000 gr (pack of 50)

AS 0101-2

Replacement glass for the 1000 gr

AS 0102-2

Replacement glass for the 4000 gr

Centrifuge Extractor

DESCRIPTION:

The Centrifuge extractor is used for the determination of bitumen percentage in bituminous mixtures.

All models comprise a removable precision-machined rotor bowl housed in a cylindrical aluminum box. They are driven by an electric motor fitted with an AC drive (inverter) with the double function of speed control up to 3600 r.p.m.

The control panel includes the Start/Stop button, speed control knob, and digital display.

The centrifuge extractor is complete with filter paper and bowl.

TECHNICAL SPECIFICATIONS:

AC drive motor (inverter)	550 W
Overall dimensions	539x406x509 mm
Weight approx.	54 kg



EN 12697-1; AASHTO T164 A; ASTM D2172 A

MAIN FEATURES:

- Speed control up to 3600 r.p.m.
- Supplied complete with filter discs

ORDERING:

AS 0103

Centrifuge Extractor 1500 gr

AS 0104

Centrifuge Extractor 3000 gr

ACCESSORIES:

AS 0103-1

Filter Paper for the 1500 gr model (pack of 100)

AS 0104-1

Filter Paper for the 3000 gr model (pack of 100)

AS 0103-2

Replacement bowl for the 1500 gr

AS 0104-2

Replacement bowl for the 3000 gr

Asphalt Mixer

EN 12697-35; BS 598-107

DESCRIPTION:

The Asphalt Mixer is designed for mixing Asphalt samples that can be used for mechanical tests as for example compaction, indirect tensile, Marshall, etc.

The bituminous mix must be prepared at a prescribed temperature for this reason the mixer can be equipped with a thermostatically controlled heater.

The mixing head rotates at different speed positions depending on the size of the mixer and the mixer. Mixer size available: 5L, 7L, 10L, 20L, 30L.

The asphalt mixer includes a hook, a mixing blade, a whisk and a stainless steel bowl.

MAIN FEATURES:

- Multiple speed settings.
- Heavy duty all gear transmission.
- Microswitch for bowl position and safety guard.
- Fitted with reset switch to prevent accidentally overloads.



TECHNICAL SPECIFICATIONS:

	AS 0105	AS 0106
Speed Setting	Variable	Variable
Dimensions	20 x 240 x 420 mm	20 x 240 x 420 mm
Weight	16 Kg	16 Kg
Capacity in ltr.	5 ltr.	7 ltr.
Capacity in kg	2 Kg	3 Kg

	AS 0107	AS 0108	AS 0109
Speed Setting	3 speed settings: 91, 200 and 300 rp.	3 speeds: 97, 220 and 316 rp	3 speed settings: 93, 167 and 285 rp.
Dimensions	485 x 410 x 635 mm	500 x 600 x 780 mm	550 x 600 x 1115 mm
Weight	75 Kg	107 Kg	204 Kg
Capacity in ltr.	10 ltr.	20 ltr.	30 ltr.
Capacity in kg	4 Kg	8 Kg	12 Kg

ORDERING:

AS 0105
Asphalt Mixer 5ltr complete with all accessories

AS 0106
Asphalt Mixer 7ltr complete with all accessories

AS 0107
Asphalt Mixer 10ltr complete with all accessories

AS 0108
Asphalt Mixer 20ltr complete with all accessories

AS 0109
Asphalt Mixer 30ltr complete with all accessories

ACCESSORIES:

AS 0105-1
Stainless steel bowl 5 ltr.

AS 0106-1
Stainless steel bowl 7 ltr.

AS 0107-1
Stainless steel bowl 10 ltr.

AS 0108-1
Stainless steel bowl 20 ltr.

AS 0109-1
Stainless steel bowl 30 ltr.

AS 0105-2
Hook for 5 ltr.

AS 0106-2
Hook for 7 ltr.

AS 0107-2
Hook for 10 ltr.

AS 0108-2
Hook for 20 ltr.

AS 0109-2
Hook for 30 ltr.

AS 0105-3
Mixing paddle 5 ltr.

AS 0106-3
Mixing paddle 7 ltr.

AS 0107-3
Mixing paddle 10 ltr.

AS 0108-3
Mixing paddle 20 ltr.

AS 0109-3
Mixing paddle 30 ltr.

AS 0105-4
Whisk for 5 ltr.

AS 0106-4
Whisk for 7 ltr.

AS 0107-4
Whisk for 10 ltr.

AS 0108-4
Whisk for 20 ltr.

AS 0109-4
Whisk for 30 ltr.

Isomantle Heater

DESCRIPTION:

The Isomantle heater is used to heat the bowl of the asphalt mixer. It is equipped with an electronic temperature controller and can be easily installed on the mixer.



TECHNICAL SPECIFICATIONS:

Bowl. Max. temperature	180 °C
Voltage	230V
Capacity in ltr.	Capacity 5; 7; 10; 20; 30
Dimensions	220 x 220 x 170 cm
Weight	1.5 kg

MAIN FEATURES:

- "Cool-to-touch" outer casing
- Element temperatures up to 450°C
- Indicator lamps for power and heater operation
- Replaceable insulated heater cartridge
- Rugged, easy to clean powder-coated aluminum casing

ORDERING:

- AS 0110**
Isomantle Heater 5ltrs cap
- AS 0111**
Isomantle Heater 7ltrs cap
- AS 0112**
Isomantle Heater 10ltrs cap
- AS 0113**
Isomantle Heater 20ltrs cap
- AS 0114**
Isomantle Heater 30ltrs cap

Manual Marshall Compaction

DESCRIPTION:

Marshall manual assemblies are used to compact Marshall samples manually.

Compaction assemblies include a Marshall compacting hammer and a wood compaction pedestal. The pedestal is supplied with a plate, a mold holder and a hammer guide.

TECHNICAL SPECIFICATIONS:

Dimensions	Weight (approx.)
350x400x1600 mm	70 kg

**EN 12697-30, 12697-10, 12687-12; ASTM D 1559
D 6926, D 5581; AASHTO T245**



ORDERING:

- AS 0115**
Manual Marshal Compactor complete with all accessories.
- AS 0123**
Marshall Compaction Mold 4"
- AS 0124**
Marshall Compaction Mold 6"

ACCESSORIES:

- AS 0115-1**
Compacting Hammer, BS 598
- AS 0115-2**
Compaction Pedestal, BS 598 comprising a 300 mm sq x 25 mm thick steel plate.
- AS 0115-3**
Compaction Pedestal comprising a 12 inch square x 1 inch thick steel plate, ASTM
- AS 0115-4**
Paper Discs. 99 mm diameter pack of 100.

Automatic Marshall Compactor

EN 12697-30, 12697-10, 12687-12; ASTM D 1559
D 6926, D 5581; AASHTO T245

DESCRIPTION:

The Automatic Compactor is made of rugged construction to stand work.

It provides a consistent and even degree of compaction. The Compactor comprises of a compaction pedestal, automatic control system, the secure base of 300 mm square x 25 mm thick steel plate.

After setting the required number of blows the Automatic Compactor lifts the 4535g ± 20 g hammer and releases it at the desired height of 457mm ± 3 mm.

The control system comprises of operating light, start/stop switch and a reading counter used to set the desired number of blows.



TECHNICAL SPECIFICATIONS:

Falling Height	457 \pm 5mm
Hammer Weight	4535 \pm 15 g
Tamping Face Dia.	98,5 mm
Concrete Base Dimension	450x450x200 mm
Laminated Hard work Block Dimensions	200x200x450 mm
Blows Frequency	50 blows in 55 s to 60 s
Dimensions (EN)	550x500x1950 mm
Weight (approx.) (EN)	275 kg
Power	370 W
Dimension (ASTM)	550x550x1950 mm
Weight (approx.) (ASTM)	135 kg

MAIN FEATURES:

- Accurate counter
- Heavy-duty robust built
- Jam-free design
- The easy mold clamp system

ORDERING:

AS 0116

Automatic Marshall Impact Compactor with Wooden Pedestal, EN.

AS 0117

Automatic Marshall Impact Compactor with Wooden Pedestal and Soundproof Safety Cabinet.

AS 0118

Automatic Marshall Impact Compactor with Wooden Pedestal, ASTM.

AS 0119

Automatic Marshall Impact Compactor with Wooden Pedestal and Soundproof Safety Cabinet.

ACCESSORIES:

AS 0116-1

Marshall Steel Block, Ø102 and 50 mm height

AS 0123

Marshall Compaction Mold 4"

AS 0124

Marshall Compaction Mold 6"

Marshall Stability Machine

EN 12697-12; EN 1269-23; EN 12697-34; ASTM D1559
ASTM D5581; ASTM D6927; AASHTO T245

DESCRIPTION:

The Marshall Stability Machine is used to determine the load and flow values of bituminous mixtures.

The Marshall is composed by a robust and compact two-column frame with adjustable upper cross beam driven by an electro-mechanical ram with a maximum capacity of 50 kN and a data acquisition and processing system.

The Marshall Stability Machine can be hand operated by a lateral hand wheel for calibration purposes. The mechanical jack raises the lower cross beam at a constant speed of 50.8 mm/min.

The limit switches are provided for both, bottom and top limit of travel.

The Automatic measuring system consists of a 50kN capacity strain gauge load cell that is fitted to the upper cross beam to read stability values and 25 mm x 0.001 mm displacement transducer fitted to Break Head.

The Manual measuring system consists of a 50 kN capacity load ring and dial gauge graduated 0.01 mm with 25 mm travel.

The Marshall Stability Machine comes complete with a lateral hand wheel for calibration purposes and a 100 mm breaking head.

TECHNICAL SPECIFICATIONS:

Dimensions	550 x 700 x 1200 mm
Power	1100 W
Weight (approx.)	103 kg

MAIN FEATURES:

- 3 models are available, charging ring, digital and computerized
- High resolution graphic display

ORDERING:

AS 0120

Marshall Stability Machine complete with load ring

AS 0121

Digital Marshall Stability Machine complete with digital gauge

AS 0122

Digital computerized Marshall Stability Machine complete with touch screen and software

ACCESSORIES:

AS 0120-1

Breaking Head 100 mm

AS 0120-2

Breaking Head 150 mm

AS 0120-3

Load Ring assembly complete with dia gauge, 50kN

AS 0120-4

S-type load cell 50kN

AS 0120-5

Flow Transducer

AS 0120-6

Data Acquisition and Control System



Marshall Compaction Mold

EN 12697-30; ASTM D1559, D6926, D5581 AASHTO T245

DESCRIPTION:

The Marshall Compaction Molds are used to produce the Marshall specimens with automatic or manual compactors.

The molds are manufactured using galvanized steel. The Compaction Molds consist of a base plate, mold body, and a collar.



TECHNICAL SPECIFICATIONS:

	Dimensions	Weight (approx.)
AS 0123	120x170 mm	3.5 kg
AS 0124	75x210 mm	6 kg

ORDERING:

AS 0123

Marshall Compaction Mold 4"

AS 0124

Marshall Compaction Mold 6"

ACCESSORIES:

AS 0123-1

Filter paper Mold 4' pack of 100

AS 0124-1

Filter paper Mold 6' pack of 100

Marshall Sample Extruder

EN 12697-30, 13286-2, 13286-47; AASTHO T245; ASTM D1559, D698, D1557, D1883; BS 598-107, 1377-4, 1924-2

DESCRIPTION:

The Specimen Extruder is designed to easily extrude specimens from Marshall and CBR molds. The capacity of the extruder is 30 kN.

Supplied complete with a manual hydraulic jack and 2 pcs. adaptor to extrude samples from 100mm (4"), 150 mm (6") inner diameter Marshall and CBR molds

TECHNICAL SPECIFICATIONS:

Ram Travel	230 mm
Screw Travel	90 mm
Dimensions	280x280x520 mm
Weight (approx.)	28 kg



MAIN FEATURES:

- Robust design
- Heavy duty
- Multiple adapters

ORDERING:

AS 0125

Marshall-CBR-Proctor Specimen Extruder, 30 kN Capacity

ACCESSORIES:

AS 0125-1

Adaptor to extrude samples from 100mm (4")Mold

AS 0125-2

Adaptor to extrude samples from 150mm (6")Mold

Binder Recovery Apparatus

BS 598-102; BS 5284; EN 12697-1

DESCRIPTION:

The Binder Recovery Apparatus is used to remove the solvent from the binder/solvent solution in order to determine directly the total content binder in the aggregate/binder mixtures.

The apparatus consists of a power operated vacuum pump, fit with vacuum regulator, producing a vacuum down to 200 mbar, a thermostatically controlled water bath, and two flat-bottomed flasks 250 ml capacity with rubber bungs and connections, All necessary fittings and connections complete the set.

The water bath can be used for other application as well



ORDERING:

AS 0126
Binder Recovery Apparatus

ACCESSORIES:

AS 0126-1
Flat bottom flask
AS 0126-2
Rubber bungs
AS 0126-3
Vacuum regulator
AS 0126-4
Vacuum pump
AS 0126-5
Water bath

TECHNICAL

SPECIFICATIONS:

Power rating	1380 W
Weight approx.	23 kg

Hubbard-Carmick Specific Gravity Bottles

ASTM D-70, D-1429, D-115

DESCRIPTION:

The Hubbard-Carmick Specific Gravity Bottles used with viscous fluids, semi-solid bitumen, and emulsions. Made of Borosilicate Glass they come in two shapes.

MAIN FEATURES:

- Designed for use with viscous fluids, semi-solid bitumens, and emulsions
- 24/12 Standard Taper Stopper

ORDERING:

AS 0127
Hubbard-Carmick Specific Gravity Bottle conical 25ml
AS 0128
Hubbard-Carmick Specific Gravity Bottle conical 24ml

TECHNICAL

SPECIFICATIONS:

Capacity	25 mL / 24 mL
Bottle style	Hubbard-Carmick Specific Gravity
Neck style	Wide-mouth
Top style	Standard Taper Joint
Stopper style	Standard Taper Stopper
Stopper material	Solid Glass
Bottle shape	Cylindrical
Standard Taper size	24/12
Bottle feature	Heavy wall



Bacon Sampler

DESCRIPTION:

The Bacon Sampler is used to obtain bitumen or concrete samples at various levels from several containers.

Capacity	1 L
Weight	1.5 kg
Diameter	80 mm
Length (English)	300 mm

TECHNICAL SPECIFICATIONS:



ASTM D140; AASHTO T40

ORDERING:

AS 0129
Bacon Sampler

Semi Automatic Bitumen Penetrometer

EN 1426, BS 2000-49, ASTM D5, AASHTO T49

DESCRIPTION:

The Semi-Automatic Bitumen Penetrometer is used to determine the penetration of bituminous samples under constant load, time and heat. The Penetrometers are intended for measuring the consistency of bituminous materials. Penetration readings are quickly taken from a measuring precision gauge.

The Penetrometer consists of a cast iron base with leveling screws, digital penetration measurement gauge 0.01 mm precision Release button - Automatic zeroing. Needle, transfer dish and penetration molds.

TECHNICAL SPECIFICATIONS:

Dimensions	200x300x500 mm
Weight (approx.)	16 kg
Power supply	110/240 V, 50/60 Hz
Measure range:	0-300 penetration units
Resolution	0.01 mm
Test Load	100 g (plunger 97.5 g + 2.5 g penetration needle)
Test time	5 sec (adjustable from 0.1 to 3000 seconds)

ORDERING:

AS 0130
Semi Automatic Bitumen Penetrometer

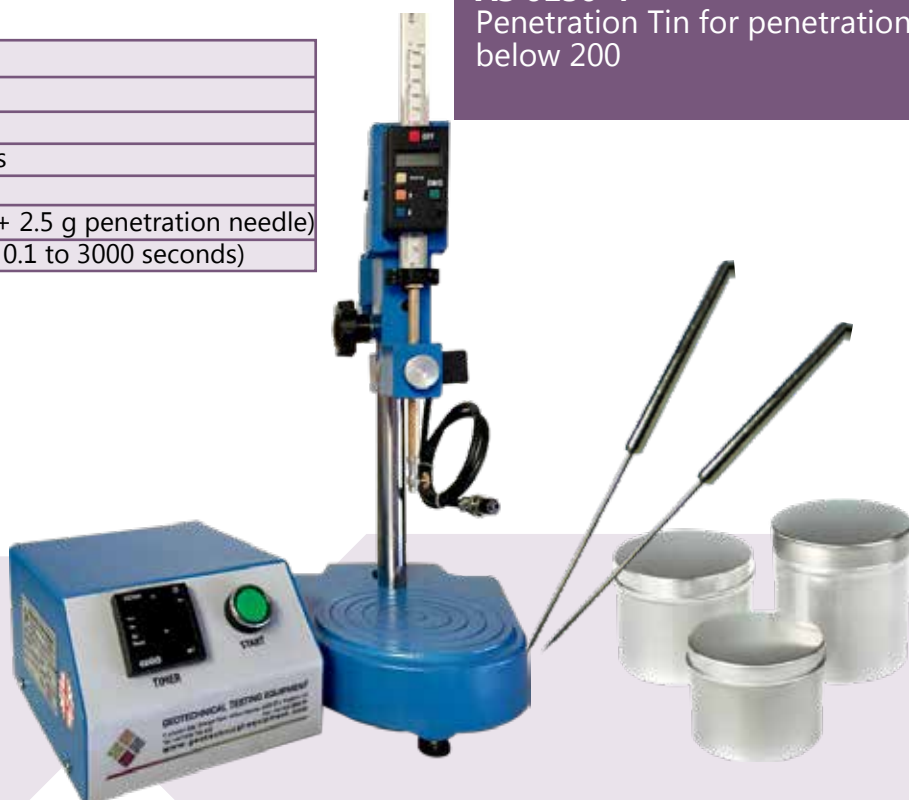
ACCESSORIES

AS 0130-1
Penetration Needle, hardened steel verification certificate. For testing to BS 2000-49 and ASTM D5

AS 0130-2
Penetration Needle (unverified)

AS 0130-3
Penetration Tin for penetrations between 200 and 350

AS 0130-4
Penetration Tin for penetrations below 200



Automatic Digital Bitumen Penetrometer

EN 1426, BS 2000-49, ASTM D5, AASHTO T49

DESCRIPTION:

The Automatic Digital Bitumen Penetrometer is used for determination of the needle penetration according to EN 1426, ASTM D5 and AASHTO T49 standards.

The penetration depth of the needle is determined with a pulse type electronic measuring system, which is separated from the plunger during the test, this allows the free guidance of the plunger which virtually eliminates friction during the test.

Before each start of the test, the measuring system automatically resets, and then the penetration needle moves down to the sample by using the electric drive, the needle position can be finely adjusted by using the joystick located on the front panel.

A magnifying glass and an ultra-bright LED lamp are supplied to assist the operator; the plunger is then automatically released onto the sample and raised automatically after the testing period.

The test result is displayed on the digital display. The plunger can easily be removed to calibrate its weight.

The Automatic Electronic Penetrometer is supplied complete with;

- Penetration Needle, 2 pcs
- Transfer Dish
- Sample Cup, Ø 55x35 mm, 2 pieces, stainless steel

TECHNICAL SPECIFICATIONS:

Measuring range	0-300 penetration units
Resolution	0.01 mm
Test load	100 g (plunger 97.5 g + 2.5 g penetration needle)
Test time	5 sec (adjustable from 0.1 to 3000 seconds)
Dimensions	27x48x75 cm
Weight	24 kg
Power supply	110/240 V, 50/60 Hz

ORDERING:

AS 0131
Automatic Digital Bitumen Penetrometer

ACCESSORIES

AS 0131-1
Transfer Dish

AS 0131-2
Sample Cup, Ø 55x35 mm, stainless steel

AS 0131-3
Sample Cup, Ø 70x45 mm, stainless steel

AS 0131-4
Penetration Needle, 2,5 g



Ring and Ball Test Apparatus

EN 1427; ASTM D36 AASHTO E53; ASTM D2172

DESCRIPTION:

The Ring and Ball method of determining the softening point bituminous materials.

The softening point is considered to the temperature of the fluid when the ball penetrates the specimens and touches the lower plate.

This test method covers the determination of the softening point of bitumen in the range from 30 to 1570C immersed in the distilled water, USP glycerin, or ethylene glycol.



TECHNICAL SPECIFICATIONS:

Power Supply	600 W, 220 /110 V, 50/60 Hz
Dimensions	125x205x545 mm
Weight	1.5 kg

ORDERING:

AS 0132

Softening Point (Ring and Ball) Apparatus complete with all accessories.

ACCESSORIES:

AS 0132-1

Rings with collars, pack of 2

AS 0132-2

Thermometer ASTM 150C IP 600C

AS 0132-3

Thermometer ASTM 160C IP 610C

AS 0132-4

Balls, pack of 50

AS 0132-5

Pyrex Glass Jar, 600ml

Cleveland, Flash and Fire Point, Open Cup

ASTM D92, DIN 51376 ISO 2592

DESCRIPTION:

The Cleveland test method describes the determination of the flash and fire point of petroleum products such as bituminous material with flashpoints above 790C and below 4000C

Electrically heated by an electronic regulator, mounted on a case painted with anti-acid epoxides products.

Calibrated brass cup, gas ignition device fitted with a pivot manually passing through the cup. Fitted with pincers for the thermometer.

TECHNICAL SPECIFICATIONS:

Dimensions	250x300x250 mm
Weight	5 kg



ORDERING:

AS 0133

Cleveland, Flash and Fire point complete.

ACCESSORIES:

AS 0133-1

Rubber Tube Joint and Tube, 5 meter

AS 0133-2

Thermometer ASTM 110C IP 280C

AS 0133-3

Gas Ignition Device

AS 0133-4

Calibrated Brass Cup.

Asphalt Binder Analyzer

DESCRIPTION:

The Asphalt Binder Analyzer consists essentially of a high precision apparatus combining an ignition oven to a continuous weighing system to monitor the loss of weight of the asphalt sample and to automatically determine, at the end of the test, the binder content and percentage.

An independently controlled auxiliary afterburner chamber significantly reduces the furnace emissions.

The Analyzer is supplied complete with:
Double sample basket/safety cover, extraction fork and 3 meters of the metal exhaust pipe.

TECHNICAL SPECIFICATIONS:

Max temp	750°C
Dimensions: Internal	220x350x450 mm
Dimensions: External	980x600x775 mm
Configuration	Bench-top
Thermocouple type	K
Weight (kg)	120 kg
Max power	8000 W



AASHTO T 308-10; ASTM D6307-10;
BS EN 12697-39:2012

MAIN FEATURES:

- Highly efficient heating system with afterburner for total combustion of fumes
- No need for filter or hoods
- Sample size up to 4500 g

ORDERING:

AS 0134
Asphalt Binder Analyzer

ACCESSORIES:

- AS 0134-1**
Floor stand
- AS 0134-2**
Sample cooling stand
- AS 0134-3**
Sample baskets
- AS 0134-4**
Metal waste gas extraction pipe
- AS 0134-5**
Heat protection gloves
- AS 0134-6**
Face shield

Loss On Heating Oven (TFOT)

DESCRIPTION:

The Loss on Heat Oven test method is used for determining the loss in mass, the effect of heat and air on a film of semi-solid bituminous materials.

Completely made from stainless steel, natural ventilation, internal support rotating at 5-6rpm controlled by a geared motor located on the oven top, digital thermoregulator PID with over-temperature alarm and probe, double-wall locking door with toughened glass window.

The Loss on Heat Oven supplied complete with:
a Rotating shelf with 9 sample containers dia. 55x35 mm and thermometer ASTM 13C, +155 to +170°C, 0.5°C divisions. Conforming to all standards.

EN 12607-2; EN 13303; ASTM D6; ASTM D1754;
AASHTO T47; AASHTO T179; BS 2000

MAIN FEATURES:

- Digital control
- Independent overheat thermostat
- Mains switch
- ON/OFF switch for turntable motor
- Indicator lamps

Loss On Heating oven (TFOT)

EN 12607-2; EN 13303; ASTM D6; ASTM D1754;
AASHTO T47; AASHTO T179; BS 2000



ORDERING:

AS 0135

Loss on Heat Oven complete set.

ACCESSORIES:

AS 0135-1

Rotating shelf 316mm dia

AS 0135-2

thermometer ASTM 13C, +155 to +170°C, 0.5°C divisions.

AS 0135-3

9 containers dia. 55x35 mm

TECHNICAL SPECIFICATIONS:

Dimensions	57x87x63 cm
Weight (approx.)	50 kg
Temperature	200 C

Rolling Thin Film Oven(RTFO)

DESCRIPTION:

The Rolling Thin Film Oven provides simulated short term aged asphalt binder for physical property testing.

Asphalt binder is exposed to elevated temperatures to simulate manufacturing and placement aging. It also provides a quantitative measure of the volatiles lost during the aging process.

Supplied complete with:

- Forced ventilation flowmeter with a regulator valve
- Aluminum carriage rotating at 15rpm - 8 heat resistant glass containers
- Internal fan controlled by a motor
- Copper coil with nozzle preheating the air containers
- Digital thermometer and regulator

MAIN FEATURES:

- Double-wall stainless steel construction
- The easily removable bottom tray allows for a quick change of elements or spill clean-up



The oven must be connected to a compressed air source supplying 2 bar minimum pressure

TECHNICAL SPECIFICATIONS:

	Rolling Thin Film Oven
Dimensions	750x750x910
Weight (approx.)	65 kg
Power supply	220 V, 50-60 Hz, 1 ph

ORDERING:

AS 0136

Rolling Thin Film Oven RTFO complete

ACCESSORIES

AS 0136-1

Glass Sample Containers, 8 pcs

AS 0136-2

ASTM 13C Thermometer, +155 to +170°C, 0.5° divisions

AS 0136-3

Air compressor

Ductility Testing Machine

EN 13398; EN 13589, 13703; ASTM D113, D6084;
AASHTO T51, AASHTO T300



DESCRIPTION:

The Ductility Testing Machine used for determining the ductility of bituminous materials by measuring the elongation of briquette mold with molten bitumen in it which is pulled apart at a specified speed and at a specified temperature.

The test shall be made at a temperature of $25 \pm 0.5^{\circ}\text{C}$ with a speed of $5 \text{ cm/min} \pm 5.0\%$.

Digital thermoregulator with over-temperature alarm and probe, cooling coil, traction carriage holding molds, circulation pump for stirring the water.

The Ductility Testing Machine with Cooling Unit has the same specifications as the ductility Testing Machine but with an additional cooling unit for better temperature control

The Force Ductility Testing Machine has 3 load cells and variable speeds. The accuracy of load cells is $\pm 0.1\text{N}$ with a maximum capacity of 300 N. It has a cooling unit and digital graphic display, automatic control and Data Acquisition Unit, load-displacement curves and software.

The speed can be set and load-displacement curves are drawn through the software.

TECHNICAL SPECIFICATIONS:

Temperature Range	5° to $25^{\circ}\text{C} \pm 0.5^{\circ}$ (41° to $77^{\circ}\text{F} \pm 0.9^{\circ}$)
Electrical	1000W Heater, 500W Cooler
Product Dimensions	1,880 x 360 x 680 mm
Estimated Shipping Weight	117.03 kg

MAIN FEATURES:

- Able to test three specimens simultaneously
- Heating and cooling circulator digitally regulates temperatures
- Vibration-free operation
- Direct-drive motor maintains a constant speed
- Force ductility comes with adjustable speed

ORDERING:

AS 0137

Ductility Testing Machine without cooling unit

AS 0138

Ductility Testing Machine with cooling unit

AS 0139

Force ductility Testing Machine with cooling unit

ACCESSORIES:

AS 0137-1

Ductility Briquette Mould.

AS 0137-2

Ductility Mould Base Plate

Emulsified Asphalts Apparatus

DESCRIPTION:

The Emulsified Asphalt test methods and practices cover the examination of asphalt emulsions composed principally of a semisolid or liquid asphaltic base, water, and an emulsifying agent.

Used for determining the cutback of asphalt material by distillation method.

The Emulsified Asphalt comprises Aluminum boiler container, connection glass tube with protection shield, glass condenser for water circulation, 2 thermometers ASTM 7C range -2 to +300°C, gas ring burner with gas stop valve controlled by a flame sensor. 100ml graduated cylinder, supporting ring, bases with rods.



ASTM D244, D6997; EN 1431; ASHTO T59

ORDERING:

AS 0140

Emulsified Asphalt Apparatus

ACCESSORIES:

AS 0140-1

Thermometer ASTM 7°C
pack of 2

TECHNICAL SPECIFICATIONS:

Weight (Approx.)

9 kg

Dean and Stark Apparatus

DESCRIPTION:

The Dean and Stark Apparatus 3 places test method covers the determination of water in the range from 0 to 25% volume in petroleum products, tars, and other bituminous materials by the distillation method.

The Dean and Stark Apparatus consist of: Mantle heater with a steel rod and clamp, 500ml flask, condenser and graduated 10ml receiver.



TECHNICAL SPECIFICATIONS:

Power	Weight (approx.)
250W	4 kg

ASTM D95

ORDERING:

AS 0141

Dean and Stark apparatus complete

ACCESSORIES:

AS 0141-1

Flask, 500ml tampered joint
24/40, pack of 3

Distillation of Cut-Back Asphaltic (Bituminous) Product

ASTM D402 ASHTO T78

DESCRIPTION:

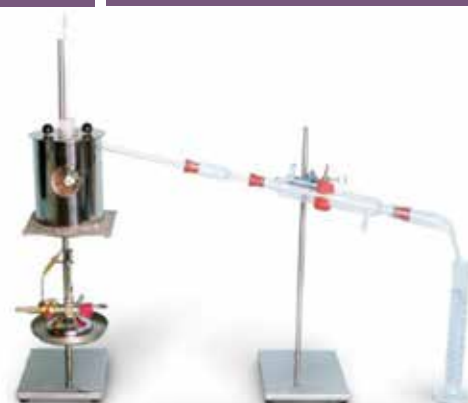
This apparatus is used for the examination of the amount of the more volatile constituents in cutback asphaltic products.

It consists of:

Distillation flask, Condenser, Adapter, Shield, Shield and flask support, Electric heater with thermoregulator, Cylinder receiver, Thermometer -2 +400°C

TECHNICAL SPECIFICATIONS:

Dimensions	Weight (approx.)
300x300x600 mm	6 kg



ORDERING:

AS 0142

Gas Distillation of Cut Back Asphaltic Apparatus

ACCESSORIES:

AS 0142-1

Low distillation thermometer, ASTM 7C, -2 +300°C

AS 0142-2

Crow receiver 25 ml cap.

AS 0142-3

Crow receiver 50 ml cap.

AS 0142-4

Crow receiver 100 ml cap.

AS 0142-5

Distillation flask

AS 0142-6

High distillation thermometer, ASTM 8 C, -2 +400°C, subdivisions 1°Cs

MAIN FEATURES:

- Adjustable platform
- Supported on height

Digital Viscometer Bath

DESCRIPTION:

The Digital Viscometer Bath is used for measuring oils viscosity by Cannon-Fenske, Ubbelohde, and similar capillary.

Working temperature from ambient to 150°C $\pm 0.1^\circ$. Borosilicate tank, cover with 5 holes 50.8mm, stainless steel control box on the cover.

Digital thermoregulator PID with over-temperature alarm and probe, cooling coil for improved control near to ambient temperature, stainless steel heater, motor stirrer, with stand-by stainless steel covers, protection Lexan jacket

The Large Digital Viscometer Bath Structure is made of stainless steel, cover with 5 holes or 7 holes, 50.8mm, temperature control by digital thermoregulator PID stability $\pm 0.02^\circ\text{C}$ and display resolution 0.01° , adjustable high and low-temperature cut-out, low-level liquid alarm, cooling coil, stand-by stainless steel covers, light.

TECHNICAL

SPECIFICATIONS:

	AS 0143	AS 0144
Power supply	220 V 50/60 Hz	220 V 50/60 Hz
Dimensions	50x60 cm	45x60x60 cm
Weight	12 kg	25 kg

ASTM D88; AASHTO T72; ASTM D7496; D445, D446, D2270

MAIN FEATURES:

- Working temperature from ambient to +70°C
- Transparent tank
- Cover with 5 or 7 holes 51 mm

ORDERING:

AS 0143

The digital viscometer bath

AS 0144

The large digital viscometer bath

ACCESSORIES:

AS 0143-1

Silicone oil – Kinematic viscosity 50 mm²/s at 25°C, can of 25 liters

AS 0143-2

Viscometer holders PTFE for Cannon-Fenske, pack of 5 pcs.

AS 0143-3

Viscometer holders in metal for Ubbelohde pack of 5.



AS 0143-4

Digital stopwatch

Digital Saybolt Viscometer

DESCRIPTION:

The Digital Saybolt Viscometer a device used to measure the viscosity of a fluid such as an asphalt. Calibrated brass oil cup with stainless steel flowing orifice, polished and calibrated 1.76mm dia Universal and 3.15mm dia Furol.

Digital thermoregulator PID with Over-temperature alarm and PT 100A probe, stirrer, cooling coil, 18/8 stainless steel water bath, insulated double wall and front opened jacket.

Monitoring the time required for the flow of specific volume to fill a 60cc container flask. The time recorded in seconds at three different temperatures. It has 2 sample testing capacity with a digital display.



TECHNICAL SPECIFICATIONS:

Power supply	220 Vac $\pm 10\%$, 50 Hz
Max. power consumption	1200W
Operating range	21°C to 99°
Precision	0.05°C
Dimensions	260x260x530 mm.
Weight	4 kg
Working temperature	0 to 50°C
Storage temperature	-10 to 70°C
Ambient relative humidity	<90% rH not condensing

ASTM D88 E102, AASHTO T72

ORDERING:

AS 0145

Digital Saybolt Viscometer, 2 places

AS 0146

Digital Saybolt Viscometer, 3 places

AS 0147

Digital Saybolt Viscometer, 4 places

ACCESSORIES:

AS 0145-1

Saybolt Viscosity Flask 60 ml

AS 0145-2

Set of Glass Thermometers 6 pcs

AS 0145-3

Filter funnel With stainless steel wire mesh

Water Bath

EN 12697-34, 23; ASTM D1559; ASTM D5581; AASHTO T245; EN 12697-12

DESCRIPTION:

The Water Bath is Used to condition Marshall specimens and other materials in water.

The water baths are available in different dimensions: 30, 56 and 110 liters capacity. Digital thermoregulatory and temperature display, internal and external outer case in stainless steel. Complete with perforated base shelf and cover.

Our Water Bath can be fitted with cooling unit



TECHNICAL SPECIFICATIONS:

Product Code	AS 0148 / AS 0149	AS 0152 / AS 0153	AS 0154/ AS 0155
Recirculation	yes	yes	yes
Capacity	30 liters	56 liters	110 liters
Marshall specimen capacity	12	20	30 (4") 12 (6")
Temperature range: ambient to	60°C	60°C	95°C
Accuracy	±1°C	±1°C	±1°C
Resolution	0.1°C	0.1°C	0.1°C
Power	1200 W	1200 W	2500 W
Inside dim. (mm)	500x300x185(h)	610x500x185(h)	600x500x280(h)
Outside dim. (mm)	640x340x240(h)	650x540x240(h)	816x547x600(h)
Weight approx.	9.5 kg	20 kg	30 kg

MAIN FEATURES:

- Ideal for conditioning asphalt specimens
- Water conditioning up to 60°
- wide internal area to accommodate several specimens

ORDERING:

AS 0148

Digital water bath, 30 ltr. Cap. 230V, 50-60 Hz, 1 ph

AS 0149

Digital water bath, 30 ltr. Cap. 230V, 50-60 Hz, 1 ph with cooling device

AS 0150

Digital water bath, 48 ltr. Cap. 230V, 50-60 Hz, 1 ph

AS 0151

Digital water bath, 48 ltr. Cap. 230V, 50-60 Hz, 1 ph with cooling device

AS 0152

Digital water bath, 56 ltrs. Cap.

AS 0153

Digital water bath, 56 ltrs. Cap. with cooling device

AS 0154

Digital water bath 110 ltr.

AS 0155

Digital water bath 110 ltr. with Cooling Device.

Rate of Spread Balance

DESCRIPTION:

The Rate of Spread Balance determines the spread of coated chippings.

This is determined using the calibrated spring balance and the rate of spread of tray. The spring load balance will accept rates of the spread between 4 and 16kg/m².

Comprises:

Rate of Spread Tray, manufactured from aluminum, 300mm square complete with four chains and lifting eye attached to a spring balance



BS 598-108, EN 12272-1

ORDERING:

AS 0156

Rate of spread complete

ACCESSORIES:

AS 0156-1

Spring Balance

AS 0156-2

Tray and Four Chains

TECHNICAL SPECIFICATIONS:

Weight (Approx.)

850g

Rice Test Vibrating Apparatus

DESCRIPTION:

The Rice Vibrating Apparatus is designed to be used in maximum specific gravity (rice test) and density determinations of bituminous paving mixtures with maximum accurate size up to 19.1 mm (3/4 inch).

The material de signification that entraps air is virtually eliminated through the shaking process, resulting in more accurate and uniform test results.

The equipment comes complete with clip mounting and removal clamp for the pycnometer. There are several models of Pycnometer to choose from depending on the standard.

The Vacuum pump, vacuum pressure gauge, and connecting tubes are ordered separately.

EN 22592; ASTM D92; AASHTO T48
ASTM D2041, D854, C 128 AASHTO T209, T283



TECHNICAL SPECIFICATIONS:

Dimensions	495x30 mm
Weight	5.5 kg

MAIN FEATURES:

- Reduces operator errors improving accuracy and repeatability.

ORDERING:

AS 0157
Rice Test Vibrating Apparatus complete

ACCESSORIES:

- AS 0157-1**
Filter flask, 1L
- AS 0157-2**
Filter flask, 2L
- AS 0157-3**
Filter flask, 4L
- AS 0157-4**
Vacuum pressure gauge and connecting tube.
- AS 0157-5**
Vacuum pump.

Vacuum Pycnometer

DESCRIPTION:

The Vacuum Pycnometer is used in the Rice Test to determine the maximum specific gravity of bituminous.

There are 3 models available of the Vacuum Pycnometer

Vacuum Pycnometer 2000gr. aluminum with transparent cover for easy observation of sample testing connected with pressure gauge.

Vacuum Pycnometer 4000gr. aluminum with transparent cover for easy observation of sample testing connected with pressure gauge.

Vacuum Pycnometer 6000gr., 10 ltr capacity made from hard plastic fitted with pressure gauge and connecting tubes.

TECHNICAL SPECIFICATIONS:

	Dimensions	Weight
Plastic 6000 gr.	(273 mm) x (406 mm) h.	3.6 kg
Aluminum 2000 gr.	(191x152mm)	5.4 kg
Aluminum 4000 gr.	(191x229mm)	7.8 kg

ASTM D2041, EN 12697- 5, AASHTO T209, T283

MAIN FEATURES:

- Optimal for mixes with aggregates
- O-Ring design seal prevents leakage
- Complete user control of water level with adjustable valve



ORDERING:

- AS 0158**
Vacuum Pycnometer, 2000 gr. aluminum.
- AS 0159**
Vacuum Pycnometer, 4000 gr. aluminum.
- AS 0160**
Vacuum Pycnometer, 6000 g plastic.

ACCESSORIES:

- AS 0158-1**
Vacuum Pressure gauge and connecting tubes

Percentage Refusal Density (PRD)

EN 12697-10-9-32; EN 13286-4 BS 1924:2 BS 1377:4

DESCRIPTION:

The Vibrating compaction hammer is mainly used for the P.R.D. Percentage refusal density test as well as the compaction of Proctor, CBR soil specimens. as it provides an alternative method for the compaction of soil samples in the determination of dry density/moisture content relation.

The set comes complete with:
the vibrating hammer, supporting frame, 2 sizes tamping foot (Small, 102 mm dia. Large, 146 mm dia.). extension shank 300mm. P.R.D. Split mold and baseplate, 1 pcs.

TECHNICAL SPECIFICATIONS:

Overall dimensions	105x430x270 mm
Weight approx.	7 kg



MAIN FEATURES:

- Constant speed with variable speed control
- Durable aluminum housing
- Soft grip and shock-absorbing handle
- Easy to change tool by the single-step holder
- Functional and robust design

ORDERING:

AS 0161

Percentage Refusal Density complete with accessories

ACCESSORIES:

AS 0161-1

Holding frame

AS 0161-2

Split Mold and Baseplate

AS 0161-3

Vibrating Hammer

AS 0161-4

Small Tamping Foot 102 mm dia

AS 0161-5

Large Tamping Foot 146 mm Dia

AS 0161-6

300mm Shank, For Tamping foot

Solvent Recovery Unit

DESCRIPTION:

Used to recover the solvent liquid after its use for the extraction tests. This unit has been designed to recover non-flammable solvents and consists of two stainless steel chambers, one for dirty solvent and the other for the cleaned solvent. An electric heater in the left-hand chamber distills the solvent, which then passes through a water cooling system and drops into the second chamber ready for re-use in a new test. Once the process is completed, a temperature switch automatically stops the heating elements.

Supplied complete with:

10 m plastic tube, tube clamps, sieve insert 0.6 mm opening and one lid. Particularly useful to recover solvent used with the Paper filter extractor, Wire mesh extractor, Kumagawa extractor, Reflux extractors, Filterless centrifuge binder extractors.

TECHNICAL SPECIFICATIONS:

Max. temperature	150°C
Power	1200 W
Overall dimensions	400x320x650 mm
Weight approx.	17 kg



ORDERING:

AS 0162

Solvent recovery unit, 10 l/h.
230 V, 50-60 Hz, 1 ph

Vialit Plate, Adhesion Test Apparatus

EN 12272-3

DESCRIPTION:

The Vialit Plate Apparatus is used to assess the adhesion property of aggregates to bitumen.

Supplied complete with a metal basement with three vertical pointed rods to hold the flat steel plate, 50 cm. high vertical rod with a slot at the upper end for the steel ball to drop, a 512 g steel ball, 6 metal test plates and a hand-operated rubber wheel roller.



ORDERING:

AS 0163
Vialit Plate

ACCESSORIES:

AS 0163-1
Steel Ball, 512gr
AS 0163-2
Mechanic Aggregate Deployment
AS 0163-3
6 Metal test plates

TECHNICAL SPECIFICATIONS:

Dimensions	Weight (approx.)
400x1400x400 mm	45 kg

Benkelman Beam Apparatus

AASHTO T256

DESCRIPTION:

The Benkelman Beam Apparatus is designed to determine the deflection of a flexible pavement or road surface under moving wheel loads.

The Benkelman Beam Apparatus Comprises:
The equipment is lightweight and made of aluminum for easy portability and use at any test location, the length of the Benkelman beam is 250cm One end of the beam rests at a point under investigation while the beam is pivoted in the center.

The free end carries a dial gauge to record the deflections while the other end is kept on a stable platform.



ORDERING:

AS 0164
Benkelman Beam Apparatus

TECHNICAL SPECIFICATIONS:

Main Body	1397 mm long
Probe Beam	Aluminum, 2.4 m long
Open Length	3.7 m
Weigth	15.9 kg

Traveling Beam Device

EN 1426, BS 2000-49, ASTM D5, AASHTO T 49

DESCRIPTION:

The Travelling Beam Device is used for detecting surface irregularities in both concrete and asphalt pavement.

The apparatus comprises of a 3-meter length beam with rigid wheels at the extremes and the middle, which can detect any vertical deviation of the surface from a straight-line between the two wheels at the ends of the machine.

Measuring the capacity of the device is ± 25 mm with 5mm increments. It comprises manual dye marker which can mark irregular surfaces of the road.

TECHNICAL SPECIFICATIONS:

Dimensions	Weight (approx.)
720x1600x500 mm	55 kg



ORDERING:

AS 0165

Traveling Beam Device complete

ACCESSORIES:

AS 0165-1

Autographic Recorder.

AS 0165-2

Charts for Autographic Recorder. Pack of 10 rolls

AS 0165-3

Fibre-tipped Pen

Rolling Straightedge Apparatus

AASHTO T256 BS EN 292

DESCRIPTION:

The Rolling Straightedge measures depressions on the pavement surface on analog scale 0-12mm + 0.25mm. The straightedge also has an odometer for accurate determination of distance traveled in units of 1 meter.

The Rolling Straightedge is pushed at 1-2km/h and the number of irregularities, their length, and distance from the start, are recorded.

The national specifications for surface regularity are then compared and the pavement accepted or rejected and or remedial work undertaken.

The Rolling Straightedge simulates a 3m rigid straightedge sliding along the road surface, and consists of a rigid frame supported on rubber-tyred wheels arranged in two parallel rows, with the centers of the wheels in one row opposite the gaps between the two parallel rows of supporting wheels, is free to move such that it detects vertical movements of this wheel which are then transmitted to a pointer and scale, on the instrument head.

ORDERING:

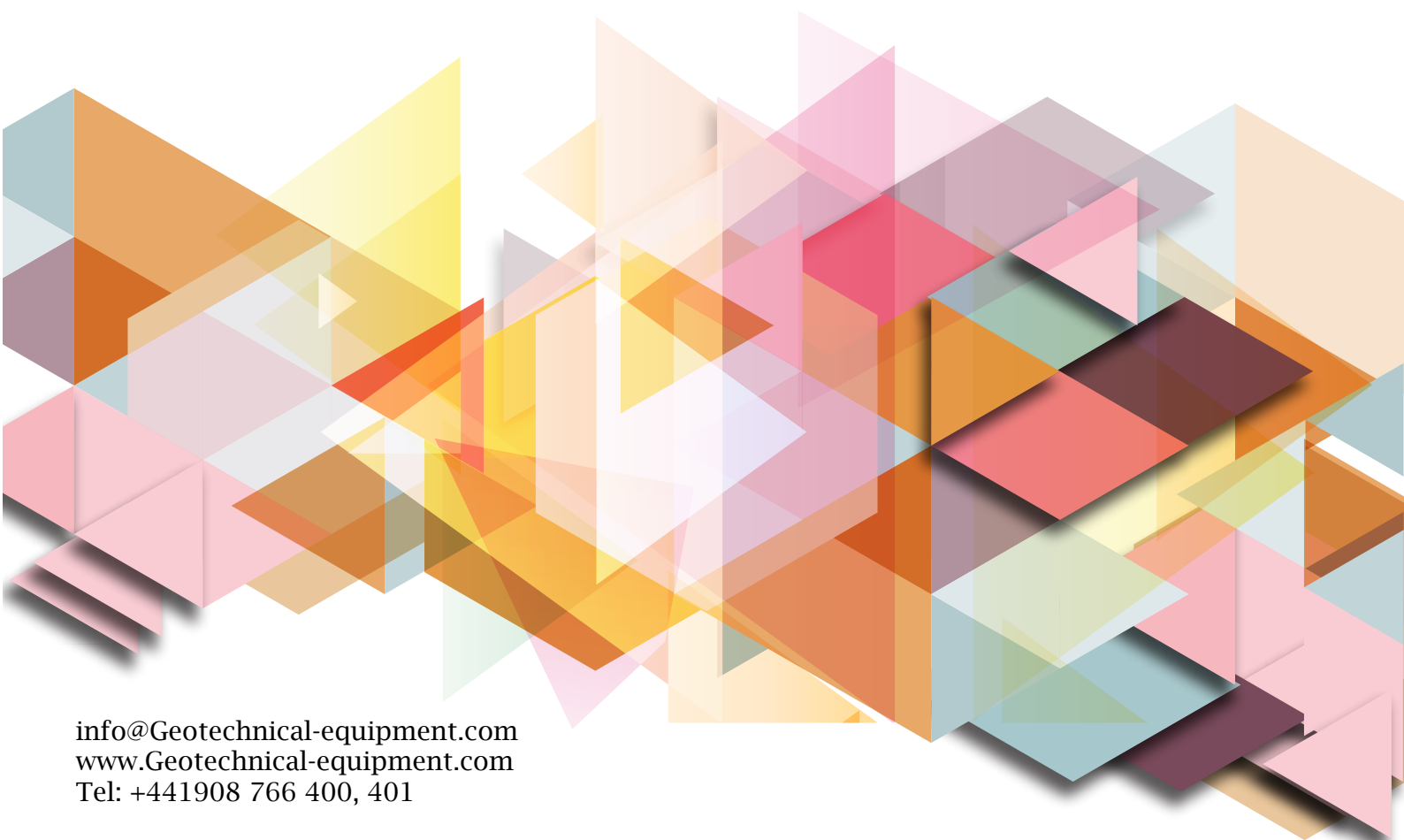
AS 0166

Rolling Straightedge Apparatus



TECHNICAL SPECIFICATIONS:

Dimensions	Weight (approx.)
1300x500x450 mm	112 kg



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