

B054 DUCTILOMETER

STANDARDS: EN 13398, EN 13589 | ASTM D113, D6084 | AASHTO T51

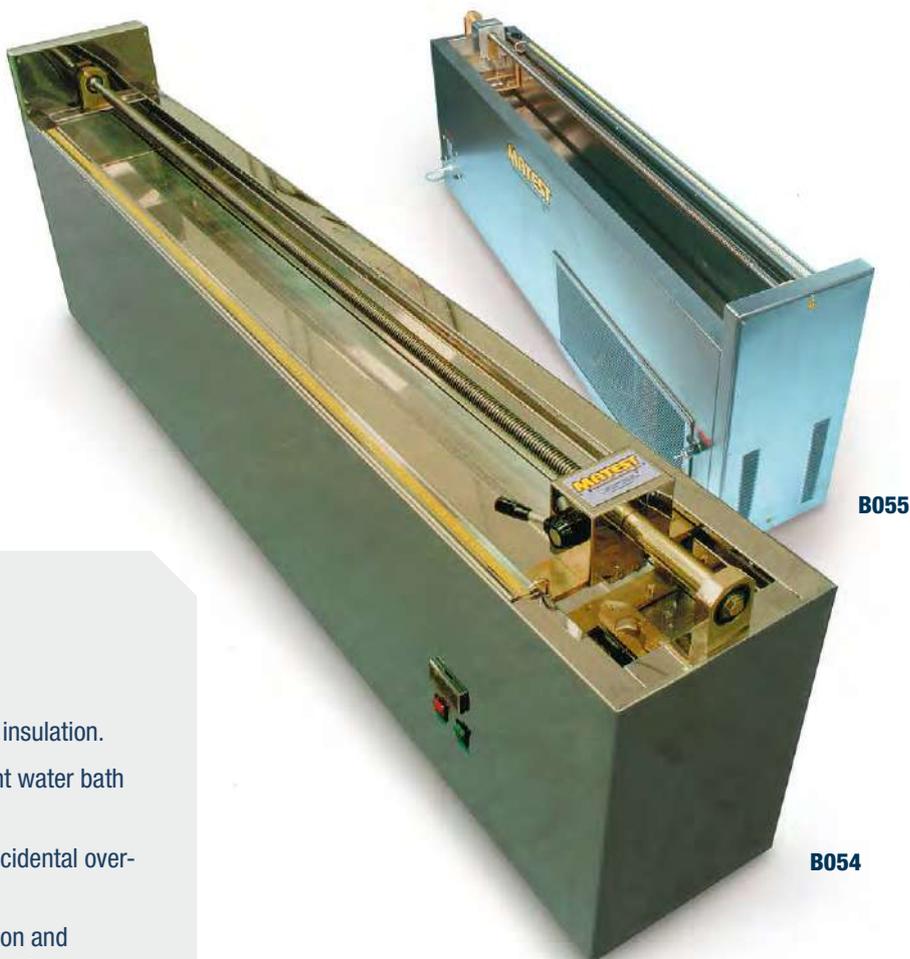
Used to determine the bituminous ductility, that is the distance to which a briquette of molten bitumen can be extended under controlled conditions, before breaking. The Ductilometer basically consists of a moving carriage travelling along guide ways. The carriage is driven by an electrical motor, inside a large tank fitted with digital thermostat, immersion electric heater, cooling coil for cold water circulation and pump unit. Max. traction force: 300 N, accuracy: ± 0.1 N

The ductilometer can accept up to 3 specimens simultaneously. Supplied complete **except** for the briquette mould and base plate that must be ordered separately (see accessories).

Power supply: 230V 1ph 50Hz 750W

Dimensions: 1880x360x680 mm

Weight: 95 kg approx.



B055

B054

MAIN FEATURES

- Works automatically.
- Speed 50 mm/min.
- Max stroke 1500 mm.
- Stainless steel made with fibreglass insulation.
- Digital thermoregulator for a constant water bath temperature ($25\text{ }^{\circ}\text{C} \pm 0.5\text{ }^{\circ}\text{C}$).
- Dual safety thermostat to prevent accidental over-temperature.
- Cyber-plus 8 evolution data acquisition and processing system available in B055-10 and B055-20N models.

ACCESSORIES

B054-01

DUCTILITY BRIQUETTE MOULD - STANDARDS: ASTM, AASHTO, GOST
Used to prepare the specimen, it is brass made, accurately machined. Supplied without base plate. Weight: 300 g

B054-03

DUCTILITY BRIQUETTE MOULD - STANDARD: EN 13398
Used to prepare the specimen, it is brass made, accurately machined. Supplied without base plate. Weight: 300 g

B054-04

DUCTILITY BRIQUETTE MOULD - STANDARD: EN 13589
Used to prepare the specimen, it is brass made, accurately machined. Supplied without base plate. Weight: 300 g

B054-02 BASE PLATE for ductility briquette mould.

B055 DUCTILOMETER WITH COOLING SYSTEM

Same as for mod. B054 but equipped with incorporated refrigerating unit for tests with water temperature from $+ 5^{\circ}$ to $+ 25\text{ }^{\circ}\text{C}$.

Dimensions: 1880x360x680 mm

Weight: 130 kg approx.



B054-03

B054-01

B054-04

B054-02

B055-10 DUCTILOMETER WITH DATA ACQUISITION HIGH PERFORMANCE

STANDARDS: EN 13398 | EN 13589 | EN 13703 | ASTM D113, D6084 | AASHTO T51 | GOST 11505-75, 33138-2014

Same as mod. B054, but upgraded with:

- Cyber-plus Progress data acquisition and processing system, **colour touch screen display** ¼ VGA, 24 bit resolution. It automatically performs data acquisition and processing. Directly connected to printer (accessory) via USB it prints the test certificate. Equipped with slots for external pendrive or SD card infinite memory support with direct connection to PC. Hardware details: see p. 19, 225
- Software UTM NET to unload and visualize test data to PC.
- One electric load cell 50 N capacity complete with installation and calibration. (Possibility to install later on up to 3 cells directly by the end user). Supplied **without** briquette mould and base (see accessories).



ACCESSORIES

B055-15

LOAD CELL electric, 50 N capacity, complete with installation and calibration (possibility to install up to 3 cells).

B055-16

REFRIGERATING UNIT, incorporated into the machine, for tests with water temperature from +5 °C to +25 °C (not possible to fix on later).

Ductility moulds and base plate: see p. 144



B055-10

B055-20N

B055-20N DUCTILOMETER WITH DATA ACQUISITION FOR RESEARCH HIGH PERFORMANCE

STANDARDS: EN 13589, 13703, 13398 | ASTM D113, D6084
AASHTO T51, T300, T301
GOST 11505-75, 33138-2014

Developed and manufactured for ductility tests and for research purposes. Stepper motor providing a variable speed range from 1 to 400 mm/min with digital displacement measuring system.

Up to 3 samples can be tested simultaneously.

One electric high capacity load cell 500 N (possibility to install later on up to 3 cells directly by the end user).

Automatic positioning of start test.

Visualization of the elongation in mm and load/elongation chart.

Max elongation recording before breaking failure.

Absorbed energy elaboration.

Temperature setting and visualization of the test execution with continuous recording during the test.

Test certificate print-out (USB connector or local printer).

Cyber-plus Progress data acquisition and processing system **colour touch screen display** (technical details: p. 19, 225).

Software UTM2 to unload and display test data to PC.

Glass upper cover.

Supplied **without** briquette mould and base (see accessories).

Power supply: 230V 1ph 50-60Hz 1000W

Dimensions: 2140x400x650 mm

Weight: 110 kg approx.

ACCESSORIES

B055-15

LOAD CELL electric, 50 N capacity, complete with installation and calibration, suitable for soft bitumen.

B055-25

LOAD CELL electric, 500 N capacity, complete with installation and calibration (possibility to install up to 3 cells).

B055-26

REFRIGERATING UNIT, incorporated into the machine, for tests with water temperature from +5 °C to +25 °C. (Not possible to fix later on).

C128

LASER PRINTER, bench model, for graphics and certificates with direct connection via USB.

Ductility moulds and base plate: see p. 144



Detail: 3 load cells 500 N

CALIBRATION EQUIPMENT FOR DUCTILOMETERS WITH DATA ACQUISITION

AVAILABLE MODELS

B055-27 KIT CALIBRATION EQUIPMENT FOR MOD. B055-10

Consisting of:

C138N UNIVERSAL DIGITAL TESTER WITH MICROPROCESSOR

This user friendly menu driven digital display, connected to the calibration load cell, allows to perform an accuracy's verification of the loads measured from the Ductilometer under control, and it allows to produce the relative certificate.

Technical details: see p. 326

B055-30 CALIBRATION LOAD CELL

Electric, 50 N capacity, complete with installation devices.

TECHNICAL SPECIFICATIONS

- Full Scale nominal output: 2 mV/V
- Linearity + Hysteresis:
- $\pm 0.1\%$ of full scale
- Repeatability: $\pm 0.03\%$ of full scale
- CLASS: AA

B055-34 ADAPTER

Coupling device between the load cell and the ductilometer



B055-28 KIT

NEW

NEEDED ACCESSORY

C138-05 CALIBRATION PROCESS of the load cell combined with the Universal digital tester, complete with Matest Calibration Certificate.

Alternative:

C138-10 CALIBRATION CERTIFICATE issued by an accredited Calibration Institute (ACCREDIA Centre)

B055-28 KIT CALIBRATION EQUIPMENT FOR MOD. B055-20N

Consisting of:

C138N UNIVERSAL DIGITAL TESTER WITH MICROPROCESSOR

This user friendly menu driven digital display, connected to the calibration load cell, allows to perform an accuracy's verification of the loads measured from the Ductilometer under control, and it allows to produce the relative certificate.

Technical details: see p. 326

B055-32 CALIBRATION LOAD CELL

Electric, 500 N capacity, complete with installation devices.

TECHNICAL SPECIFICATIONS

- Full Scale nominal output: 2 mV/V
- Linearity + Hysteresis:
- $\pm 0.1\%$ of full scale
- Repeatability: $\pm 0.03\%$ of full scale
- CLASS: AA

B055-35 ADAPTER

Coupling device between the load cell and the ductilometer

B077 KIT FRAASS APPARATUS BREAKING POINT STANDARD: EN 12593

This apparatus is used to determine the breaking point of semisolid and solid bitumes. It consists in a flexure device with two concentric sliding resin tubes, jaws for the test specimen, flexure system with handle, cooling device with three containers, plate in special harmonic steel, thermometer IP 42C.

Weight: 4 kg approx.

SPARES

B077-01 Plate (spring) in special armonic steel

B077-02 Thermometer IP 42C



B077 KIT

HUBBARD-CARMICK SPECIFIC GRAVITY

STANDARDS: EN ISO 3838 | ASTM D70
NF T66-007

V111 Cylindrical type, 24 ml

V111-01 Conical type, 25 ml



V111-01

V111