

PROCTOR TEST: MOISTURE-DENSITY RELATIONSHIP

STANDARDS: EN 13286-2 / ASTM D558, D698, D1557 / AASHTO T99, T134, T180 / BS 1377:4, 1924:2
CNR N° 69 / NF P94-093, P98-231-1 / DIN 18127

Proctor moulds

Used for determining the relationship between the moisture content and density of compacted soils. Steel made, complete with mould body, collar and base; plated against corrosion. Different proctor mould models are available according to the various international Standards in use.

MODELS:

section S

| Code | Description | Standards | Int. dia. mm | Body height mm | Volume ml | Weight Kg |
|--------------------|------------------------------|------------------------------|-----------------|-------------------|--------------|--------------|
| S185 | Standard Proctor Mould | ASTM / AASHTO / NF CNR | 101,6 | 116,4 | 944 | 8 |
| S186 | Modified Proctor Mould | ASTM / AASHTO / CNR | 152,4 | 116,4 | 2124 | 10 |
| S189 | Split Standard Proctor Mould | ASTM / AASHTO / NF CNR | 101,6 | 116,4 | 944 | 8 |
| S190 | Split Modified Proctor Mould | ASTM / AASHTO / CNR | 152,4 | 116,4 | 2124 | 10 |
| S190-01 KIT | Modified Proctor Mould | NF | 152 | 152 | 2758 | 10 |
| S190-02 KIT | Split Modified Proctor Mould | NF | 152 | 152 | 2758 | 11 |
| S191 | Standard Proctor Mould | BS | 105 | 115,5 | 1000 | 8 |
| S194 | Standard Proctor Mould | EN 13286:2 comparable to DIN | 100 ± 1 | 120 ± 1 | 942 | 9 |
| S194-01 KIT | Modified Proctor Mould | EN 13286:2 comparable to DIN | 150 ± 1 | 120 ± 1 | 2120 | 13 |
| S194-03 | Split Standard Proctor Mould | EN 13286:2 comparable to DIN | 100 ± 1 | 120 ± 1 | 942 | 9 |
| S194-04 KIT | Split Standard Proctor Mould | EN 13286:2 comparable to DIN | 150 ± 1 | 120 ± 1 | 2120 | 13 |
| S194-02 | Proctor Mould Large Size | EN 13286:2 comparable to DIN | 250 ± 1 | 200 ± 1 | 9817 | 32 |



PROCTOR RAMMERS

Used to compact the soil sample into the mould. The spherical hand knob is from bakelite with metal screw and protection ring nut; guide sleeve with vent holes. The rammers are steel made, plated against corrosion, available in different models according to the various International Standards in use. In alternative to the rammers the automatic compactor mod. S199 (see pag. 324) can be used.

MODELS:

| Code | Description | Standards | Rammer dia. mm | Fall height mm | Rammer weight Kg | Total weight Kg |
|----------------|---------------------------|--------------------------------|----------------|----------------|------------------|-----------------|
| S187 | Standard Proctor rammer | ASTM / AASHTO CNR / UNE / NLT | 50,8 | 304,8 | 2,495 | 6 |
| S187-01 | Standard Proctor rammer | EN 13286:2 comparable to NF/BS | 50 ± 0,5 | 305 ± 3 | 2,5 ± 0,02 | 6 |
| S188 | Modified Proctor rammer | ASTM / AASHTO CNR / UNE / NLT | 50,8 | 457,2 | 4,536 | 8 |
| S188-01 | Modified Proctor rammer | EN 13286:2 comparable to NF/BS | 50 ± 0,5 | 457 ± 3 | 4,5 ± 0,04 | 8 |
| S188-02 | Proctor rammer Large Size | EN 13286:2 | 125 ± 0,5 | 600 ± 3 | 15 ± 0,04 | 23 |
| S194-05 | Proctor rammer | DIN 18127 | 50 | 300 | 2,5 | 8 |
| S194-06 | Proctor rammer | DIN 18127 | 50 | 450 | 4,5 | 11 |
| S194-07 | Proctor rammer | DIN 18127 | 75 | 450 | 4,5 | 11 |

Steel plate (compaction disk)

STANDARDS: EN 13286:2 / DIN 18127

Used to compact the EN moulds, it is supplied complete with T handle, plated against corrosion.

MODELS:

S194-09

PLATE, dia. 99,5 mm
thickness 10 mm

S194-10

PLATE, dia. 149,5 mm
thickness 10 mm

S194-11

PLATE, dia. 249,5 mm
thickness 20 mm



Cutting collar

Coupled to the Proctor mould body, it gets easier the soil sampling

MODELS:

S185-01 Dia. 4"

S200-09 Dia. 6"



S114

UNIVERSAL EXTRUDER for moulds dia. 100, 150 mm; 4", 6"
Technical details at pag. 308



S199

Automatic, programmable PROCTOR / CBR Compactor with microprocessor, "high technology"

STANDARDS: EN 13286-2 / ASTM D698, D1557, D1883 / AASHTO T99, T180, T193 / BS 1377:4, 1990, 1994 / NF P94-093, P94-066
DIN 18127 / UNE 7365, 7255, 103-501-94 / CNR UNI 10009 / CNR N. 29, 69 / DUTCH RAW, EPP and most International Standards.

Designed to compact Proctor and CBR specimens, it ensures an extremely uniform compaction degree, granting reliable and repeatable test results.

section S

The microprocessor software allows to select and to perform different compaction cycles in a fully automatic system, by strictly meeting the mentioned International Standards.

The blows are automatically distributed as requested by the selected Standard, with turntable rotation and rammer displacement through photoelectric cell sensors and microprocessor. Top quality components and high accuracy mechanical workings grant very long life also under intensive utilisations.

The digital control panel is separate from the machine and it can be fixed to the wall or mounted on a bench.

The high resolution graphic display (blue negative) 320x240 pixels visualizes selected Standard, total number of blows, effected and remaining ones to end the test, and execution of each layer.

The compactor is easy to use, friendly menu driven, of simple and practical maintenance.

The user can "select and memorize up to 10 personalized test cycles", that can be later on modified or replaced by other ones. This is a very important function, because it allows to update the Compactor to new Standards, or any Standard not included in the microprocessor, or for research purposes.

The original lift system of the rammer can be selected at 12" or 18", or at 300 or 450 mm, granting a correct and constant fall height.

Rammer drop speed: 1 blow each 2 seconds.

S199-11



S199 with mould and rammer



Data introduction screen

The compactor accepts moulds having dia. 4" and 6", 100 and 150 mm, both Matest made or from other producers, thanks to its universal mould fixing system.

The machine is supplied "without rammers" to be ordered separately and selected according to the desired Standard (rammers are interchangeable).

Not sellable in CE markets

(see accessory: safety guards mod S199-11)

Power supply: 230V 1ph 50Hz 500W

Dimensions: 610x470x1710 mm

Weight: 165 Kg



NEEDED ACCESSORIES:

S199-06 STANDARD RAMMER 50 +/- 0,2 mm dia. and 2500 +/- 10 g weight

S199-07 MODIFIED RAMMER 50 +/- 0,2 mm dia. and 4535 +/- 5 g weight

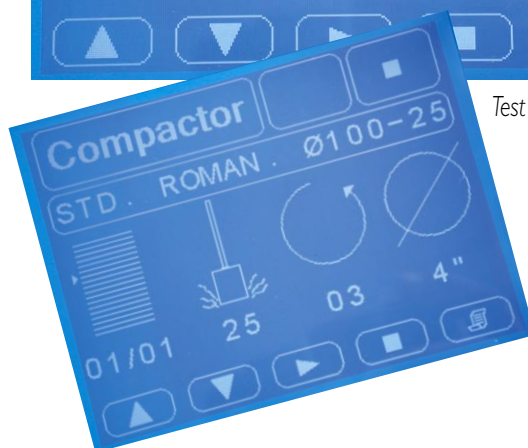
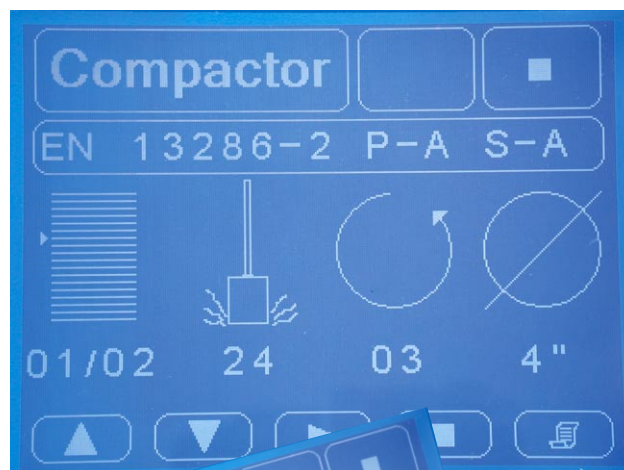
Conforming to: EN 13286-2 / BS 1377:4
UNE 7255, 7365, 103-501-94
DIN 18127 Standards.

OR:

S199-08 STANDARD RAMMER 50,8 +/- 0,13 mm dia. and 2491,25 +/- 1,25 g weight

S199-09 MODIFIED RAMMER 50,8 +/- 0,13 mm dia. and 4537 +/- 3 g weight

Conforming to: ASTM D558, D559, D698, D1557, D1883
NF P094-066/093 / CNR UNI 10009
CNR N. 69 / ASHTO T99, T180, T193



Test screens

section S



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S199 + S199-12 with accessories

ACCESSORIES:

S199-11

SAFETY GUARDS to CE Directive. If the door is opened when the Compactor is working, it stops automatically.

S199-12

SOUNDPROOF SECURITY CABINET, steel made with microswitch, complying to CE Safety Directive, lined with sound-proofing material for noise reduction. If the door is opened while the Compactor is working, it automatically stops.

Dimensions: 740x730x1900 mm

Weight: 80 kg approx,

SPARE PARTS:

S198-22 Calibrated rod holding the rammer.

S198-23 Kit of two devices fixing the mould to the table.



S199-07

S199-06

MATEST