



H-4133

H-4133N

**Acme Penetrometer— H-4133**

Hydraulic reaction-type apparatus for determining the setting time of concrete with slump greater than zero by testing mortar sieved from the concrete mixture. It also determines the effects of variables such as temperature, cement, mixture proportions, additions and admixtures upon the time of setting and hardening of concrete. The penetrometer's design makes it easy to operate, being more efficient, with a longer gear rack. All needles are one length so settings may remain the same. Loads are applied hydraulically with pressures read on a 200 lbf (890N) capacity gauge graduated in 2 lbf divisions. Set of six needles allows multiplication to a maximum reading of 8000 lbf. The Acme penetrometer features cast aluminum base and set of stainless steel penetration needles in a wooden block (bearing area: 1, 1/2, 1/4, 1/10, 1/20 and 1/40 sq. in., (645, 323, 161, 65, 32 and 16mm<sup>2</sup>). Includes 100 laboratory test data reporting forms. Meets ASTM C403; AASHTO T197. Shipping wt. 60 lbs. (27kg)

**Penetration Needle Set— H-4133N**

Set of six, stainless steel needles and holding block for use with H-4133 Acme Penetrometer Mortar Penetration Resistance Apparatus.

**Individual Penetration Needles**

- 1 sq. in. (645mm<sup>2</sup>)— H-4133.15      1/10 sq. in. (65mm<sup>2</sup>)— H-4133.18
- 1/2 sq. in. (323mm<sup>2</sup>)— H-4133.16      1/20 sq. in. (32mm<sup>2</sup>)— H-4133.19
- 1/4 sq. in. (161mm<sup>2</sup>)— H-4133.17      1/40 sq. in. (16mm<sup>2</sup>)— H-4133.20

**Data Sheets, 100/pkg.— H-4133F**

"Time of Setting of Concrete Mixtures" data sheets for use with H-4133 and H-4137.

**Mortar Penetration Resistance Apparatus— H-4137**

Spring-reaction-type apparatus, graduated from 10 to 130 lbf (45 to 580N) in increments of 2 lbf (9N) for testing rate of hardness of mortars sieved from concrete mixtures. Determines effects of variables such as temperature, cement, mixture proportions, additions and admixtures upon the time of setting and hardening of concrete. Penetration resistance is measured by the downward vertical force exerted to penetrate the mortar 1" (25mm). Pressure reading is measured by a scale with a sliding ring indicator on the handle's stem. Includes these interchangeable mortar penetration resistance needles: 1, 1/2, 1/4, 1/10, 1/20 and 1/40 sq.in (645, 323, 161, 65, 32, 16mm<sup>2</sup>). Meets ASTM C403; AASHTO T197. Shipping wt. 20 lbs. (9kg)



H-4137

**Replacement Resistance Needle Set— H-4143**

Set of six, screw-on type, replacement needles for use with H-4137 mortar penetration resistance apparatus. Available as set or separately below.

**Individual Penetration Needles**

- 1 sq. in. (645mm<sup>2</sup>)— H-4143.1      1/10 sq. in. (65mm<sup>2</sup>)— H-4143.10
- 1/2 sq. in. (323mm<sup>2</sup>)— H-4143.50      1/20 sq. in. (32mm<sup>2</sup>)— H-4143.05
- 1/4 sq. in. (161mm<sup>2</sup>)— H-4143.25      1/40 sq. in. (16mm<sup>2</sup>)— H-4143.025

**Concrete Pocket Penetrometer— H-4134**

**Concrete Pocket Penetrometer, w/ Dial— H-4132**

Lightweight, spring-reaction type concrete penetrometer for field and lab evaluation of the initial set of concrete mortar, based on ASTM C403. Penetration plunger has a 1/20 sq. in. tip area. Plunger is steadily pushed into the mortar to a 1 in. depth, as indicated on the shaft, at periodic time intervals. Penetrometer's calibrated range is 0-700psi. Resistance in psi is indicated on the scale. The term "initial set" is the semi-hardened, partially hydrated condition of the concrete beyond which it can no longer be worked. The point of initial set is reached when the penetration value is 500psi. Meets ASTM C780.



H-4132

H-4134F

H-4134

**Foot for above Penetrometers— H-4134F**

For use with masonry mortars to determine board life and initial consistency. Method can be used as a basis for acceptance of mortars. Stainless steel disk, 2.70" (68.58mm) dia. Meets ASTM C780.