TESTMAK
MATERIAL TEST EQUIPMENTS

DIGITAL CONCRETE TEST HAMMER

CONCRETE

www.testmak.com

DIGITAL CONCRETE TEST HAMMER

PRODUCT MODEL

C3295	Digital Cocncrete Test Hammer (Schmidt Hammer)

STANDARDS

Standards	EN 12504 - 2 | ASTM C805 | DIN 1048 | BS 1881:202

INFORMATION

Manufacturer	TESTMAK INS.LAB.MAK.SAN.VE TİC. PAZ. ITH. IHR. LTD. STI
Country of Origin	TURKEY
Product Name	Digital Cocncrete Test Hammer (Schmidt Hammer)

DIGITAL CONCRETE TEST HAMMER

DESCRIPTION

The Digital Schmidt Hammer for concrete allows for an analysis of on on-site concrete quality in order to estimate the mechanical characteristics of the material.Investigations with the Rebound Hammer are based on the surface “hardness” measurement of material expressed in terms of the “Rebound Index.”

Investigations with the Digital Rebound Hammer falls under the category of Non Destructive methods, as implementation of the testing, in addition to not causing damage to structures and building function, involves relatively low costs.

The Rebound hammer method field of application is mainly directed toward evaluation of the following properties:

• Concrete uniformity checks in different parts of the structure.

• Estimation of the mechanical characteristics of the concrete through the use of correlation curves.

• Evaluation of changes in concrete properties over time.

• Verification of concrete characteristics on-site during the testing phase.

The above-mentioned applications can therefore be summarized by stating that rebound hammer tests are to be used to estimate concrete compressive strength of already built structures.

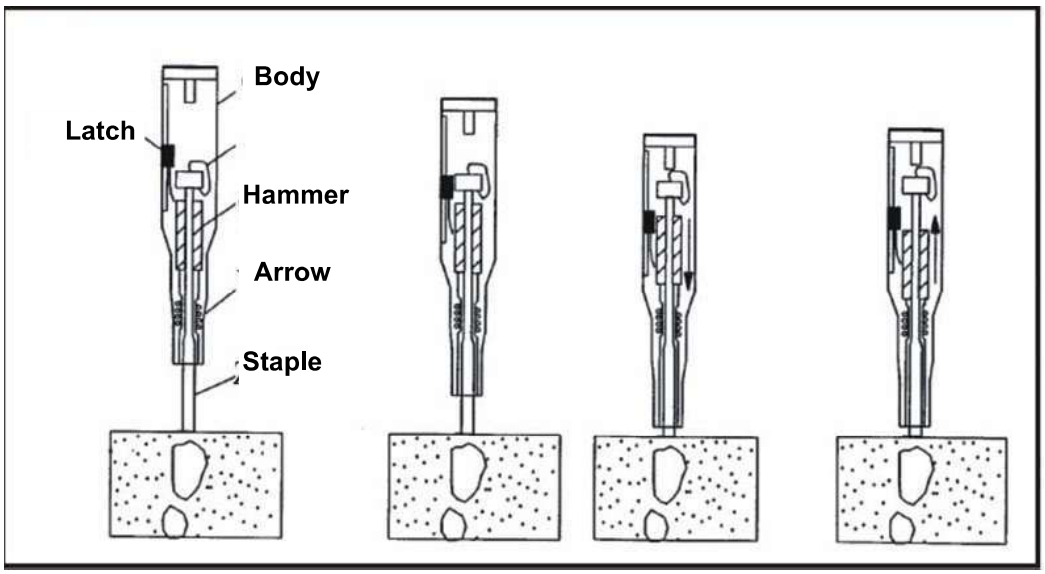
Digital Rebound Hammer is supplied with Abrasion Stone, Plastic Case for Stone, Plastic Grid 30 x 30 cm, Pencil, Fenolftaleina 100ml, Paper Note, Operating Manual, Calibration Report, SD Card, Rechargeable Feeder and Carrying Case.

TECHNICAL SPECIFICATIONS

Measurement Range	10 ... 100 N / mm²
Accuracy	± 0.1 R
Display	OLED
Nominal Kinetic Energy	2,207 Nm, 0,225 kgm
Interface	Bluetooth, Micro-USB
Storage	1000 data units of 256 measurements each
Operating Conditions	- 40 ... 60 ° C
Dimensions	280 x 75 x 60 mm
Weight (approx.)	1.2 kg
Power Source	3.7 V Li-ion Battery
Power Supply (Power Adapter) Primary	220-240 V, 50/60 Hz

DIGITAL CONCRETE TEST HAMMER

The Schmidt hammer consists of a total of 5 parts: body, punch, spring, hammer and ratchet. The Schmidt hammer is pressed on the concrete element to be tested and at the bottom of the punch, the punch hits the concrete element with force due to the compression of the spring. As a result of this crash, the indicator on the screen bounces back and the hit value is read on the dial. The operating principles of the Schmidt hammer are given in detail in ASTM C805.



Implementing the Schmidt Hammer Experiment

Experiment; It can be applied to the concrete surface at any angle with horizontal, vertical, upward, downward or horizontal.

The plaster in an area of approximately 20x20cm on the concrete surface is dug and the surface is cleaned by smoothing with emery stone.

Before the test, the impact bar of the concrete hammer is released by applying light pressure.

The concrete hammer is placed perpendicular to the test surface.

It is gently pressed against the test surface with the hammer until the impact is triggered.

After triggering, the impact bar is locked by pressing the button on the bottom.

The rebound number (R) is read from the display on the device. For each test surface, strikes are made in at least 10 separate points.

Substituting the found R value into the conversion curve, the concrete compressive strength corresponding to the R value is found.

Approximate concrete compressive strength is obtained depending on the surface hardness by correcting the strength obtained with the time factor obtained according to the concrete age.

Telephone : +90 312 395 36 42
Fax : +90 312 395 36 01
Website : www.testmak.com
E-Mail : info@testmak.com
Koca Sinan Industrial Sites 1183 Street No: 40 06370 OSTIM / ANKARA / TURKEY

DIGITAL CONCRETE TEST HAMMER

Example Schmidt Hammer Application

Let the data obtained as a result of a concrete test hammer are as follows:

30,31,30,31,30,30,30,29,28,12,29,29,29,30,31,31,31,31,29,41,42,19,30,30,29, 28,27,27,27,28,28,29,30,31,31

Arithmetic mean (∑ n / n) = 29.37.

We calculate an average again over the values corresponding to ± 5 value of this value we found. So we will consider values between 24.37 and 34.37.

We can say that the new arithmetic mean (∑ n / n) = (914/31) = 29.48, it is approximately 29.

Recoil Coefficient - It is found in the following table in terms of Cylinder Compressive Strength (N / mm²). Of course, it also matters in which direction we do the test hammer application. The angle factor is also important. While we were doing this calculation, assuming that we applied this test to the floor, we reached a cylinder pressure resistance of 19.5 (N / mm²).

Telephone : +90 312 395 36 42
Fax : +90 312 395 36 01
Website : www.testmak.com
E-Mail : info@testmak.com
Koca Sinan Industrial Sites 1183 Street No: 40 06370 OSTIM / ANKARA / TURKEY

TESTMAK
MATERIAL TEST EQUIPMENTS

Telephone : +90 312 395 36 42
Fax : +90 312 395 36 01
Website : www.testmak.com
E-Mail : info@testmak.com
Koca Sinan Industrial Sites 1183 Street No:
40 06370 OSTIM / ANKARA / TURKEY