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CONCRETE TEST HAMMER

Concrete testing with original SCHMIDT Hammer is the most frequently used method worldwide for non-destructive testing of concrete and structural components. No other manufacturer offers such a wide range of different types. Each hammer is designed for specific test applications.

Please make your choice from the following:

Type with simple scale, e. g. type N

Pendulum hammer type PM to test mortar joints

Type with registration paper, e. g. type LR

Digital type, e. g. type DIGI-SCHMIDT

Standards: ISO/DIS 8045, EN 12 504-2, ENV 206, DIN 1048 part 2, ASTM C 805, ASTM D 5873, NFP 18-417, B 15-225, JGJ/T 23-2001, JJG 817-1993

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Type N

Measuring range 10 to 70 N/mm² compressive strength (below 25 N/mm² type P is better suited). Impact energy = 2,207 Nm.

Rebound values are read from a dial.

Testing the compressive strength of a prefabricated concrete girder. Rebound values are recorded by an assistant who will calculate mean values and read compressive strength values from a conversion diagram.

Type NR

Measuring range 10 to 70 N/mm² compressive strength. Impact energy = 2,207 Nm.

Rebound values are recorded as a bar chart on a paper strip. One roll of paper strip offers space for 4000 test impacts.

A bridge concreted in several stages is tested for uniform concrete quality. The engineer will perform a series of tests in intervals of 10 m each.

Type L/LR

Measuring range 10 to 70 N/mm² compressive strength (0,735 Nm).

Handling and dimensions as for types N and NR, but with a three times smaller impact energy.

These types are used for testing thin walled (< 100 mm) or small components but also cast stone components sensitive to impact.

Type LB

Dimensions and impact energy as for type L. The impact plunger tip is a special design. Impact energy = 0,735 Nm.

This type is used for burnt clay products.

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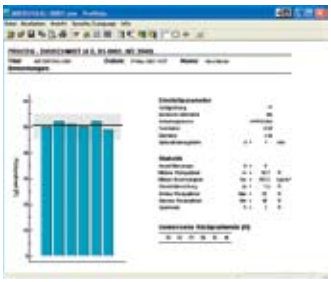
Type DIGI-SCHMIDT

Measuring range 10 (ND) / 18 (LD) to 70 N/mm² compressive strength. Rebound values are measured by an electronic method and may be read directly as compressive strength values.
For further information see leaflet Nr. 810 34 001E.

Data transmission to PC for further processing.



Transfer and evaluation software ProVista.
Integrated in the Software:
- Additional conversion curves
- Reduction factor for carbonated surface
- Form factors

Type PM

This pendulum-type hammer is well suited for testing mortar joints of brick walls.
A classification of the mortar quality is provided based on excessive test performance at the TNO, Technical Institute in the Netherlands.

Type PM
for quality control of mortar in masonry.

Testing Anvil

Each test hammer should be checked after 1000 test impacts. A testing anvil is used to check whether the rebound test mechanism is working correctly. In case of values beyond the tolerance (due to contamination by very fine cement, wear or defects) cleaning or inspection will be required.

Testing anvil EURO Type N/NR/L/LR/LB/ DIGI-SCHMIDT

Testing anvil Type PM

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History

“Good concrete is such an excellent classic building material that it would have had to be invented at once had it not existed for a long time!” (Quote).

The quality of concrete is mainly judged by its compressive strength directly affecting the load-bearing capacity and durability of concrete structures. In order to assess its compressive strength, relatively expensive destructive tests are necessary.

The Romans were aware of the fact that good mortar (opus caementicium) is hard and of a high compressive strength. They tested its quality subjectively by scratching the surface with an iron nail.

But only in the mid-20th century was this know-how utilised. A device was invented which made non-destructive compressive strength testing feasible.

The Rigi mountains in Switzerland, 1797 m above sea level, consist of pure concrete (pudding stone) and are 58 million years old.

It was and is the Original SCHMIDT concrete test hammer
The test hammer will hit the concrete at a defined energy. Its rebound is dependent on the hardness of the concrete and is measured by the test equipment. By reference to the conversion chart, the rebound value can be used to determine the compressive strength. For the first time it was feasible to measure the compressive strength of concrete in situ on a building structure. Meanwhile we have developed ten other types.

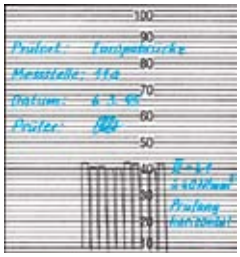
Constructed in 1950

The Pantheon in Rome, dating from 27 B.C. built by Marcus Vipsanius Agrippa.

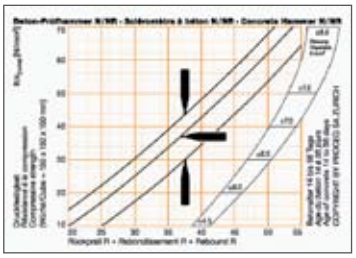
Measuring Procedure (similar for all types)

Smoothen test area with a grinding stone.

Perform test series of at least ten test impacts.



The recording strip is used as test document. Mean rebound value R may be visually estimated.



The compressive strength f_c of the concrete is read from a conversion diagram.

Ordering Information

UNITS

310 01 001	Original SCHMIDT Type N
310 02 000	Original SCHMIDT Type NR
310 03 002	Original SCHMIDT Type L
310 04 000	Original SCHMIDT Type LR
310 03 001	Original SCHMIDT Type LB
340 00 202	DIGI-SCHMIDT 2000 Type ND
340 00 211	DIGI-SCHMIDT 2000 Type LD
310 06 002	Original SCHMIDT Type PM
Include	Impact device, carrying case incl. grinding stone, operating instructions and calibration certificate, Type NR and LR additionally with 3 rolls of registration paper, Type DIGI-SCHMIDT additionally with indicating device and cable

ACCESSORIES

310 09 040	Testing anvil EURO
310 10 000	Testing anvil P

Subject to change without notice.

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