

# original schmidt



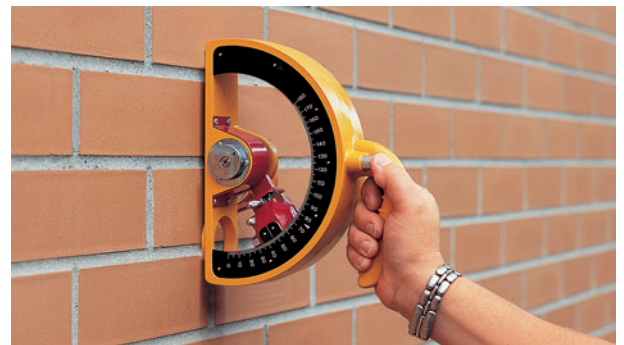
## CONCRETE TEST HAMMER

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-type, e.g. type PM



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

# proceq

[www.proceq.com](http://www.proceq.com)

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## Type N

Measuring range 10 to 70 N/mm<sup>2</sup> compressive strength (below 25 N/mm<sup>2</sup> 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/mm<sup>2</sup> 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 10m each.



## Type L/LR

Measuring range 10 to 70 N/mm<sup>2</sup> 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.

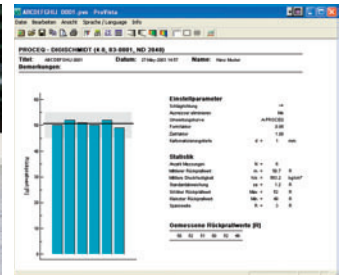


## Type DIGI-SCHMIDT

Measuring range 10 (ND) / 18 (LD) to 70 N/mm<sup>2</sup> 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. 810 340 01E.



Data transmission to PC for further processing.

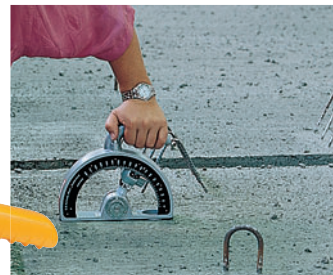


Transfer and evaluation software ProVista.

- Integrated in the Software:
- Additional conversion curves
  - Reduction factor for carbonated surface
  - Form factors

## Type PT/P/PM

These pendulum-type hammers are well suited for testing low-strength construction materials. Individual types differ by the size and shape of the hammer. Tests may be performed on vertical and horizontal surfaces.

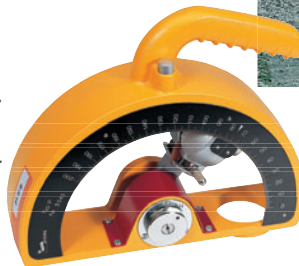


**Type P**  
for 5 to 30 N/mm<sup>2</sup>, e.g. plaster floor, early strength of thermally treated concrete.



**Type PM**  
for quality control of mortar in masonry.

**Type PT**  
for 0,2 to 5 N/mm<sup>2</sup>, e.g. plaster, light-weight concrete.



## 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 P**  
Type PT/P/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.

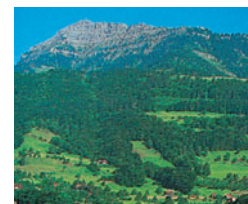
But only in the mid-20th century was this know-how utilised. A device was invented which made non-destructive compressive strength testing feasible.

### It was and is the Original SCHMIDT concrete test hammer

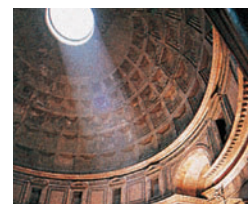
The test hammer will hit the concrete at a defined energy. Its rebound is dependent on the hardness of the concrete and is measured by the test equipment. By reference to the conversion chart, the rebound value can be used to determine the compressive strength. For the first time it was feasible to measure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



Constructed in 1950



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



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

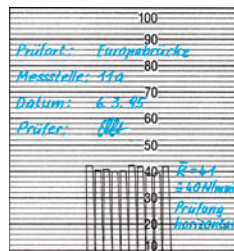
## Measuring procedure (similar for all types)



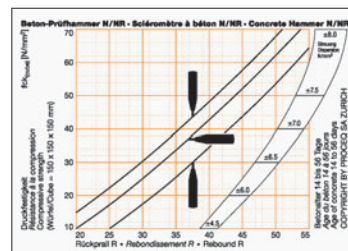
Smoothen test area with a grinding stone.



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 06 001 | Original SCHMIDT Type PT  |
| 310 06 000 | Original SCHMIDT Type P   |
| 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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