RockSchmidt

Portable instruments for the field assessment of rock properties

The world's most advanced rebound hammer, with unmatched dispersion characteristics, durability and measuring range has now been fully adapted for rock testing. The following features of the hammer make it ideal for rock testing applications:

- **Impact Angle Independence:** The rebound value is independent of the impact direction.

- **Optimized for Field Work:** Tighter sealing against dirt and dust intrusion for longer life. Significantly lighter and more ergonomic than the classic Schmidt hammer. A large number of readings can be saved and downloaded later to a PC.

- **Preset Statistics:** Statistics methods recommended by ISRM and ASTM are implemented into the hammer for automatic calculation of the rebound number. The option is also there to define a user specific statistics method.

- **Unconfined Compressive Strength:** ISRM recommends a correlation between UCS and the rebound value based on the formula $UCS = ae^{bR}$ (where R is the rebound value). A correlation in this format may be defined in the PC software and downloaded onto the RockSchmidt.

- **Young's (E-) Modulus:** ISRM recommends a correlation between elastic modulus and the rebound value based on the formula $Et = ce^{dR}$ (where R is the rebound value). A correlation in this format may be defined in the software and downloaded onto the RockSchmidt.

- **Weathering Grade:** Impacting on the same location twice can be used to correlate to weathering grade. The ISRM recommended method has been included in the device.

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Application Overview

Recommended Instruments	Type N	Type L
Geomorphological applications which investigate the bulk hard-ness properties of a rock outcrop	•	
Prediction of weathering grades	•	
Relative dating of landforms such as moraines and rock glaciers	•	
Correlation to Unconfined (or Uni-axial) Compressive Strength (UCS)	•	•
Correlation to Young's Modulus	•	•
Prediction of penetration rates for tunnel boring machines and rotary drum cutters	•	
Testing on weak rocks, porous rocks and those with thin weathering crusts		•
Testing on cores	≥ 84 mm Ø	≥ 54.7 mm Ø
Testing on rectangular blocks	> 100 mm thick	•

Models

Type N: Standard impact energy, 2.207 Nm. Recommended for field work. For core testing ISRM* recommends that cores should be at least moderate strength (> 80 MPa) and at least T_2 size (≥ 84 mm).

Type L: Low impact energy, 0.735 Nm. Recommended impact energy in the ASTM D 5873 standard for testing of cores. ISRM* recommends for testing on cores of moderate strength and above of at least NX size (≥54 mm).

*See section " Standards and Guidelines"

Specifications :

Impact energy	(N) 2.207 Nm, (L) 0.735 Nm
Dimensions of housing	55 x 55 x 250 mm (2.16" x 2.16" x 9.84")
Weight	570 g
Max. impacts per series	99
Memory capacity	Dependent on length of test series Example: 400 series of 10 impacts
Display	17 x 71 pixel, graphic
Battery lifetime	> 5000 impacts between charges
Operating temperature	0 to 50ºC (32 to 122ºF)
IP Classification	IP54

Original Schmidt

The benchmark against which all rebound hammers are compared and the basis of every international rebound hammer standard. The Original Schmidt Type N is the most widely used hammer for geomorphological applications. A large number of UCS to rebound value correla-tions exist based on tests made with this hammer.