

Original Schmidt Hammer

The SCHMIDT Hammer is the most frequently used method worldwide for non-destructive testing of concrete and structural components.

After the spring in the hammer is loaded, the test hammer will hit the concrete at a defined energy. The height of the rebounded mass is recorded and measured by test equipment. Its rebound is dependent on the hardness of the concrete.

By reference to the conversion tables, the rebound value can be used to determine the corresponding compressive strength.

When performing the Schmidt Hammer Test, it is critical that the hammer need to be held at right angles to the surface which needs to be smooth and flat. The orientation of the Hammer will in turn affect the rebound reading.

No other manufacturer offers such a wide range of different types. Each hammer is designed for specific test applications.

Original Schmidt Hammer

Type N

This is the workhorse of the range. With a measuring range 20 to 60 MPa compressive strength and impact energy of 2.2J, this hammer is sufficient for most engineering applications. Rebound values are read from a dial and converted to compressive strength using the graphic above it.

Type L

Also with a measuring range 20 to 60MPa compressive strength, this hammer has an impact-energy, which is three times smaller than the Type N. These types are used for testing thin walled (< 100 mm) or small components but also cast stone components sensitive to impact.

Type NR/ LR

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



Original Schmidt Hammer

Pendulum Schmidt Hammer

Type PT (Concrete Test Hammer)

Equipped with a larger plunger surface, it is especially designed to test on softer material such as light weight concrete, gypsum boards and on fresh concrete. It is often used to determine the right time to remove formwork.

Type PM (Mortar Test Hammer)

Designed to test the mortar joints in brickwork. It has a specially developed plunger whose shape ensures the impacts are applied to the surface of the joint, the contact point has a diameter of 8.0 mm. Based on the rebound values the mortar quality can be classified.

Concrete Compressive Strength Range

Each rebound hammer is built for a different purpose in order to meet the specific needs of the customer. The following table gives an overview of the specifications and applications for each instrument.

	Concrete Compressive Strength Range					
	1 - 5 MPa 145 - 725 psi	5 - 10 MPa 725 - 1,450 psi	10 - 30 MPa 1,450 - 4,351 psi	30 - 70 MPa 4,351 - 10,153 psi	70 - 100 MPa 10,153 - 14,504 psi	> 100 MPa > 14,504 psi
	Fresh Concrete Very Low Strength Concrete		Normal Concrete	High Strength Concrete	Ultra High Performance Concrete	
SilverSchmidt				SilverSchmidt ST/PC Type N SilverSchmidt ST/PC Type L		Only with user defined custom curves
		SilverSchmidt PC Type L with Mushroom Plunger				
Original Schmidt Digi-Schmidt			Original Schmidt Type N/WD/NR Original Schmidt Type L/LD/LR			
Schmidt OS-120	Schmidt OS-120PT					

Type N Standard impact energy. Test object should have a minimum thickness of 100 mm (3.9") and be firmly fixed in the structure.
Type L Low impact energy. Suitable for brittle objects or structures less than 100 mm (3.9") thick.

Test Anvils

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.

Cleaning or inspection will be required in case of contamination by very fine cement or due to wear.



About PCTE

PCTE have over 30 years' experience in the measurement and testing of construction materials. PCTE can provide more than just the equipment, they can provide expert training. PCTE have a service centre in Sydney in which they can provide calibration, repairs and warranty repairs.

Other Equipment

PCTE supply three main ranges: NDT, Lab and Geotech Instrumentation.

NDT includes: Rebound Hammers, Covermeters, Ultrasonics, GPR, Corrosion Testing, Coating Testing and Foundation Testing

Lab includes equipment for: Concrete, Cement, Aggregate, Soil, Asphalt and Metal

Geotech Instrumentation includes: Strain Gauges, Piezometers, Inclometers, Extensometers, Tiltmeters, Load Cells and Dataloggers