

# PORTABLE METAL HARDNESS - CUM - CONCRETE CRUSHING STRENGTH TESTER

**Conforms To : DIN 4240 (German) standard**

Model : IHC



## TECHNICAL DATA:

Ball Impact Tester IHC consists of :

- (a) Main Tester with spring loaded arrangement  
Full-load Energy: 50 kg cm  
Half-load Energy: 12.5 kg cm  
Indenter with 10 mm ball - 1 No.  
Indenter with 5 mm ball - 1 No.
- (b) "bse Magnifiscope" - Measuring-  
Magnifier: -5-8 X  
Range 0-10 mm  
Reading Accuracy 0.1 mm
- (c) Test Block - 2 nos. test blocks duly tested with hardness Nos. marked on them to check the accuracy of IHC periodically.
- (d) Grinding stone - 1 No. with rough & fine grains for grinding concrete surfaces
- (E) Instructions manual with table and graphs. All the above components are enclosed in a portable attractive box.

Size of Box : 16 x 38 x 8 cm  
 Nett Weight of Tester only : 2.6 kg  
 Gross Weight with Box : 4.7 kg

## EXTRA ACCESSORIES

Following specially designed accessories available extra:

- (A) BRINELL MICROSCOPE-MODEL : MAC 30  
 Field of view : 9mm diameter  
 Magnification : 30 X  
 Measuring accuracy : 2 to 3 microns  
 Electrically illuminated : 7W, 230V.

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## **APPLICABILITY :**

The Ball-impact-Tester model IHC has been designed according to Prof. Baumann, to determine the Brinell Hardness of Metal and Cement-Concrete, as well as the Compression Strength of Cement-Concrete which has a relation to its Hardness.

## **ACCEPTANCE :**

Baumann-Steinruck method of testing the concrete quality by Ball-impact Tester has been accepted internationally and is included in many International Standards. Our product IHC conforms to the German Standard DIN 4240.

## **CONCRETE TESTING :**

IHC is intended for non-destructive testing of the quality of concrete in the finished structures (ordinary buildings, as well as bridge construction or roads). With the Ball-impact-Tester, it is the strength of the mix (concrete without coarse aggregate particles) close to the surface which is tested. Since the strength of concrete is determined by the quality of the mix, the strength obtained by the Impact-Hardness Tester is more realistic strength of the concrete of the structure than that obtained by conventional crushing testers.

Conventionally, the strength of concrete is determined by crushing cubes of concrete on expensive compressions strength testers. But then the conditions under which these cubes are cast differ (intentionally as well as incidentally) from those under which the structure has been cast. As such the results cannot be accepted to be truly representing the strength of the structure.

To avoid this, the cubes can be cut out from the concrete of the structure and then crushed but the cost of this method is prohibitive and the results vary with the dimensions of the test- cubes; moreover, the number of the test-cubes that can be cut out from the already cast structure is often limited and therefore insufficient.

The Baumann-Steinruck principle of ball-impact-testing obviously is the best answer to the above mentioned deficiencies. This method offers an inexpensive, non-destructive, on-the-spot testing of the quality of cement concrete. Without damaging the structure, all parts, even the largest structures, can be tested in a very short time; so that it becomes possible to determine any deviations in quality of concrete over different sections of the structure.

## **METAL HARDNESS TESTING :**

Besides testing crushing strength of concrete, this tester is best suited to test metal components specially of huge size for quick determination of Brinell Hardness within an error of 5% only, in any case maximum error will be within 10% as specified by the Standards. Soft and medium hard metals are to be tested with 10mm Ball indenter, where as very hard metals with 5 mm indenter supplied with the tester.