

PATENT APPLIED FOR

ERICHSO TESTER

MODEL: CTM-II



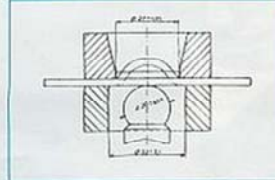
BLUE STEEL ENGINEERS PVT. LTD.  TESTING MACHINES
 BLUESTEEL HOUSE"
 J-12 MIDC, MAROL-ANDHERI (E), BOMBAY-400 093, INDIA.

ERICHSO

Newly
 MODIFIED ERICHSEN
 for Metallic

New, portable, hand operated, rugged and inexpensive ERICHSO TESTER is designed to find the deep drawability (ductility) of metallic sheets and strips as per Erichsen principle for cupping tests.

PRINCIPLE: ERICHSO TESTER conforms to German Standards DIN 53156 and ISO Recommendation R149 which consists of: pressing the clamped test piece into a die by means of a ball or a tool (penetrator) with a spherical end until rupture commences; measuring the depth of the cup.



SCOPE:

The test is normally applicable to products having a thickness of not less than 0.5 mm upto 2 mm. It may, however be extended to products having a thickness less than 0.5 mm or more than 2 mm by agreement between the parties concerned. Model CTM-II has specially been designed to test metallic sheets, even of steel upto 3 mm by an operator without any physical strain.

UTILITY:

It is very imperative for industry to know the deep drawing quality of the sheets and strips before they are made to go in the Deep Drawing Machi-

nes for forming into shapes required. Because, if the sheets are of quality different than what the dies are designed for, there will be incalculable damage due to sheet rupturing in the process of forming and also causing heavy damage to the very expensive dies.

These damages could be avoided if the quality of the sheet is before-hand known at the time of its purchase or atleast before it is fed on to the drawing process. The standard Electro-mechanical or Electric Deep Drawing Testing Machines are too sophisticated, not really needed as per the International Standards and are very expensive for small industries to go in for. A big disadvantage of these machines is also that they are very heavy and cannot be moved easily to where they are required. With the 'new' ERICHSO TESTER it becomes possible to test sheets for their drawability right in the shop or at the source of supply as required and the deep drawing property of the material can be determined quickly on-the-spot.

EASE OF OPERATION:

In this Erichso Tester model CTM-II, loading is achieved by a specially designed 'worm and wheel' mechanism with maximum Mechanical Advantage so that the operator can perform the test by manually moving the loading lever as in the case of a domestic sewing machine requiring no big effort. Steel sheets upto 3 mm thickness can easily be drawn upto rupture by any person and the first hair-line crack noticed through FRESNEL LENS — a specially designed magnifier mounted above the tester.

SPECIFIC USES:

In all industries where sheet metal work is carried out e.g. Automobile industry, Metal furniture, Air-conditioning and Refrigeration industry, Lighting fixture industry and in other heavy or light industry where sheet metal cabinets and/or machines are manufactured.

TESTER

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UPPING TESTER
 sheets & Strips

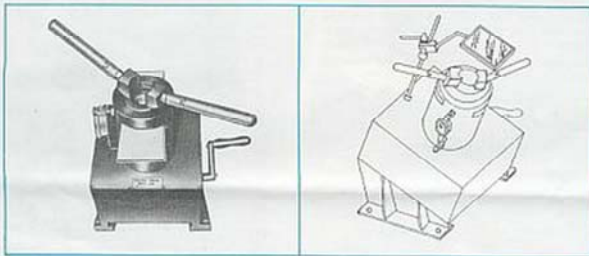
ERICHSO TESTER

Also as a Paint Tester

Modern manufacturing technology makes use of pre-painted metallic sheets which are pressed, formed, deep drawn or cut to requirements. This eliminates the need of painting the finished product after fabrication if, the paint does not crack, crumple or peel off in the process.

UTILITY:

To know the quality of paint on the pre-painted sheet therefore, samples are cut and deep drawn according to Erichsen Principle to determine the depth to which they can be drawn before the paint cracks.



ERICHSO TESTER

OPERATING PRINCIPLE:

Specimen is clamped between two precision machined and ground dies under a definite clamping pressure of 1000 kg. This is obtained by turning 2 levers clockwise till the plate-springs are fully flattened out.

Main load is given by turning a handle simply as in a domestic manual type sewing machine which transmits the load through a 'worm and wheel' mechanism on to the ball penetrator with the maximum Mechanical Advantage.

The machine has been designed in an inclined position so that the operator while comfortably seated, can draw the specimen by turning the lever and also can keep looking at the specimen through FRESNEL LENS to detect the first appearance of the hair-line crack when he has to stop the test.

The depth of penetration can be read from the dial gauge attached to the tester.



OTHER TESTERS AVAILABLE FOR METALS:

- ① Rebound Sclero type Hardness Testers
- ② Pin Shear Type Impact Hardness Testers
- ③ Poldi type Impact Hardness Testers
- ④ Press and Read Type Universal Hardness Testers
- ⑤ Table type Hardness Testers
- ⑥ Ultra-sonic 'Sonyhard' Hardness Testers.



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