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# PIN BRINELL

## The Perfect Portable Brinell Hardness Tester

Simply the Most Versatile Portable Brinell Tester on the Market

NEWAGE
Testing Instruments, Inc.

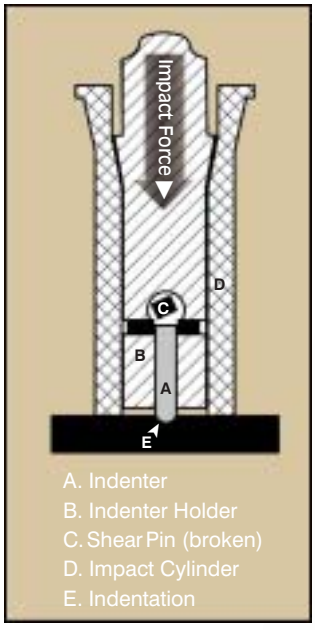
# PIN BRINELL

## The Perfect Portable Brinell Hardness Tester

## Every Company Can Own a Portable Pin Brinell . . . .

### A Unique Test Method

The Pin Brinell uses a unique method for the application of the test load. Force is applied to the indenter by means of either a hammer blow (Model CPIT Impact Load Tester) or through the C-clamp (Model CPST Static Load Tester). In either case, the force applied to the indenter is controlled by means of a calibrated expendable shear pin. The shear pin is placed against the flat end of the indenter and prevents it from receding into the indenter cavity as force is applied. When the force applied reaches the shear strength of the pin, the shear pin breaks (see illustration), relieving the load on the indenter. The diameter of the resulting indentation is measured by means of a conventional Brinell scope, and the associated hardness value for that measurement is read from the table that comes with the pins. The Newage B.O.S.S.® Brinell Optical Scanning System may also be used to measure the indentation automatically.




*A cross section of the Pin Brinell shows how the indenter makes an indentation as it is forced into the test sample until the shear pin breaks at the predetermined force. Every shear pin is tested to break at the correct force*

### Used Worldwide

Thousands of companies own a Pin Brinell because it has unique capabilities and because it is very inexpensive to purchase. The low cost of the Pin Brinell makes it possible for any company to own a Brinell tester - from a small tool & die shop or in-house lab that may find it difficult to justify a Brinell tester - to a large company with occasional testing requirements. The unique capabilities of the Pin Brinell make it a must-have for any company that does Brinell testing. It can be used on large or awkward parts that a standard Brinell can't test. It can be a backup to a regular Brinell when the other machine is down. It is also the easiest tester to take out into the field.

*Testing with the Impact Tester*

*Static Model with the Bench Adapter Base*

*Testing with the Static Tester*

# That's Why Thousands of Companies Already Do.

## Facts on the Pin Brinell

- The load to indentation size ratio provides a displacement that is equivalent to the most common Brinell test (3000 kg load, 10 mm ball) and the Brinell values are arrived at using the standard Brinell formula. The Pin Brinell tester makes an actual mechanical hardness test - it is not merely a test of other properties that correlate to Brinell values.

- A wide range of hardness can be checked from HB100 to 700. HB100 to 450 Brinell can be checked using the standard indenter and 300-700 Brinell using the carbide indenter.

- The shear value of each pin is measured during the manufacturing process. Based on this verification, pins are separated into lots having a variation less than 2%. These lots are assigned with letter designations (D, E, F, G, H). There is no difference in operation of pins between these different letter designations, so long as each pin is used with the appropriate chart that comes with the pins. **Each type of pin covers the entire hardness range.**

## A Comparison to Other Portables

**COMPARED TO THE IMPACT BAR METHOD**

- **Less Operator Influence on Test Results**
  - Only one optical measurement needs to be made.
  - Consistent load regardless of operator technique.
  - Can be as accurate as bench brinell testing.
- **Easier to Use**
  - Each pin works in the entire hardness range HB100-700.
  - Easier to test in confined areas.
  - Only one impression needs to be measured.
  - The Impact model is smaller and easier to use on large parts.
  - The Static C-clamp model is easier to use on small or thin parts.
  - Test impressions can be re-measured without retesting.
- **Faster Operation**
  - One impression - one measurement.
  - No additional computation required.
- **Lower Cost**
  - Lower initial cost, lower operation cost.

**COMPARED TO A HYDRAULIC C-CLAMP PORTABLE**

- Impact model requires no clamping.
- Very low service requirements - fewer moving parts.
- So portable the Impact model fits in your pocket.
- Costs so much less to purchase.
- No messy oil.
- Much smaller and lighter weight.
- No need for recalibration.

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# PIN BRINELL SPECIFICATIONS

*Specifications subject to change without notice*

*CPIT*

*C-clamp with CP-100*

*CPST*

| | CPIT Impact Tester | CPST Static & Impact Tester |
|---|---|---|
| **Size of Tester** | 3⅜" x 1⅝" | 12" x 7½" x 2⅜" |
| **Size of Kit** | 11¾" x 7½" x 2⅜" | 15¾" x 9½" x 3¼" |
| **Weight of Tester** | 1 lb. | 9 lbs. |
| **Weight of Kit** | 4 lbs. | 15 lbs. |
| **Capacity** | unlimited | 6" on static tester; unlimited on impact tester |
| **Accuracy** | ± 1% of load applied* | ± 1% of load applied* |

**Description**

**CPIT Impact Test Kit:** Complete with indenter holder, impact cylinder, regular indenter (Brinell 100 - 450), handle for impact cylinder, 7X Brinell scope, pin ejector, 250 calibrated shear pins with chart, hardness conversion chart and custom fitted carry case. (Test block not included.)

**CPST Static and Impact Test Kit:** Complete with clamping vise for static test including large flat, small flat and vee anvils, indenter holder, rubber indenter boot, regular indenter (for HB100-450), test block (nominal HB200), 7X Brinell scope, pin ejector, Allen wrench, 250 calibrated shear pins with chart, hardness conversion chart and custom fitted carry case. Additional parts for impact testing: impact cylinder and handle for impact cylinder.

**Spares & Accessories**

| | |
|---|---|
| **CP-1** | Indenter Holder |
| **CP-2** | Impact Cylinder |
| **CP-3**** | Regular Indenter - (Brinell 100-450 range) |
| **CP-5** | Pin Ejector |
| **CP-3A**** | Carbide Indenter - (Brinell 300-700 range) |
| **CP-4** | Calibrated Shear Pins, 250/pack |
| **CP-110** | 3# flat face hammer |
| **CP-100** | Bench Support for CPST Static Clamp |
| **CP-200** | Handle for Impact Tester |

**Brinell Scopes**

| | |
|---|---|
| **CP-30** | 7X Brinell Scope (comes with tester) |
| **CP-30A** | Reticule replacement for 7x scope |
| **35-450** | 20X Brinell Scope with light and battery, fixed-focus, and carrying case |
| **5620-05** | Hi-Light Series 20X Brinell Scope with .05mm reticle. Uses built-in LED light with battery, adjustable-focus, carrying case. |
| **5620-01** | Hi-Light Series 20X Brinell Scope with .01mm resolution. Uses built-in LED light with battery, adjustable-focus, carrying case. |

**Hi-Light Series Brinell Scopes**

* Impact effect of load may affect various materials differently. A comparison to a standard Brinell tester can be used to determine possible effects.
** Indenters carry no warranty against breakage. The carbide indenter can break after only a few tests or thousands of tests due to the nature of carbide.



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**Distributed By:**

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