

Windsor® Pin Test System



Test Well. Build Well.

For in-place strength testing of concrete, brick and mortar.



Product Information

Measures the compressive strength of concrete, mortar and brick in-situ, quickly and accurately. A non-explosive instrument, the **Windsor® Pin System** uses a spring-loaded device to drive a steel pin into the concrete (mortar or other material). The depth of penetration of the needle correlates to the compressive strength of the material under test. A removable chuck and a small pin size facilitate the testing of mortar joints; this is the only system for testing the in-place strength of brick mortar joints.

Features & Benefits

- Portable and completely self-contained.
- Safe to use - non explosive.
- Economical - steel pin can be reused.
- Non-destructive.
- Removable chuck facilitates testing of mortar strength in masonry.
- Conforms to ASTM C-803
- Test new concrete products and structures for early strength.
- Evaluate the in situ strength in existing structures, e.g., after suspected fire damage.
- Test strength of block, brick, and mortar joints within an existing structure, e.g., load bearing walls.
- Test polymer concrete and patching compound.
- Quality control of precast elements such as block, brick slabs and pipe.

Strength

Locators

Ultrasonics

Corrosion

Moisture

Windsor® Pin Test System



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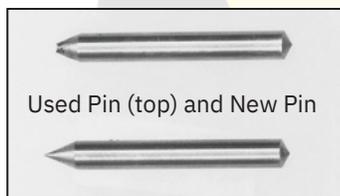
Technical

The principle of the Windsor® Pin system is that a spring drives a steel pin into the surface of the material. Since the depth of penetration is inversely proportional to compressive strength, the device provides a fast and safe way of determining the in situ strength of material.

The spring is loaded by tightening the retraction nut until the trigger mechanism latch closes to hold the spring in place. The stored potential energy is 91 lbs. in (108 NM). With the spring loaded it is compressed to a distance of 0.8 inches. Thus once the trigger is pulled there is enough force to test compressive strength of concrete to a maximum of 5300 PSI (36.9 MPA). The pin is made of a special high strength

steel specifically designed for building material penetration and can be used about seven times. The Windsor Pin System comes with a go/no go gauge to test the pin(s) after each use. If the length is reduced sufficiently and the pin goes through the gauge, the pin(s) should be replaced. Not doing so will severely impact test results.

(Technical continued on next page)



Used Pin (top) and New Pin



Go - No Go Gauge



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Technical continued...

With the chuck on both the micrometer and the pin driver, flat surfaces can be easily and accurately measured. Simply make sure the chuck rests against the surface and pull the trigger. After the pin has penetrated the surface, clean the hole

with the blower provided and measure depth of penetration. Compare this penetration depth to the previously prepared chart for the compressive strength of your material. Strength charts for typical mortar and concrete are provided with the unit.

With the chuck removed, the pin driver is capable of accurately testing mortar joints. By inserting the V-barrel into the mortar joint, the pin will directly penetrate at the center of the joint. Then by following similar procedures as above, the compressive strength of the mortar joint can be accurately and safely tested. A similar V-shape on the micrometer facilitates measurement.



Measuring a flat concrete surface



Testing mortar joint on a brick wall (left) with the chuck removed (right)



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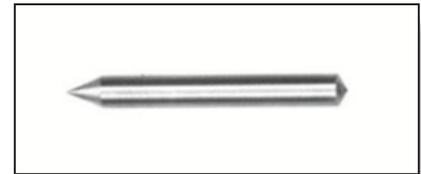
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Pin



Go - No Go
Gauge



Micrometer

Sales Numbers

W-P-2000: Windsor® Pin Test System

Consumables (must be purchased separately, not included with system)

W-P-1040: Case of Hardened Steel Pins (40 Pins)

W-053-10224-000 One Hardened Steel Pin (1 pin)



Specifications

Weight	18 lbs. (8.1 Kg)
Dimensions	17 x 12 x 6 inches (43 x 30 x 15 cm)
Concrete Compressive Strength Maximum	6500 PSI (45 MPA)
Mortar Compressive Strength Maximum	7000 PSI (48 MPA)
Stored Potential Energy	91 lbs. - 108 Nm

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