Mechanical 3D Crackmeter

Applications

The mechanical 3D crackmeter is used with a dial indicator to monitor movement at joints and cracks. Typical applications include:

- Monitoring construction joints to evaluate structural performance.
- Monitoring cracks in structures near active construction sites.
- Monitoring movement of rock masses in natural rock formations.

Installation

The crackmeter consists of a long-arm component that extends across the crack and a reference block. The two components are installed on opposite sides the the crack.

Mark location for anchors and drill the holes. See spacing, diameter, and depth in the specifications.

Use the alignment block, screws, and wrench to join the two components of the crackmeter, as shown in the photo. Check that surfaces are orthagonal.

Use the provided alignment block, screws, and wrench to prepare the crackmeter for installation.

Fill the drill holes with a non-shrinking epoxy grout, then insert the anchors. Check that the alignment has not changed. Allow the grout to harden. Afterwards, remove the alignment block. Optional: consider fabricating a dust cover for the crackmeter.

Operation

Readings are obtained by inserting a the probe of a dial indicator through the access holes to contact opposite component.

Take three sets of XYZ readings to ensure that you have a good baseline for comparison.

Compare subsequent readings to the baseline. Changes indicate that movement has occurred.

Advantages

Easy Installation: Installation requires only two drill holes. Welding plates are also available.

Simple Operation: The crackmeter is read manually with a digital micrometer.

MECHANICAL 3D CRACKMETER

Aluminum 3D Crackmeter 51708800
Stainless 3D Crackmeter 91708800

The mechanical 3D crackmeter consists of a long arm component and a reference component with integral anchors, an alignment block, screws, and a wrench. Dial indicator is not included.

Range X, Y, Z: 0 to 12.5 mm (0 to 0.5 in).

Materials: Aluminum or stainless steel body, stainless steel anchors.

Length, Width, Height: 190x 50 x 45 mm, (7.5 x 2 x 1.75 in), excluding anchors.

Anchors: 12.5x 76 mm (0.5 x 3 in).

Anchor Spacing: 140 mm (5.5 in), center to center.

Suggested Drill Holes: 25 mm x 76 mm (1 x 3 in) to accommodate anchor and grout. At least 50 mm (2 in) of anchor should be embedded in grout.

Suggested Grout: Epoxy, non-shrinking.

DIGITAL DIAL INDICATOR

Dial Indicator with Collar. 51708868K
Alignment Collar Only 51708867

Digital dial indicator provides range of 50mm (2 in) and resolution of 0.01mm (0.001 in). The alignment collar is included.

Alignment collar greatly improves measurement precision. Collar is included indicator above, but available separately for user-supplied indicators. Fits 9.5mm (0.375 in) stem and accomodates shaft diameters to 4.8 mm (0.190 inch).

ACCESSORIES

Weldable Anchor Kit 51708855

Weldable anchor kit includes two weldable plates for mounting the crackmeter on steel structures.

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