Instrumented rebars and sister bars are used to measure load in concrete reinforcing bars or strain in concrete structures.

**Description**

An instrumented rebar or sister bar is a load sensing element consisting of a hollow reinforcing bar containing a coaxially-mounted vibrating wire strain gauge. Compressive or tensile loads induced into the bar are measured directly with the strain gauge. Instrumented rebars are individually calibrated, correlating strain to load.

Instrumented rebars and sister bars are supplied with an integral temperature sensor. Model IRHP refers to the standard instrumented rebar size while model IRCL refers to the sister bar.

**Key Features**

- Rugged, waterproof construction
- High stability and sensitivity
- Available for most rebar sizes
- Can be used as a sister bar, incorporated into a rebar reinforcement system, or grouted into a borehole for ground support
- Not affected by bending
- Long-term stability
- Integrated thermistor for temperature monitoring

**Applications**

- Dam
- Pile monitoring
- Mining safety
- Surface and underground openings
- Monitoring stress in tunnel linings
- Rock reinforcement and support

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Specifications

<table>
<thead>
<tr>
<th>MODEL</th>
<th>Nominal diameter</th>
<th>Calibration range</th>
<th>Maximum working load recommended</th>
<th>Maximum working load to yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>IRHP-2000</td>
<td>50 mm (2 in.)</td>
<td>360 kN</td>
<td>690 kN</td>
<td>1155 kN</td>
</tr>
<tr>
<td>IRHP-1375</td>
<td>34 mm (1 3/8 in.)</td>
<td>160 kN</td>
<td>275 kN</td>
<td>325 kN</td>
</tr>
<tr>
<td>IRHP-1250</td>
<td>31 mm (1 1/4 in.)</td>
<td>130 kN</td>
<td>215 kN</td>
<td>260 kN</td>
</tr>
<tr>
<td>IRHP-1125</td>
<td>28 mm (1 1/8 in.)</td>
<td>100 kN</td>
<td>160 kN</td>
<td>200 kN</td>
</tr>
<tr>
<td>IRHP-1000</td>
<td>25 mm (1 in.)</td>
<td>80 kN</td>
<td>135 kN</td>
<td>160 kN</td>
</tr>
<tr>
<td>IRHP-0750</td>
<td>19 mm (3/4 in.)</td>
<td>45 kN</td>
<td>75 kN</td>
<td>90 kN</td>
</tr>
<tr>
<td>IRCL-0500</td>
<td>13 mm (1/2 in.)</td>
<td>27 kN</td>
<td>28 kN</td>
<td>37.9 kN</td>
</tr>
</tbody>
</table>

1. Other sizes available upon request

Range of gauge: 3000 με
Accuracy: ±0.25% F.S.
Resolution: 0.4 με
Operating temperature: -20 to +80°C
Thermistor: 3kΩ (see model TH-T)
Cable: IRC-41A (IRC-390 available with some sizes)
Nominal rebar length: 1 m (standard)

Ordering Information

Please specify:
- Rebar diameter
- Cable type and length

Optional Accessories

- High strength coupling
- Readout instruments: MB-3T(L), SENSLOG