

GEONOR

Geonor P-300 Reinforcement Strain Gauge

for reliable stress/strain monitoring



P-300 reinforcement strain gauge welded to steel bars

FEATURES:

- Proven long term reliability
- Alternative to concrete strain gauge
- Robust and simple design
- Vibrating wire technology
- For use in offshore structures, dams, bridges, concrete piles, in situ cast walls, etc.
- Designed by the Norwegian Geotechnical Institute

GEONOR P-300 REINFORCEMENT STRAIN GAUGE

APPLICATIONS

The P-300 reinforcement strain gauge is designed to monitor stress/strain in steel reinforcing of concrete structures. It has been extensively used for strain measurements in various applications including:

- offshore structures
- bridges
- concrete piles
- in situ walls cast by the slurry trench method
- dams

P-300 monitors the average strain (and therefore also the average stress) over the total gauge length of 3.5 m. Errors in strain measurements caused by cracks in the concrete are eliminated using the Geonor P-300 reinforcement strain gauge. It is therefore often used in addition to, or in stead of, concrete strain gauges.

DESIGN

The standard gauge is designed for use with OD 20 mm reinforcement steel bars. Other dimensions are available to fit various sizes of bars. The P-300 gauge is manu-

factured in lengths of 470 mm and the gauge ends are prepared for welding to the steel bars. Welding is either done by Geonor prior to supply (P-301 version) or at the installation site. The normal procedure is to wire the P-300, with its welded extensions of reinforcement steel bar, to the regular structural reinforcement.

The gauge is made of higher strength steel than normally used in reinforcement steel and is thus operating within its own elastic range in particular after the reinforcement steel rods have started to yield.

The zero point value of the gauge is selected prior to shipment to obtain a maximum measuring range and depends on whether the application measures compressive stresses, tensile stresses or both.

The entire sensor is sealed with O-rings and with an outer thin-walled cylindrical housing so that the entire instrument is completely watertight. The gauge wire is sealed in a small metal tube.

The P-300 Reinforcement Strain Gauge is designed by the Norwegian Geotechnical Institute.

TECHNICAL SPECIFICATIONS

Gauge:	P300	P301
Calibration :	Individually	Individually
Linearity :	± 0.5 % FS	± 0.5 % FS
Hysteresis :	± 1 % FS	± 1 % FS
Measuring range :	± 1200 microstrain	± 1200 microstrain
Diameter, sensor :	35 mm	35 mm
Diameter, rod :	20 mm	20 mm
Length :	470 mm	3500 mm
Weight :	1.5 kg	8.5 kg

ORDER REFERENCES

Part no.	Equipment
446000	P-300 Reinforcement strain gauge for welding to OD 20 mm reinforcement steel bars
446200	P-301 Reinforcement strain gauge welded to 2 x 1500 mm OD 20 mm reinforcement steel bars
461400	P-430 Cable, 2-pair, OD 16 mm, steel armoured, water blocked
461000	P-540 Cable, 1-pair, OD 10 mm, with protecting PE tube

Gauge versions for reinforcement steel bars > OD 20 mm may be delivered on request