

FIBER-OPTIC TOTAL PRESSURE CELLS

All cells consist of a sealed distribution pad which is composed of two plates welded together around the periphery and filled with de-aired oil. The pad is connected via a length of a steel tube to a Fabry-Perot interferometric pressure transducer. Variations in oil pressure resulting from changes of load acting on the pad are sensed by the pressure transducer.

Two models are available, the FO-TPC and FO-EPC and vary in their stiffness. FO-TPC is fitted with a circular or rectangular pad, the latter being designed for measurement of tangential and radial stresses in shotcrete tunnel linings. The stiffness of the FO-TPC is high, enabling its embedment in soil or concrete. A groove on both sides of the pad increases its flexibility while reducing sensitivity to stress in directions other than normal to the pad faces. The concrete stress cell may be fitted with a repressurization tube to restore contact between the pad and the concrete after curling.

The FO-EPC is designed for measuring total pressure in fills and embankments. Its stiffness is low, which increases its sensitivity.

Both models are fitted with eyelets to simplify installation.

FEATURES:

- Intrinsically safe
- Immune to EMI/RFI/Lightning
- Long-term reliability
- High pressure range
- Rugged stainless steel construction for harsh environments
- Easy to operate and install
- Compliant with ISRM suggested method