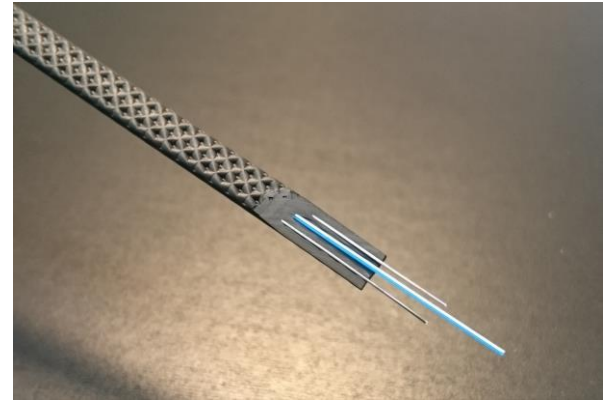


FutureNeuro™ FN-SILL-3

Embossed Sensing Cable



FEATURES

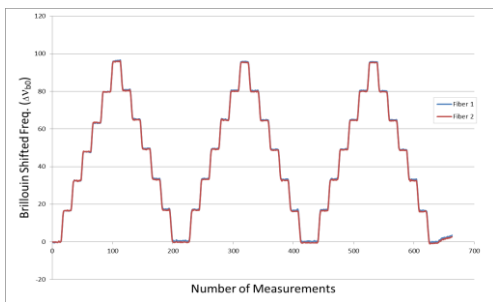
- Two sensing optical fibers
- Non-slippery embossed sheath
- No elastic hysteresis effects
- Long-term heat resistance up to 80 °C
- Tensile strength up to 25 kg-f

The FN-SILL-3 is designed for strain and temperature measurements. It consists of 2 optical fibers (in the cable center) and 2 reinforcing bars, which allow the cable to sustain up to 25 kg force.

The embossed grid makes it easy to embed the cable or attach it to the measured object/structure.

The outer sheath is made from olefin elastomers, which exhibits superior characteristics regarding long-term heat- and UV-resistance. It also ensures there is no elastic hysteresis effect. Thus, FN-SILL-3 offers linear responses to the mechanical or thermal loads, providing accurate strain or temperature measurement.

Validated no-hysteresis performance



The figure above presents measurement results in both fibers of FN-SILL-3 cable subject to 40 hours of

thermal load test (20-80-20 °C, with 10 °C step). In total, 640,000+ data points were available for hysteresis effects analysis.

The results clearly demonstrate that the cable maintained its structure and cable reinforcing members keep the low elongation and deformation characters during temperature increase and decrease.

Applications

FN-SILL-3 cable is ideal for civil engineering applications where it can be embedded in Reinforced Concrete structure. As shown in the picture, the sensing fiber is attached to rebar for strain measurement. In this particular installation as below the FN-SILL-3 was *pre-soaked* in mortar to enhance its bonding with premixed concrete. Usually FN-SILL-3 does not need to be pre-treated due to its embossed sheath.

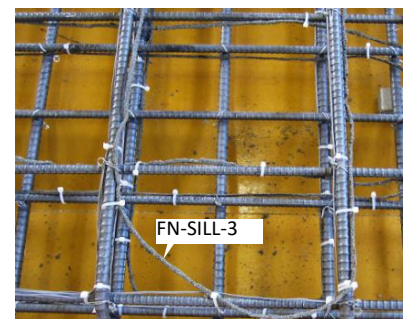
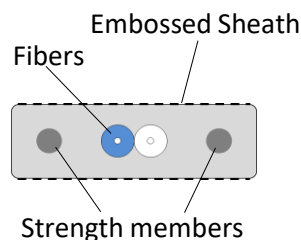
Specifications FN-SILL-3

Fiber Type	10 / 125 μm Single-Mode Fiber
Fiber count	2
Attenuation	< 0.5 dB/km
Strain Sensing Range*(Δε)	5000 με
Temperature Sensing Range	-20 to +80 C
Bending Radius	> 40 mm
Outer Sheath	Olefinic elastomers
Strength Member	φ0.3mm, SUS304 x2
Tensile Strength	25 kg-f
Dimension (W x H)	4.3 x 1.7 mm
Weight	12 g /m
Operation Temperature	-20 to +80 C
Storage Temperature	-40 to +85 C

* Depends on cable installation. Please contact us for more information.

** All specifications are subject to change without notice.

Configurations



Application example:
Embedded in reinforced
concrete structure

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