

## Characteristics of the UniSignal Fiber Bragg Grating Array Based Sensing Cables, UniScable™

### Cable Features:

- Tension free on fiber during cable fabrication
- Tension free on fiber during temperature sensing
- Contamination and hydrogen free (no machine oil inside cable)
- The lowest optical power loss
- Reliable for use in high temperature up to 700C, high pressure up to 179MPa (26,000psi)
- High resistance to hydrogen and corrosive environments
- Ensured hermeticity through high pressure testing
- Suitable for a hermetic tip termination or cable/point sensor integration
- Easy manipulation and no worry about kinking
- Ruggedized for different approaches of installation

### Optical Fibers:

Fiber types: single mode

Fiber coating: polyimide, carbon/polyimide, aluminum, copper, gold

### Sheath Materials:

- Jacket: capillary metal tube
- Grades:
  - high nickel alloys
  - stainless steels
- Cable outer diameter: 6.35mm (0.25in)
- Sheath thickness: 0.89 – 1.24mm (0.035-0.049in)  
(different cable diameters and thicknesses are also available upon customer request)
- Sheath material conditions: annealed, cold work

### Application Conditions:

- Operating temperature: up to 700C
- Operating pressure: up to 179MPa (26,000psi)
- Corrosion resistance to: H<sub>2</sub>S, CO<sub>2</sub>, etc.

## Installation:

Suitable for different installation approaches  
Suitable for permanent installation or retrievable

## Mechanical Characteristics of Cables:

Cable Type Number	Cable Sheath Material	Pulling Load (yield point) kg	Tensile Strength kg	Working Pressure Limit MPa	Dynamic Bend Radius cm	Static Bend Radius cm
CAL1001	High Nickel Alloy	588	1070	53	10	5
CAL2001	High Nickel Alloy	640	1285	60	10	5
CAE2001	High Nickel Alloy	1123	1585	135	25	10
CAE1002	High Nickel Alloy	1400	1680	179	25	10
CSS1001	Stainless Steel	530	960	38	10	5
CSS1002	Stainless Steel	702	1260	50	10	5
CDS3001	Stainless Steel	1005	1370	120	25	10
CDS3002	Stainless Steel	1316	1794	159	25	10