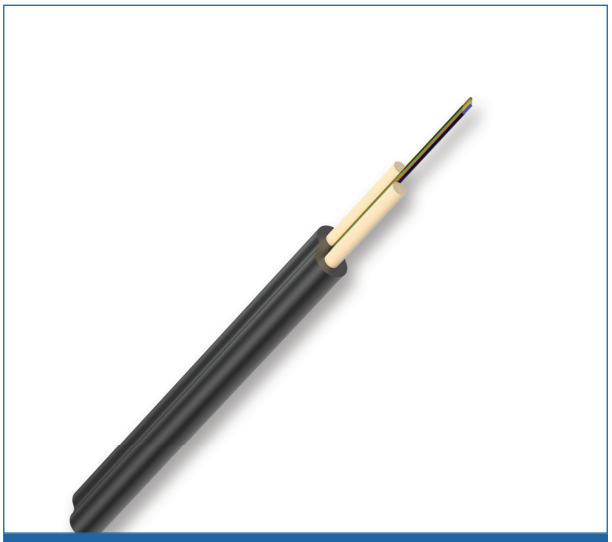
Distributed Sensing Cables

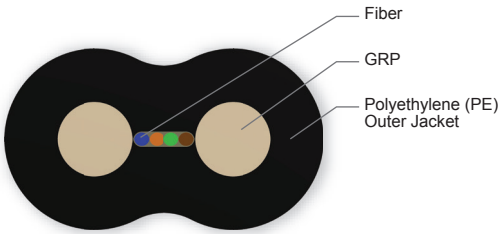
4 F, SMF-28® Ultra fiber, Single-mode (OS2)

CORNING

Corning distributed sensing cables provide optimized monitoring of your critical harsh environment infrastructure. Distributed sensing is a technology that enables continuous measurements along the entire length of a fiber optic cable. As a result, external stimuli on the cable, such as changes in temperature and pressure, sound, strain, and vibration can be detected and located at any position along the length of the cable. And because distributed sensing is performed in real time, potential problems can be identified and mitigated before they become real problems.



Part Number: 004ZS4-14701K20



Cross Section of Part Number: 004ZS4-14701K20

Features and Benefits

Tough, compact design
Highly robust cable design for reliability in harsh conditions with no tradeoff in sensitivity

Class leading sensing performance
Innovative cable design enhances and amplifies the sensor signal delivering operational performance far above traditional telecom cable designs

Flexible design options
Choice of materials for strength elements and fiber properties dependent on application requirements

Lightweight and responsive
At 14.9 kg/km, these cables are light, tough, easy to deploy, and responds quickly to external stimuli

Multiple packaging options and long lengths available (e.g. >10km)
The packaging and length may be chosen to suit a variety of installation methods

Standards

Approvals and Listings	UV-Resistance ICEA-717
	Environmental Stress Crack ICEA-717
	Moisture Resistance ICEA-717

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Specifications

General Specifications	
Application	Direct Buried, Aerial
Product Type	Self-Supporting
Fiber Category	SM (OS2)

Temperature Range	
Storage	-40 °C to 70 °C (-40 °F to 158 °F)
Installation	-30 °C to 70 °C (-22 °F to 158 °F)
Operation	-40 °C to 70 °C (-40 °F to 158 °F)

Cable Design	
Fiber Count	4
Fiber Coloring	Blue, Orange, Green, Brown
Central Element	Glass reinforced plastic (dielectric) / steel
Tensile Strength Elements and/or Armoring	GRP (Dielectric)
Outer Jacket Material	Medium Density Polyethylene (MDPE)
Outer Jacket Color	Black

Mechanical Characteristics Cable	
Weight	14.6 kg/km *(Values for all-dielectric version)* (9.81 lb/1000 ft)
Nominal Outer Diameter	5.4 mm x 3.0 mm (0.21 in x 0.12 in)
Min. Bend Radius Installation	63 mm (2.5 in)
Max. Tensile Strength for Installation	1350 N
Max. Tensile Strength, Long-Term	400 N
Crush Resistance	1600 N/cm *(Short term value up to 8000N/cm)*
Extra Fiber Length (EFL)	0 %
Fiber Tensile Rating	200 kpsi
Lifetime at Max Load & Strain	20 years
Acoustic Gain	15 dB *(Approximate value relative to bare fiber)*
Strain Transfer Efficiency	> 93 %
Long Term Strain Limit (20yr)	0.4 % (up to 1.6 % available)
Short Term Strain Limit	1.0 %

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Mechanical Characteristics Cable	
Elastic Modulus	128 kN
Cycles at Max Strain	> 5

Chemical Characteristics	
RoHS	Free of hazardous substances according to RoHS 2011/65/EU

Fiber Specifications

Optical Characteristics (cabled)	
Wavelengths	1310 nm / 1550 nm
Typical Attenuation	0.4 dB/km / 0.3 dB/km
Attenuation @ Max Crush	0.1 dB

Ordering Information

Part Number	004ZS4-14701K20
Product Description	Distributed Sensing Cable, 4 F, SMF-28® Ultra fiber, Single-mode (OS2)

RoHS COMPLIANT

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