PRODUCT INTRODUCTION

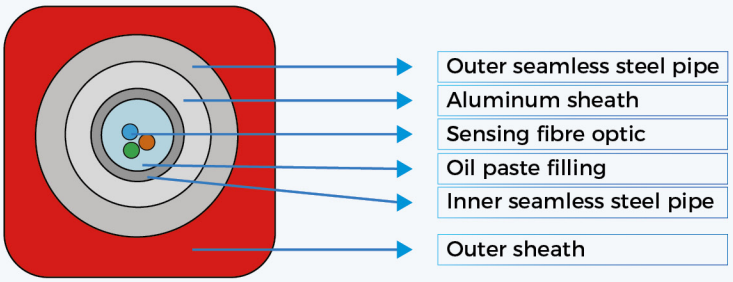
Fibre Optic Sensing Cable

Special Sensing Fibre Optic Cable for Oil Industry

Special Sensing Fibre Optic Cable for Oil Industry is a type of sensing optical cable used for monitoring underground temperature and sound waves. The optical cable is composed of four layers of structure:outer seamless steel pipe, aluminum sheath, inner seamless steel pipe, and outer PP or HOPE sheath. The product has strong mechanical and sealing properties and is suitable for oil well sensing and monitoring applications below 300℃ .

Product mix

Structure



Section structure diagram

Product diagram

Features

- Three layer seamless tube protection ensures the mechanical strength and good sealing of the optical cable
- Accurate fibre length control ensures that the sensing fibre is in a free state and is not affected by external forces
- Seamless steel pipes are made of 316 stainless steel or nickel 825 material,which has good corrosion resistance strength
- Seamless aluminum sheath has excellent hydrogen resistance and isolation performance
- The square outer sheath is easy to fix and install in the well, and has a good buffering and protection effect on mechanical impact

Applications

- Special sensing optical cable for oll wells below 300 °C

Parameters

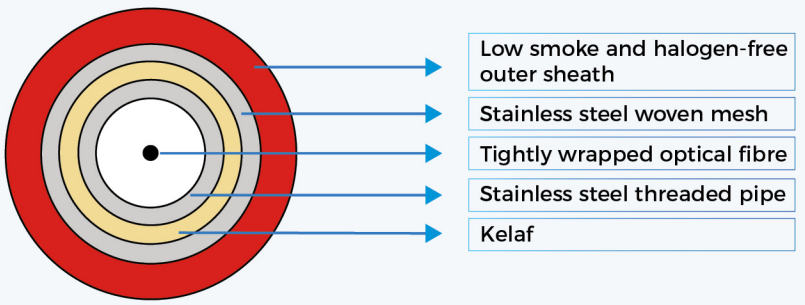
Items		Parameters or Description
Fibre optic	Fibre type	Single mode/Multimode/Fibre grating array
Inner seamless steel pipe	Material	SUS 316L
	External diameter	2.60
Aluminum tube	Material	Aluminium
	External diameter	4.4mm
External seamless steel pipe	External diameter	6.35±0.05mm
	Material	SUS 316L or Inconel 825
	Thickness	0.89mm
Outer sheath	External diameter	11*11mm
	Material	PP or HDPE
Maximum attenuation	Maximum attenuation(20°C)	≤3.5dB/km@850nm; ≤1.5dB/km@1300nm
Mechanical properties	Long term working tension	Long term load ≥5000N
	Short term work pull	Short term load≥10000N
	Working temperature	-55~300°C
	Pressure resistance strength	≥70Mpa
Weight	Net weight of optical cable	Approximately 230kg/km

Armored Fibre Optic Cable for Distributed Temperature Sensing System

The temperature sensing optical cable is placed inside a stainless steel threaded tube, with Kevlar tightly wrapped and stainless steel wire tightly woven outside the threaded tube for reinforcement; The outer layer is protected by a flame-retardant LSZH sheath. The sensing fibre is a multimode fibre that meets international standards and has excellent Raman scattering characteristics.

Product mix

Structure



Section structure diagram

Product diagram

Features

- Fibre optic cable armor protection with excellent mechanical properties
- Small outer diameter, simple structure, fast thermal penetration, fast temperature measurement response
- Flame retardant LSZH outer sheath, good electrical insulation performance
- Fibre optic cables are soft and have good toughness, making them easy to lay out during construction

Applications

- Temperature measurement of urban underground pipe gallery
- Temperature measurement of cables and busbars

Parameters

Items		Description
Size and appearance	Cable diameter	3.0mm±0.1mm
Material	Fibre optic	0.6mm tightly wrapped optical fibre
	Stainless steel spiral tube	SUS200CU
	Reinforcement	Aramid
	Stainless steel weaving	SUS304
	Outer sheath	Flame retardant LSZH
Fibre optic	Fibre type	GI50/62.5 multimode fibre
	Number of fibre optic cores	1
Optical characteristics	Attenuation	≤3.0dB/km(850nm)
		≤1.0dB/km(1300nm)
Mechanical properties	Allow for tensile strength	Long term 200N
		Short term 400N
	Allow squash Force	Long term 2000N
		Short term 3000N
	Minimum bending radius	Static 30mm
		Dynamic 60mm
Environmental characteristics	Applicable temperature	-40~85°C
Weight	Net weight of optical cable	18kg/km
Printing	ContePnt	Customizable