Jiangsu Fasten Optoelectronics Technology Co.,Ltd.

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法尔胜泓昇集团
FASTEN GROUP

FASTEN OPTOELECTRONICS TECHNOLOGY

江苏法尔胜光电科技有限公司

Jiangsu Fasten Optoelectronics Technology Co.,Ltd.

公司简介

江苏法尔胜光电科技有限公司是法尔胜泓昇集团有限公司(简称法尔胜泓昇集团)的全资子公司。法尔胜泓昇集团是一家多元化生产经营企业集团，产业涉及金属制品、光通信、精工装备、资产管理、供应链管理等多个领域，系全国首批 91 家创新型企业之一、全国质量管理先进企业，连续多年位居中国企业 500 强。

江苏法尔胜光电科技有限公司于 2015 年 8 月成立，公司位于江苏省江阴市澄江中路 278 号，注册资本为 5555.5556 万元 , 国内少数特种光纤、特种光缆、光器件及光纤传感系统的专业厂家之一，具有从光纤预制棒、光纤、光缆、光器件和光纤传感产品的研发、生产和服务的完整产业链。先后承担了国家“十一五”科技支撑计划课题；国家 863 计划；国家 973 计划；国家重点研发计划(子课题)；江苏省科技支撑计划；江苏省重点研发计划等多项国家和省部级重大计划课题任务。并荣获国家“专精特新”小巨人企业、“江苏省专精特新中小企业”、江苏省“最具发展潜力科技人才创业企业”、江苏省“民营科技企业”、“苏南国家自主创新示范区潜在独角兽企业”、无锡市 5G 优秀企业等荣誉称号。近些年，公司的科研成果先后获得中国材料研究学会科技进步奖一等奖、中国专利优秀奖、中国国防技术发明二等奖、中国航空学会科学技术二等奖、中国产学研合作创新成果奖二等奖、江苏省科学技术奖二等奖、无锡市科技进步二等奖、第六届无锡市专利金奖等。公司已经通过 ISO9001:2015 质量管理体系认证，获得矿用产品安全标志证书、防爆合格证书及多项国际、国家专利证书。

■公司主营业务

(1) 为海、陆、空、天等各种类型平台的导航及医疗、传感和激光器等领域提供特种光纤、光缆、光器件，公司开发的保偏光纤已成功应用于 xx 系列载人飞船等国家重特大型号任务，同时，有源光纤已批量应用于高功率工业光纤激光器。

(2) 为桥梁、隧道、电力、煤矿、石油石化等领域提供以光纤传感技术为核心的安全监测解决方案。

公司愿以精诚合作、和谐共赢的精神，与国内外同行、社会各界携手共进，为推动我国特种光纤和光纤传感技术的发展不懈努力。

Company Profile

Jiangsu Fasten Optoelectronics Technology Co., Ltd. is a wholly owned subsidiary of Fasten Hongsheng Group Co., Ltd.(Fasten Group for short). Fasten Group has a multiple system of producti on and management, and its industries involves in a number of areas such as metal products, optical communications, precision equipment, asset management and so on. Fasten Group is one of the first batch of 91 innovative enterprises. It also won the honor of National Quality Management and supply chain Management etc. Advanced Enterprise. In addition, for many years Fasten Group has been among the top 500 Chinese enterprises.

Jiangsu Fasten Optoelectronics Technology Co., Ltd. was established in August 2015. It is located in No.278 Middle Chengjiang Road, Jiangyin City, Jiangsu Province. Its registered capital is 50 million yuan, One of the few professional manufacturers of special optical fibers, special optical cables, optical devices and optical fiber sensing systems in China, it possesses a complete industrial chain covering the research and development, production and service of optical fiber preforms, optical fibers, optical cables, optical devices and optical fiber sensing products. In this company, the existing staff of undergraduate education and above accounts for 85%. The employees has took on issues of The National "863", The National "973", National Technology Support Program, Jiangsu Technology Support Program and other national and provincial major issues. The company has passed ISO9001:2008 quality management system certification, obtained the safety mark certification for mining produc ts, explosionproof qualification certificate and a number of other international and national patent certificates.

The company's main businesses：

(1) Provide specialty optical fiber, specialty fiber optic cable and optical devices for navigation of sea, land and air, medical, sensing, lasers and other fields. The polarization maintaining fiber developed by our company has been successfully applied to major national projects such as the series of manned spacecraft.Meanwhile, active optial fibers have been mass produced and applied to high-power industrid fiber lasers.

(2) Provide safety monitoring solutions centerd on fiber optic sensing technology for bridges, tunnels, electricity, colliery, petroleum and petrochemical and other fields.

The company is willing to cooperate in good faith, improving together with domestic and foreign counterparts in the spirit of harmony and win-win. We will do the best to promoting the development of specialty optical fiber and optical fiber sensing technology in China.

荣誉奖励


首次载人交会对接任务
荣誉奖牌
中国航天科技集团公司
二〇一二年九月


专精特新
"小巨人"企业
江苏法尔胜光电科技有限公司
工业和信息化部
有效期：2023年7月1日-2026年6月30日


江 苏 省
光纤传感系统集成应用工程技术
研究中心
JIANGSU ENGINEERING RESEARCH CENTER FOR
INTEGRATED APPLICATION OF OPTICAL FIBER SENSING SYSTEM
江苏省科学技术厅
江苏省财政厅


苏南
S-Park
2020年苏南国家自主创新示范区
潜在独角兽企业


2023年江苏省高新技术产业开发区
瞪羚企业
江苏省生产力促进中心


无锡市认定
企业技术中心
无锡市工业和信息化局


二〇二二年度
科技创新型企业
中共江阴高新技术产业开发区工作委员会
江阴高新技术产业开发区管理委员会
二〇二三年一月


江苏法尔胜光电科技有限公司
江苏省质量信用AA级企业
（2023年度）
江苏省市场监督管理局
江苏省发展和改革委员会


无锡市和谐劳动关系企业

高新技术企业
证书

荣誉证书

获奖单位：江苏法尔胜光通信科技有限公司、江苏法尔胜光电科技有限公司、江苏法尔胜光子有限公司、上海交通大学

奖励等级：科技进步奖一等奖

第十二届无锡市专利奖

第十二届无锡市专利奖

江苏省民营科技企业

经备案符合《江苏省发展民营科技企业条例》的有关规定，特发此证。

有效期：二〇二二年七月至二〇二五年六月

二〇二二年七月

荣誉证书

江苏法尔胜光电科技有限公司：

特发此证，以资鼓励。

荣誉证书

江苏法尔胜光电科技有限公司：

贵单位的产品"30/400 双包层掺镱有源光纤"在 2024 第三届"中国激光星锐奖"最佳产品奖评选中入选"最佳激光器件技术创新奖"，

特发此证。

资质证书


知识产权管理体系认证证书
建筑业企业资质证书
安防工程企业
设计施工维护能力证书
安全生产标准化
证 书
CERTIFICATE
安全生产标准化三级企业（机械）
安全生产许可证
信息系统建设和服务能力
等 级 证 书
信息技术服务标准
符 合 性 证 书
软件产品证书











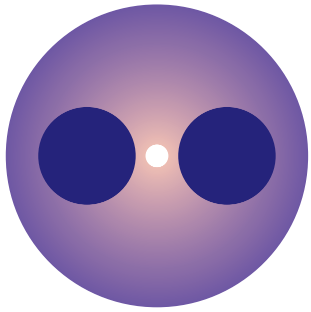









熊猫型保偏光纤



产品描述

熊猫型保偏光纤采用 MCVD（改进的化学气相沉积）工艺制造，具有保偏性能优越、折射率分布精确、截面几何对称性好、纵向均匀性好、光学性能优异等特点。熊猫型保偏光纤采用紫外固化双涂覆层结构，光纤环境性能稳定。

熊猫型保偏光纤可应用于光纤陀螺以及其他偏振相关器件领域，该产品具有很低的衰减特性和优良的双折射性能，可满足各种使用要求。

陀螺用保偏光纤产品参数

产品类型	125/245		80/165(135*)		60/100		40/80		
光学特性									
工作波长 (nm)	1310	1550	1310	1550	1310	1550	850	1310	1550
截止波长 (nm)	1100-1290	1290-1520	1100-1290	1290-1520	1100-1290	1290-1520	＜830	1100-1290	1290-1520
模场直径 (μm)	6.0±0.5	6.5±0.5	6.0±0.5	6.5±0.5	6.0±0.5	6.5±0.5	3.0±0.5	5.5±1.0	6.0±1.0
拍长 (mm)	≤3.0	≤3.5	≤3.0	≤3.5	≤3.0	≤3.5	≤2.5	≤3.0	≤3.5
衰减 (dB/km)	≤1.0		≤1.0		≤1.0		≤15	≤2.0	
偏振串音 (dB/km)	≤-30		≤-30		≤-25		≤-20（dB/100m）		
几何性能									
包层直径 (μm)	125.0±1.0		80.0±1.0		60.0±1.0		40.0±2.0		
涂层直径 (μm)	245.0±3.0		165.0±3.0 / 135.0±3.0		100.0±3.0		80.0±3.0		
芯 / 包同心度 (μm)	≤1.0		≤1.0		≤1.0		≤1.0		
包层不圆度 (%)	≤1.0		≤1.0		≤1.0		≤1.0		
涂层不圆度 (%)	≤5.0		≤5.0		≤5.0		≤5.0		
机械性能									
工作温度范围 (°C)	-45~+85		-45~+85		-45~+85		-45~+85		
筛选强度（kpsi）	100		100		100		100		

* 涂覆层直径可选

产品特性

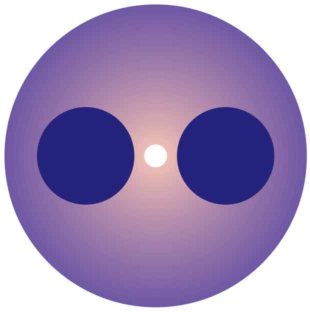
◆拍长短 ◆易熔接 ◆衰减低 ◆一致性好 ◆保偏性能好 ◆弯曲稳定性好 ◆双折射率效应高

◆紫外固化双涂覆层结构 ◆高环境稳定性和可靠性

应用领域

◆光纤陀螺 ◆偏振敏感器件 ◆激光器尾纤 ◆光纤偏振传感器 ◆偏振模块尾纤

Panda-Type PM Fiber



Product Description

Panda-Type PM Fibers are produced by MCVD (Modified Chemical Vapor Deposition) process, with UV-cured dual coating structure to ensure the environment stability of optical fiber. It has good polarization maintaining capability, accurate refractive index profile, enhanced cross-sectional geometric symmetry and longitudinal uniformity.

Panda-Type PM Fiber can be applied to fiber optic gyroscope and other fields about polarization-dependent devices. Due to the low attenuation characteristics and excellent birefringence, it is able to meet all kinds of requirements.

Product Specifications of the PM Fiber for Fiber Optic Gyroscopes

Product Type	125/245		80/165(135*)		60/100		40/80		
Optical properties									
Operating Wavelength (nm)	1310	1550	1310	1550	1310	1550	850	1310	1550
Cutoff Wavelength (nm)	1100-1290	1290-1520	1100-1290	1290-1520	1100-1290	1290-1520	< 830	1100-1290	1290-1520
Mode Field Diameter(μm)	6.0±0.5	6.5±0.5	6.0±0.5	6.5±0.5	6.0±0.5	6.5±0.5	3.0±0.5	5.5±1.0	6.0±1.0
Beat-length(mm)	≤ 3.0	≤ 3.5	≤ 3.0	≤ 3.5	≤ 3.0	≤ 3.5	≤ 2.5	≤ 3.0	≤ 3.5
Attenuation (dB/km)	≤ 1.0		≤ 1.0		≤ 1.0		≤ 15	≤ 2.0	
Polarization Crosstalk (dB/km)	≤ -30		≤ -30		≤ -25		≤ -20 (dB/100m)		
Geometry properties									
Cladding Diameter(μm)	125.0±1.0		80.0±1.0		60.0±1.0		40.0±2.0		
Coating Diameter(μm)	245.0±3.0		165.0±3.0 / 135.0±3.0		100.0±3.0		80.0±3.0		
Core/Clad Offset (μm)	≤ 1.0		≤ 1.0		≤ 1.0		≤ 1.0		
Clad Non-Circularity (%)	≤ 1.0		≤ 1.0		≤ 1.0		≤ 1.0		
Coating Non-Circularity(%)	≤ 5.0		≤ 5.0		≤ 5.0		≤ 5.0		
Mechanical properties									
Operating Temperature Range (℃)	-45~+85		-45~+85		-45~+85		-45~+85		
Proof Test (kpsi)	100		100		100		100		

*Coating diameter is optional.

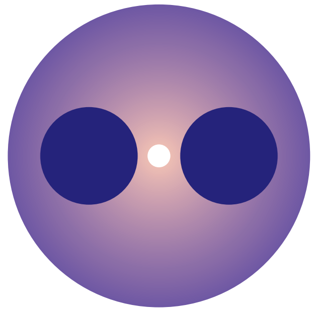
Product Features

- ◆ short beat length
- ◆ easy splicing
- ◆ low attenuation
- ◆ great consistency
- ◆ good polarization maintaining capability
- ◆ bending insensitive
- ◆ excellent birefringence effect
- ◆ UV-cured dual coating structure
- ◆ high environmental stability and reliability

Product Applications

- ◆ Fiber Optic Gyroscopes (FOGs)
- ◆ polarization-sensitive components
- ◆ optical fiber polarization sensor
- ◆ polarization module pigtail

熊猫型保偏光纤



产品描述

熊猫型保偏光纤采用 MCVD（改进的化学气相沉积）工艺制造，具有保偏性能优越、折射率分布精确、截面几何对称性好、纵向均匀性好、光学性能优异等特点。熊猫型保偏光纤采用紫外固化双涂覆层结构，光纤环境性能稳定。

熊猫型保偏光纤可应用于光纤陀螺以及其他偏振相关器件领域，该产品具有很低的衰减特性和优良的双折射性能，可满足各种使用要求。

波导用保偏光纤产品参数

产品类型	PMF125/245YP		PMF80/165YP	
光学特性				
工作波长 (nm)	1310	1550	1310	1550
截止波长 (nm)	1100-1290	1290-1520	1100-1290	1290-1520
模场直径 (μm)	6.0±0.5	6.5±0.5	6.0±0.5	6.5±0.5
拍长 (mm)	2.5~3.5	3.0~4.5	2.5~3.5	3.0~4.5
衰减 (dB/km)	≤ 1.0		≤ 1.0	
偏振串音 (dB/km)	≤ -30		≤ -30	
几何性能				
包层直径 (μm)	125.0±1.0		80.0±1.0	
涂层直径 (μm)	245.0±3.0		165.0±3.0	
芯 / 包同心度 (μm)	≤ 1.0		≤ 1.0	
包层不圆度 (%)	≤ 1.0		≤ 1.0	
涂层不圆度 (%)	≤ 5.0		≤ 5.0	
机械性能				
工作温度范围 (°C)	-45~+85		-45~+85	
筛选强度（kpsi）	100		100	

产品特性

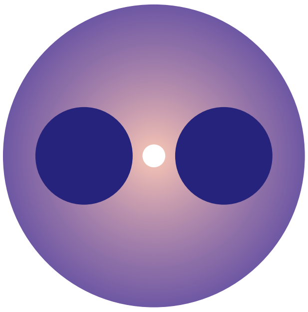
◆优异的研磨性能 ◆良好的几何均匀性

◆紫外固化双涂覆层结构 ◆高环境稳定性和可靠性

应用领域

◆铌酸锂波导尾纤 ◆偏振敏感器件

Panda-Type PM Fiber



Product Description

Panda-Type PM Fibers are produced by MCVD (Modified Chemical Vapor Deposition) process, with UV-cured dual coating structure to ensure the environment stability of optical fiber. It has good polarization maintaining capability, accurate refractive index profile, enhanced cross-sectional geometric symmetry and longitudinal uniformity.

Panda-Type PM Fiber can be applied to fiber optic gyroscope and other field about polarization-dependent device. Due to the low attenuation characteristics and excellent birefringence, it is able to meet all kinds of requirements.

Product Specifications of the PM Fiber for Waveguide Applications

Product type	PMF125/245YP		PMF80/165YP	
Optical properties				
Operating Wavelength (nm)	1310	1550	1310	1550
Cutoff Wavelength (nm)	1100-1290	1290-1520	1100-1290	1290-1520
Mode Field Diameter(μm)	6.0±0.5	6.5±0.5	6.0±0.5	6.5±0.5
Beat-length(mm)	2.5~3.5	3.0~4.5	2.5~3.5	3.0~4.5
Attenuation (dB/km)	≤ 1.0		≤ 1.0	
Polarization Crosstalk(dB/km)	≤ -30		≤ -30	
Geometry properties				
Cladding Diameter(μm)	125.0±1.0		80.0±1.0	
Coating Diameter(μm)	245.0±3.0		165.0±3.0	
Core/Clad Offset (μm)	≤ 1.0		≤ 1.0	
Clad Non-Circularity (%)	≤ 1.0		≤ 1.0	
Coating Non-Circularity(%)	≤ 5.0		≤ 5.0	
Mechanical properties				
Operating Temperature Range (°C)	-45~+85		-45~+85	
Proof Test (kpsi)	100		100	

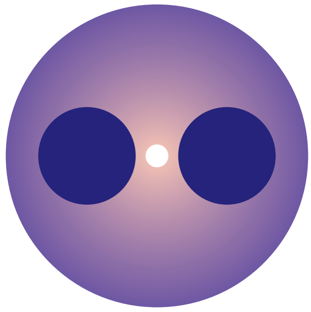
Product Features

- ◆ excellent abrasive properties
- ◆ good geometric uniformity
- ◆ UV-cured dual coating structure
- ◆ high environmental stability and reliability

Product Applications

- ◆ lithium niobate waveguide pigtail
- ◆ polarization-sensitive components

熊猫型保偏光纤



产品描述

熊猫型保偏光纤采用 MCVD（改进的化学气相沉积）工艺制造，具有保偏性能优越、折射率分布精确、截面几何对称性好、纵向均匀性好、光学性能优异等特点。熊猫型保偏光纤采用紫外固化双涂覆层结构，光纤环境性能稳定。

熊猫型保偏光纤可应用于光纤陀螺以及其他偏振相关器件领域，该产品具有很低的衰减特性和优良的双折射性能，可满足各种使用要求。

器件用保偏光纤产品参数

产品类型	PM980-125/245DP	PMF13-125/245DP	PMF15-125/245DP
光学特性			
工作波长 (nm)	980	1310	1550
截止波长 (nm)	800-970	1100-1290	1290-1520
模场直径 (μm)	6.5±0.5	9.0±0.5	10.5±0.5
拍长 (mm)	≤ 3.0	≤ 4.0	≤ 5.0
衰减 (dB/km)	≤ 2.5	≤ 0.6	≤ 0.6
偏振串音 (dB/4m)	≤ -40	≤ -40	≤ -40
偏振串音 (dB/100m)	≤ -30	≤ -30	≤ -30
几何性能			
包层直径 (μm)	125.0±1.0	125.0±1.0	125.0±1.0
涂层直径 (μm)	245.0±3.0	245.0±3.0	245.0±3.0
芯 / 包同心度 (μm)	≤ 0.5	≤ 1.0	≤ 1.0
包层不圆度 (%)	≤ 1.0	≤ 1.0	≤ 1.0
涂层不圆度 (%)	≤ 5.0	≤ 5.0	≤ 5.0
机械性能			
工作温度范围 (°C)	-45~+85	-45~+85	-45~+85
筛选强度（kpsi）	100	100	100

产品特性

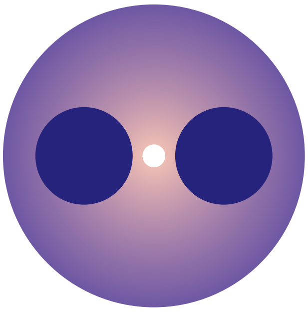
◆优异的研磨性能 ◆良好的几何均匀性 ◆可拉锥性能

◆紫外固化双涂覆层结构 ◆高环境稳定性和可靠性

应用领域

◆熔锥型保偏耦合器 ◆光纤偏振传感器

Panda-Type PM Fiber



Product Description

Panda-Type PM Fibers are produced by MCVD (Modified Chemical Vapor Deposition) process, with UV-cured dual coating structure to ensure the environment stability of optical fiber. It has good polarization maintaining capability, accurate refractive index profile, enhanced cross-sectional geometric symmetry and longitudinal uniformity.

Panda-Type PM Fiber can be applied to fiber optic gyroscope and other field about polarization-dependent device. Due to the low attenuation characteristics and excellent birefringence, it is able to meet all kinds of requirements.

Product Specifications of the PM Fiber for Fiber Optic Devices

Product type	PM980-125/245DP	PMF13-125/245DP	PMF15-125/245DP
Optical properties			
Operating Wavelength (nm)	980	1310	1550
Cutoff Wavelength (nm)	800-970	1100-1290	1290-1520
Mode Field Diameter(μm)	6.5±0.5	9.0±0.5	10.5±0.5
Beat-length(mm)	≤ 3.0	≤ 4.0	≤ 5.0
Attenuation (dB/km)	≤ 2.5	≤ 0.6	≤ 0.6
Polarization Crosstalk(dB/4m)	≤ -40	≤ -40	≤ -40
Polarization Crosstalk(dB/100m)	≤ -30	≤ -30	≤ -30
Geometry properties			
Cladding Diameter(μm)	125.0±1.0	125.0±1.0	125.0±1.0
Coating Diameter(μm)	245.0±3.0	245.0±3.0	245.0±3.0
Core/Clad Offset (μm)	≤ 0.5	≤ 1.0	≤ 1.0
Clad Non-Circularity (%)	≤ 1.0	≤ 1.0	≤ 1.0
Coating Non-Circularity(%)	≤ 5.0	≤ 5.0	≤ 5.0
Mechanical properties			
Operating Temperature Range (°C)	-45~+85	-45~+85	-45~+85
Proof Test (kpsi)	100	100	100

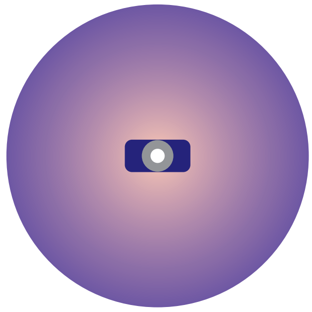
Product Features

- excellent abrasive properties
- good geometric uniformity
- Excellent tapering performance
- UV-cured dual coating structure
- high environmental stability and reliability

Product Applications

- Fused taper polarization-maintaining coupler
- polarization-sensitive components

一字型保偏光纤



产品描述

一字型保偏光纤具有自主创新的优异结构，吸取领结型与椭圆茄克型保偏光纤的双重优点，创造了国内外独一无二的小应力区结构，其应力作用区面积仅为熊猫型的1/3～1/4，即可达到同等甚至更好的保偏效果，对保偏光纤温度性能、抗弯曲性能及强度性能带来很大改善。

此光纤产品已经成功应用于海陆空天等各类平台的导航、定位和姿态控制系统。

产品参数

产品类型	125/245		80/165(135*)		60/100	
光学特性						
工作波长 (nm)	1310	1550	1310	1550	1310	1550
截止波长 (nm)	1100-1290	1290-1520	1100-1290	1290-1520	1100-1290	1290-1520
模场直径 (μm)	6.0±0.5	6.5±0.5	6.0±0.5	6.5±0.5	6.0±0.5	6.5±0.5
拍长 (mm)	≤ 3.0	≤ 3.5	≤ 3.0	≤ 3.5	≤ 3.0	≤ 3.5
衰减 (dB/km)	≤ 1.0		≤ 1.0		≤ 1.0	
偏振串音 (dB/km)	≤ -30		≤ -30		≤ -25	
几何性能						
包层直径 (μm)	125.0±1.0		80.0±1.0		60.0±1.0	
涂层直径 (μm)	245.0±3.0		165.0±3.0 / 135.0±3.0 *		100.0±3.0	
芯 / 包同心度 (μm)	≤ 1.0		≤ 1.0		≤ 1.0	
包层不圆度 (%)	≤ 1.0		≤ 1.0		≤ 1.0	
机械性能						
工作温度范围 (°C)	-45~+85		-45~+85		-45~+85	
筛选强度（kpsi)	100		100		100	

* 涂覆层直径可选

产品特性

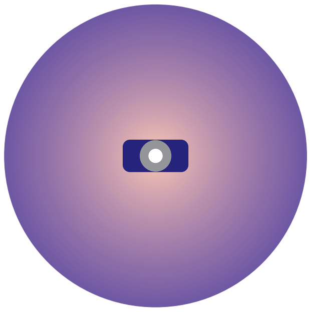
◆应力区小 ◆衰减低 ◆一致性好 ◆保偏性能好 ◆弯曲稳定性好 ◆双折射率效应高

◆紫外固化双涂覆层结构 ◆高环境稳定性和可靠性

应用领域

◆光纤陀螺 ◆偏振敏感器件 ◆激光器尾纤 ◆光纤偏振传感器 ◆偏振模块尾纤

Bar-Type PM Fiber



Product Description

Bar-Type PM Fibers have outstanding structure by indigenous innovation. It creates unique small stress domain structure at home by absorbing dual advantages of tie type and elliptical jacket type polarization maintaining fiber. The stress area is only 1/3 ～ 1/4 of PANDA type, but the effect of PM is same or even better. The temperature performance, bending resistance performance and intensity properties are greatly improved.

This type of fiber has been successfully applied into navigation, location and attitude control system of various platforms like sea and air.

Product Specifications

Product type	125/245		80/165(135*)		60/100	
Optical properties						
Operating Wavelength (nm)	1310	1550	1310	1550	1310	1550
Cutoff Wavelength (nm)	1100-1290	1290-1520	1100-1290	1290-1520	1100-1290	1290-1520
Mode Field Diameter(μm)	6.0±0.5	6.5±0.5	6.0±0.5	6.5±0.5	6.0±0.5	6.5±0.5
Beat-length(mm)	⩽ 3.0	⩽ 3.5	⩽ 3.0	⩽ 3.5	⩽ 3.0	⩽ 3.5
Attenuation (dB/km)	⩽ 1.0		⩽ 1.0		⩽ 1.0	
Polarization Crosstalk (dB/km)	⩽ -30		⩽ -30		⩽ -25	
Geometry properties						
Cladding Diameter(μm)	125.0±1.0		80.0±1.0		60.0±1.0	
Coating Diameter(μm)	245.0±3.0		165.0±3.0 / 135.0±3.0 *		100.0±3.0	
Core/Clad Offset (μm)	⩽ 1.0		⩽ 1.0		⩽ 1.0	
Clad Non-Circularity (%)	⩽ 1.0		⩽ 1.0		⩽ 1.0	
Mechanical properties						
Operating Temperature Range (℃)	-45~+85		-45~+85		-45~+85	
Proof Test (kpsi)	100		100		100	

*Coating diameter is optional.

Product Features

- small stress zone
- low attenuation
- great consistency
- good polarization maintaining capability
- bending insensitive
- excellent birefringence effect
- UV-cured dual coating structure
- high environmental stability and reliability

Product Applications

- Fibre Optic Gyroscopes (FOGs)
- polarization-sensitive components
- optical fiber polarization sensor
- polarization module pigtail

保偏光纤环

产品描述

保偏光纤环产品是基于 Sagnac 效应的光纤陀螺仪系统的核心敏感元件，现主要采用多极对称绕法，并辅以特殊的密封胶填充，构成全固态的光纤环线圈。

产品类型

◆带骨架型

◆脱骨型

产品参数

典型产品	Φ50	Φ70	Φ98
基础特性（典型值）			
光纤类型	PMF13-80/135GP	PMF13-80/135GP	PMF15-80/135GP
内径（mm）	27.1 ± 0.1	55.6 ± 0.1	75.0 ± 0.1
环高（mm）	10.1 ± 0.1	10.0 ± 0.1	12.3 ± 0.1
层数	40	32	52
环长（m）	290 ± 10	365 ± 10	1210 ± 10
元器件性能			
常温串音（dB）	≤ -23	≤ -25	≤ -22
全温串音（dB）	≤ - 20	≤ -20	≤ -18
常温损耗（dB）	≤ 0.7	≤ 0.7	≤ 0.6
温度可靠性	通过 -55°C ~+85°C温度范围，20 个 2°C /min 的温度冲击循环		
存贮温度（°C）	-45 ~ +70	-45 ~ +70	-45 ~ +70
系统性能			
定温零偏稳定性（° /h）	≤ 0.3（10s）	≤ 0.15（10s）	≤ 0.015（100s）
全温零偏稳定性（° /h）	≤ 0.5（10s）	≤ 0.3（10s）	≤ 0.03（100s）

产品特性

◆优异的温度性能

◆低应力绕制工艺

◆高产品可靠性

◆可根据客户需求定制

PM Fiber Coil

Product Description

PM Fiber Coil products are the core sensitive components of fiber optic gyroscope systems based on the Sagnac effect. Currently, they mainly use multipole symmetric winding method and are supplemented by special sealant filling to form an all solid-state fiber ring coil.

Product Type

- Skeleton type
- Debone type

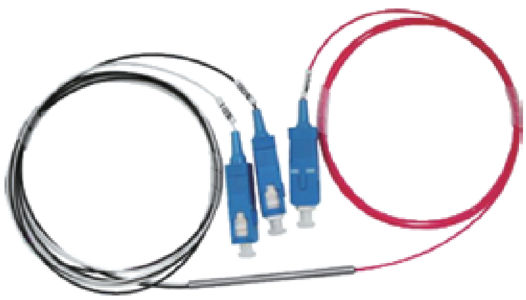
Product Specifications

Typical Products	Φ50	Φ70	Φ98
Basic characteristics (typical values)			
Fiber type	PMF13-80/135GP	PMF13-80/135GP	PMF15-80/135GP
Inner diameter (mm)	27.1 ± 0.1	55.6 ± 0.1	75.0 ± 0.1
Ring height (mm)	10.1 ± 0.1	10.0 ± 0.1	12.3 ± 0.1
Number of layers	40	32	52
Ring length (m)	290 ± 10	365 ± 10	1210 ± 10
Component performance			
Room temperature crosstalk (dB)	⩽ -23	⩽ -25	⩽ -22
Full temperature crosstalk (dB)	⩽ - 20	⩽ -20	⩽ -18
Room temperature loss (dB)	⩽ 0.7	⩽ 0.7	⩽ 0.6
Temperature reliability	Pass temperature cycling test of -55°C -85°C range with twenty 2°C /min temperature shocks.		
Storage temperature (°C)	-45 ~ +70	-45 ~ +70	-45 ~ +70
System perfarmance			
Constant temperature zero bias stability (° /h)	⩽ 0.3（10s)	⩽ 0.15（10s)	⩽ 0.015（100s)
Full temperature zero bias stability (° /h)	⩽ 0.5（10s)	⩽ 0.3（10s)	⩽ 0.03（100s)

Product Features

- Excellent temperature performance
- Low stress winding process
- High product reliability
- Customizable according to customer needs

980 特种光纤



产品描述

980nm 特种光纤是采用具有自主知识产权的 AFHD 工艺生产的高性能中等数值孔径（NA）的耦合器光纤，该光纤是为器件厂商进行优化设计开发的，尤其适合于熔融拉锥技术生产的耦合器和分路器。

产品参数

产品型号	F10080	F10080-1	F10081	F10082	F10083
	980	980-80	1060	1060 FLEX-125	1060 FLEX-80
光学特性					
工作波长 (nm)	980/1550	980/1550	980/1060	980/1550	980/1550
截止波长 (nm)	930±30	930±30	920±50	930±40	930±40
MFD@980nm(μm)	5.0±0.5	5.0±0.5	5.9±0.5	4.0±0.5	4.0±0.5
MFD@1060nm(μm)	——	——	6.2±0.5	——	——
MFD@1550nm(μm)	7.5±0.5	7.5±0.5	——	6.3±0.5	6.3±0.5
衰减 @980nm（dB/km)	≤ 3.0	≤ 3.0	≤ 2.1	≤ 2.5	≤ 2.0
衰减 @1060nm（dB/km)	——	——	≤ 1.5	——	≤ 1.0
衰减 @1550nm（dB/km)	≤ 1.0	≤ 1.0	——	≤ 1.0	≤ 1.0
典型数值孔径 (NA)	0.16	0.16	0.14	0.2	0.2
几何特性					
包层直径 (μm)	125.0±1.0	80±1.0	125.0±1.0	125.0±1.0	80±1.0
涂层直径 (μm)	240.0±10.0	165±10.0	240.0±10.0	240.0±10.0	165.0±10.0
芯 / 包同心度偏差 (μm)	≤ 0.3	≤ 0.3	≤ 0.3	≤ 0.3	≤ 0.3
包层不圆度 (%)	≤ 1.0	≤ 1.0	≤ 1.0	≤ 1.0	≤ 1.0
机械特性					
工作温度范围 (°C)	-40~+85	-40~+85	-40~+85	-40~+85	-40~+85
筛选强度（kpsi)	≥ 100 或 200	≥ 100 或 200	≥ 100 或 200	≥ 100 或 200	≥ 100 或 200

产品特性

◆光纤熔接损耗小 ◆耦合附加损耗低 ◆严格的几何尺寸和光学性能的公差控制

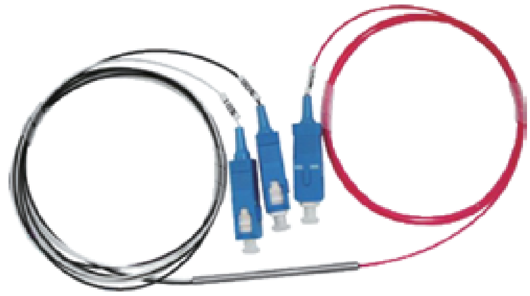
◆高度一致性和优化的纤芯，包层同心度 ◆更高的强度测试水平

应用领域

◆ EDFA 用泵浦 / 信号波分复用器 ◆ CATV 光纤耦合器 ◆ Tap coupler 抽头耦合器

◆超小封装光纤器件 ◆双向合波器和分波器

980 nm Coupler Fiber



Product Description

980 nm Coupler Fiber, produced by AFHD (Advanced Fluorine-doped High-Dehydration) process with independent intellectual property, is a high performance medium numerical aperture (NA) coupler fiber. The fiber is optimized for device manufacturers and is especially suitable for coupler and divider produced by fusion tapered technology.

Product Specifications

Fiber Type	F10080	F10080-1	F10081	F10082	F10083
	980	980-80	1060	1060 FLEX-125	1060 FLEX-80
Optical Specifications					
Operating Wavelength(nm)	980/1550	980/1550	980/1060	980/1550	980/1550
Cutoff wavelength（nm）	930±30	930±30	920±50	930±40	930±40
MFD@980nm(μm)	5.0±0.5	5.0±0.5	5.9±0.5	4.0±0.5	4.0±0.5
MFD@1060nm(μm)	——	——	6.2±0.5	——	——
MFD@1550nm(μm)	7.5±0.5	7.5±0.5	——	6.3±0.5	6.3±0.5
Attenuation@980nm (dB/km)	≤ 3.0	≤ 3.0	≤ 2.1	≤ 2.5	≤ 2.0
Attenuation@1060nm (dB/km)	——	——	≤ 1.5	——	≤ 1.0
Attenuation@1550nm (dB/km)	≤ 1.0	≤ 1.0	——	≤ 1.0	≤ 1.0
Typical Numerical Aperture(NA)	0.16	0.16	0.14	0.2	0.2
Geometrical Specifications					
Cladding Diameter（μm）	125.0±1.0	80±1.0	125.0±1.0	125.0±1.0	80±1.0
Coating Diameter（μm）	240.0±10.0	165±10.0	240.0±10.0	240.0±10.0	165.0±10.0
Core/Clad Offset（μm）	≤ 0.3	≤ 0.3	≤ 0.3	≤ 0.3	≤ 0.3
Clad Non-Circularity(%)	≤ 1.0	≤ 1.0	≤ 1.0	≤ 1.0	≤ 1.0
Mechanical Specifications					
Operating Temperature(°C)	-40~+85	-40~+85	-40~+85	-40~+85	-40~+85
Proof Test（kpsi）	≥ 100or200	≥ 100or200	≥ 100or200	≥ 100or200	≥ 100or200

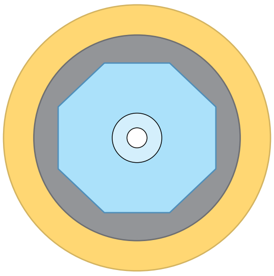
Product Features

◆ Low splice loss ◆ Low coupling additional loss ◆ Strict control on tolerance of geometry dimension and optical performance ◆ Optimized core/clad concentricity ◆ higher proof test

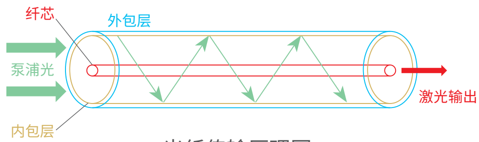
Typical Applications

◆ EDFAs and WDM Pump/Signal Couplers ◆ CATV Optical fiber coupler ◆ Tap coupler
◆ Ultra-small packaging devices ◆ Bidirectional Multiplexer and Demultiplexer

掺镱有源光纤



光纤结构示意图



光纤传输原理图

产品描述

法尔胜掺镱有源光纤（YDF）作为增益介质，适用于中、高功率光纤激光器及放大器，可选用单模和大模场，输出功率可至千瓦级别。采用包层泵浦设计，满足中、高功率连续 / 脉冲激光器使用需求，光束质量高，批次稳定性及一致性好，几何形状符合有源光纤的行业标准。

产品参数

中高功率用掺镱有源光纤						
光纤类型	YDF-20/400	YDF-25/400	YDF-30/400	YDF-14/250	YDF-30/400（HA）	YDF-50/800
光学性能						
工作波长 (nm)	1060-1115	1060-1115	1060-1115	1060-1115	1060-1115	1060-1115
芯层损耗 @1200nm（dB/km）	≤ 10	≤ 10	≤ 10	≤ 10	≤ 10	≤ 10
包层损耗 @1095nm（dB/km）	≤ 10	≤ 10	≤ 10	≤ 10	≤ 10	≤ 10
包层泵浦吸收 @915nm（dB/m）	0.40±0.05	0.60±0.10	0.70±0.10	0.70±0.10	0.90±0.05	0.90±0.1
包层泵浦吸收 @976nm（dB/m）	1.20±0.10	1.80±0.15	2.0±0.15	2.1±0.10	2.7±0.10	2.7±0.10
芯层数值孔径（NA）	0.065±0.010	0.065±0.010	0.065±0.010	0.070±0.002	0.090±0.005	0.095±0.010
内包层数值孔径（NA）	≥ 0.46	≥ 0.46	≥ 0.46	≥ 0.46	≥ 0.46	≥ 0.46
几何尺寸						
芯层直径（μm）	20.0±1.5	25.0±1.5	30.0±1.0	14.0±0.5	30.0±1.0	50.0±1.0
内包层直径（边对边）（μm）	400.0±15.0	400.0±15.0	400.0±15.0	250.0±5.0	400.0±5.0	800.0±5.0
芯包同心度（μm）	≤ 1.5	≤ 1.5	≤ 1.5	≤ 1.0	≤ 1.5	≤ 1.5
涂层直径（μm）	550.0±20.0	550.0±20.0	550.0±20.0	400.0±15.0	550.0±20.0	1000.0±20.0
涂覆材料	低折射率聚合物	低折射率聚合物	低折射率聚合物	低折射率聚合物	低折射率聚合物	低折射率聚合物
机械性能						
筛选强度（kpsi）	≥ 100	≥ 100	≥ 100	≥ 100	≥ 100	≥ 100

* 可根据客户需求提供定制化产品服务

典型应用

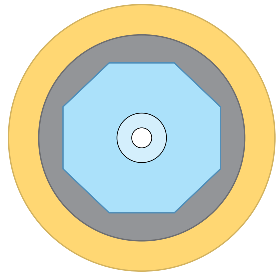
◆中、高功率连续 / 脉冲光纤激光器 ◆高平均功率脉冲放大器 ◆激光雷达、工业医疗领域

产品特点

◆精确几何控制 ◆批次一致性高 ◆高激光斜率效率（> 70%）

◆低光暗化 ◆光束质量高 ◆低芯层 / 包层衰减 ◆低数值孔径、大模场面积

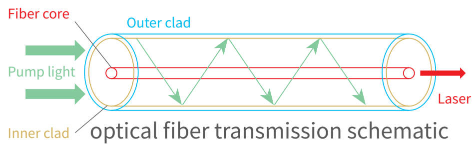
Yb-Doped Active Fiber



The design of fiber structure

Product Description

Fasten Yb-Doped Active Fibers, as the gain medium, are suitable for fiber lasers and fiber amplifiers. Here are single-mode and large-mode to choose, and the output power may up to kilowatt level. The cladding pump design is adopted to fulfill the needs of medium and high power continuous/pulse lasers. The series of YDFs have the advantages of high beam quality, batch stability and consistency, and the geometry conforms to the industry standard for active fiber.



optical fiber transmission schematic

Product Specifications

Yb-Doped Active Fiber for Medium and High Power Applications

Fiber Type	YDF-20/400	YDF-25/400	YDF-30/400	YDF-14/250	YDF-30/400(High Absorption)	YDF-50/800
Optical Specifications						
Operating Wavelength	1060-1115	1060-1115	1060-1115	1060-1115	1060-1115	1060-1115
Background Loss @1200nm (dB/km)	≤ 10	≤ 10	≤ 10	≤ 10	≤ 10	≤ 10
Cladding Loss @1095nm (dB/km)	≤ 10	≤ 10	≤ 10	≤ 10	≤ 10	≤ 10
Cladding Pump Absorption @915nm (dB/m)	0.40±0.05	0.60±0.10	0.70±0.10	0.70±0.10	0.90±0.05	0.90±0.1
Cladding Pump Absorption @near 976nm (dB/m)	1.20±0.10	1.80±0.15	2.0±0.15	2.1±0.10	2.7±0.10	2.7±0.10
Core Numerical Aperture(NA)	0.065±0.010	0.065±0.010	0.065±0.010	0.070±0.002	0.090±0.005	0.095±0.010
Cladding Numerical Aperture(NA)	≥ 0.46	≥ 0.46	≥ 0.46	≥ 0.46	≥ 0.46	≥ 0.46
Geometrical Specifications						
Core Diameter (μm)	20.0±1.5	25.0±1.5	30.0±1.0	14.0±0.5	30.0±1.0	50.0±1.0
Cladding Diameter (μm)	400.0±15.0	400.0±15.0	400.0±15.0	250.0±5.0	400.0±5.0	800.0±5.0
Core/Clad Concentricity Error (μm)	≤ 1.5	≤ 1.5	≤ 1.5	≤ 1.0	≤ 1.5	≤ 1.5
Coating Diameter (μm)	550.0±20.0	550.0±20.0	550.0±20.0	400.0±15.0	550.0±20.0	1000.0±20.0
Coating Material	Low index polymer	Low index polymer	Low index polymer	Low index polymer	Low index polymer	Low index polymer
Mechanical Specifications						
Proof test(kpsi)	≥ 100	≥ 100	≥ 100	≥ 100	≥ 100	≥ 100

* To provide customized products and services according to customer needs

Product Application

◆ Medium and high power fiber lasers and amplifiers ◆ Pulse amplifier with high average power
◆ Lidar, Industrial, medical

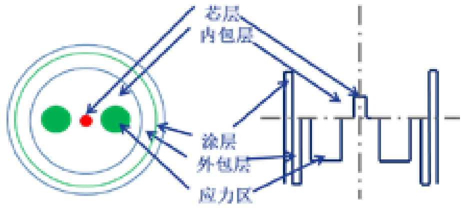
Product Features

◆ Precise geometry ◆ High Ytterbium doped concentration
◆ High laser slope efficiency（> 70%） ◆ low photo-darkening
◆ High beam quality ◆ low core / cladding loss ◆ Low NA core and large mode area

保偏型掺镱有源光纤

产品描述

法尔胜保偏型掺镱有源光纤（PYDF）系列产品，致力于满足高功率、高光束质量线偏振激光输出的需求，采用熊猫型应力元结构设计，在提升双折射的同时，保持优异的激光性能、光光转换效率和低非线性效应，该系列光纤批次稳定性和一致性好，几何尺寸控制偏差小，可适用于超快光纤激光器以及对偏振光有特殊要求的光纤激光器和放大器。



保偏掺镱光纤结构设计图

产品参数

保偏型掺镱有源光纤			
光纤类型	PYDF-10/125	PYDF-20/400	PYDF-25/400
光学性能			
工作波长	1060-1115	1060-1115	1060-1115
芯层损耗 @1200nm（dB/km）	≤ 10	≤ 10	≤ 10
包层损耗 @1095nm（dB/km）	≤ 15	≤ 15	≤ 15
包层泵浦吸收 @915nm（dB/m）	1.65±0.15	0.50±0.10	0.70±0.10
包层泵浦吸收 @976nm（dB/m）	4.80±0.15	1.50±0.10	2.10±0.10
芯层数值孔径（NA）	0.075±0.005	0.065±0.005	0.065±0.005
内包层数值孔径（NA）	≥ 0.46	≥ 0.46	≥ 0.46
双折射	$3*10^{-4}$	$3.5*10^{-4}$	$3.5*10^{-4}$
几何尺寸			
芯层直径（μm）	11.0±1.0	20.0±1.5	25.0±1.5
内包层直径（μm）	125.0±1.0	400.0±15.0	400.0±15.0
芯包同心度（μm）	≤ 1.0	≤ 2.0	≤ 2.0
涂层直径（μm）	245.0±10.0	550.0±15.0	550.0±15.0
涂敷材料	低折射率聚合物	低折射率聚合物	低折射率聚合物
机械性能			
筛选强度（kpsi）	≥ 100	≥ 100	≥ 100

* 可根据客户需求提供定制化产品服务

典型应用

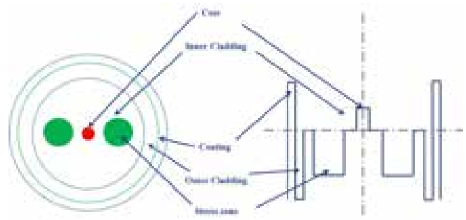
◆材料加工 ◆军事、工业和医疗领域 ◆激光雷达 ◆超快光纤激光器和高峰值功率放大器

产品特点

◆精确几何控制 ◆批次一致性高 ◆光束质量高

◆光学性能良好 ◆激光雷达偏振保持性能优异

PM Yb-Doped Active Fiber



The structure design of polarization-maintaining ytterbium-doped fiber

Product Description

Fasten PM Yb-Doped Active Fiber (PYDF) series products, which are committed to meet the requirements of linear polarization laser with high power and high beam quality, have good properties. Our fibers adopt the panda stress element design to improve birefringence while maintaining excellent laser performance, optical conversion efficiency and low nonlinear effects.Therefore, this series of fibers, which have good batch stability、consistency and small deviation of geometric size control, are applied for ultra-fast fiber lasers and fiber amplifiers that have special requirements for polarized light.

Product Specifications

PM Yb-Doped Active Fiber			
Fiber Type	PYDF-10/125	PYDF-20/400	PYDF-25/400
Optical Specifications			
Operating Wavelength	1060-1115	1060-1115	1060-1115
Background Loss @1200nm（dB/km）	≤ 10	≤ 10	≤ 10
Cladding Loss @1095nm（dB/km）	≤ 15	≤ 15	≤ 15
Cladding Pump Absorption @915nm（dB/m）	1.65±0.15	0.50±0.10	0.70±0.10
Cladding Pump Absorption @near 976nm（dB/m）	4.80±0.15	1.50±0.10	2.10±0.10
Core Numerical Aperture(NA)	0.075±0.005	0.065±0.005	0.065±0.005
Cladding Numerical Aperture(NA)	≥ 0.46	≥ 0.46	≥ 0.46
Birefringence	$3.0*10^{-4}$	$3.5*10^{-4}$	$3.5*10^{-4}$
Geometrical Specifications			
Core Diameter（μm）	11.0±1.0	20.0±1.5	25.0±1.5
Cladding Diameter（μm）	125.0±1.0	400.0±15.0	400.0±15.0
Core/Clad Concentricity Error（μm）	≤ 1.0	≤ 2.0	≤ 2.0
Coating Diameter（μm）	245.0±10.0	550.0±15.0	550.0±15.0
Coating Material	Low index polymer	Low index polymer	Low index polymer
Mechanical Specifications			
Proof Test（kpsi）	≥ 100	≥ 100	≥ 100

* To provide customized products and services according to customer needs

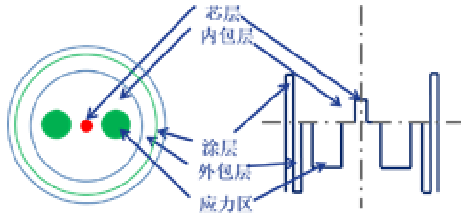
Product Application

◆ Material processing ◆ Military, industrial, and medical fields ◆ Lidar ◆ Ultra fast fiber lasers and high peak power amplifiers

Product Features

◆ Accurate geometric control ◆ High batch consistency ◆ High beam quality
◆ Good optical performance ◆ Excellent polarization retention performance of LiDAR

保偏型掺铒有源光纤



光纤结构设计图

产品描述

法尔胜基于 MCVD 制棒工艺开发出高吸收系数的保偏型掺铒有源光纤产品，适用于 1.5μm 波段光纤激光器及放大器，可选单模和大模场设计，输出高质量线偏振种子光或高功率线偏振激光。法尔胜保偏掺铒光纤及保偏型铒镱共掺光纤具有光束质量高、产品一致性好、批次性能稳定等优势，独特的剖面结构设计及结构设计，使得光纤具备较高的吸收系数、优异的偏振保持性能，有效降低泵浦功率、光纤长度，提升能量传递效率，可应用场景覆盖激光雷达、激光测距、无人驾驶、CATV、保偏光放大器及人眼安全激光等领域。

产品参数

光纤类型	PEDF-7/125	PEYDF-25/300
光学性能		
工作波长	1530~1625	1530~1625
芯层损耗 @1200nm（dB/km）	≤ 15	≤ 15
包层损耗 @1095nm（dB/km）	-	≤ 15
纤芯吸收 @1530nm（dB/m）	55.0±5.0	85.0±15.0
包层吸收 @915nm（dB/m）	-	2.9±0.5
芯层数值孔径（NA）	≤ 0.15	0.09±0.01
包层数值孔径（NA）	-	≥ 0.46
截止波长（nm）	1460±60	-
偏振串音 at 4m@1300nm	≤ -35	-
双折射	≥ $3.5*10^{-4}$	≥ $1.5*10^{-4}$
几何尺寸		
芯层直径（μm）	7.4±0.6	25.0±2.0
包层直径（μm）	125.0±1.0	300.0±5.0
芯包同心度（μm）	≤ 0.5	≤ 2.0
涂覆层直径（μm）	245.0±10.0	450.0±15.0
涂敷材料	聚丙烯酸树脂	低折射率聚合物
机械性能		
筛选强度（kpsi）	≥ 100	≥ 100

* 可根据客户需求提供定制化产品服务

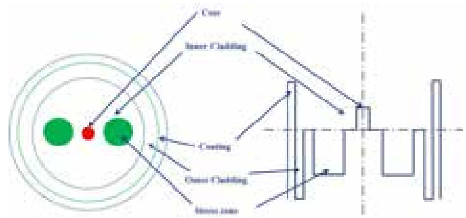
典型应用

◆ 1.5μm 光纤激光器 / 光纤放大器 ◆激光雷达、激光测距 ◆激光放大 ◆人眼安全激光领域

产品特点

◆精确几何控制 ◆批次一致性高 ◆高双折射特性 ◆低芯层 / 包层衰减 ◆高吸收、高能量传递效率

PM Er-Doped Active Fiber



The structure design of polarization-maintaining Er/Yb co-doped fiber

Product Description

The PM Er-Doped Active Fiber products with high absorption coefficient has been developed by Fasten, which are suitable for 1.5μm band fiber lasers and amplifiers with optional single-mode and large-mode field designs. The fibers can be used to output high quality linearly polarized seed light or high power linearly polarized laser. The polarization-maintaining erbium-doped fiber and polarization-maintaining erbium/ytterbium co-doped fiber have the advantages of high beam quality, good product consistency and stable batch performance. The unique profile structure design and structural design make the fiber have high absorption coefficient, excellent polarization-maintaining performance, what' s more, the low pump power and fiber length can improve the energy transfer efficiency. It can be used in the fields of laser lidar, unmanned driving, CATV, polarizing amplifier and eye safety laser.

Product Specifications

Fiber Type	PEDF-7/125	PEYDF-25/300
Optical Specifications		
Operating Wavelength	1530~1625	1530~1625
Background Loss @1200nm（dB/km）	⩽ 15	⩽ 15
Cladding Loss @1095nm（dB/km）	-	⩽ 15
Core Absorption @1530nm（dB/m）	55.0±5.0	85.0±15.0
Cladding Pump Absorption @915nm（dB/m）	-	2.9±0.5
Core Numerical Aperture(NA)	⩽ 0.15	0.09±0.01
Inner Cladding（NA）	-	⩾ 0.46
Cutoff wavelength（nm）	1460±60	-
Crosstalk at 4m@1300nm	⩽ -35	-
Birefringence	⩾ $3.5*10^{-4}$	⩾ $1.5*10^{-4}$
Geometrical Specifications		
Core Diameter（μm）	7.4±0.6	25.0±2.0
Cladding Diameter（μm）	125.0±1.0	300.0±5.0
Core/Clad Concentricity Error（μm）	⩽ 0.5	⩽ 2.0
Coating Diameter（μm）	245.0±10.0	450.0±15.0
Coating Material	Polyacrylic acid	Low index polymer
Mechanical Specifications		
Proof Test（kpsi）	⩾ 100	⩾ 100

* To provide customized products and services according to customer needs

Typical Application

◆ 1.5μm Fiber Laser/Fiber Amplifier ◆ Lidar/Laser Ranging and ◆ Eye Safety Field ◆ Laser Amplification

Product Characteristics

◆ Precise geometry control ◆ High product consistency
◆ High birefringence properties ◆ Low core/clad attenuation
◆ High absorption, high energy transfer efficiency

掺铒有源光纤

产品描述

法尔胜掺铒有源光纤产品是种工作波长近 1.5μm 的稀土掺杂有源光纤，可以放大通信传输带宽和降低通信成本。掺铒光纤在 1.5μm 波段具有增益高、增益带宽大和噪声低的优点。因此被广泛应用于光通信 DWDM 光传输网和 CATV 网络中对光信号放大。另外掺铒光纤也可应用于雷达和遥感等传感领域。

产品参数

技术参数	ER-4/125	ER-6/125	ER-7/125
工作波长（nm）	1530~1625	1530~1625	1530~1625
截止波长（nm）	≤ 1300	≤ 1300	≤ 1300
模场直径 @1550nm（μm）	5.0±1.0	8.0±1.0	8.8±1.0
芯层吸收系数 @1535nm（dB/m）	30.0±5.0	45.0±5.0	55.0±5.0
芯层损耗 @1200nm（dB/km）	≤ 15.0	≤ 15.0	≤ 15.0
芯层数值孔径	0.26±0.02	0.26±0.02	0.15±0.02
芯层直径（μm）	4.0±0.5	6.0±0.5	7.0±0.5
包层直径（μm）	125.0±1.0	125.0±1.0	125.0±1.0
芯 / 包同心度（μm）	≤ 0.5	≤ 0.5	≤ 0.5
涂覆层直径（μm）	245.0±10.0	245.0±10.0	245.0±10.0
筛选张力（kpsi）	≥ 100	≥ 100	≥ 100
工作温度 (°C)	-5~75	-5~75	-5~75
贮存温度 (°C)	-40~85	-40~85	-40~85

* 可根据客户需求提供定制化产品服务

典型应用

◆ CATV 放大器

◆ DWDM 放大器

◆ 1.5μm 光纤激光器 / 光纤放大器

◆雷达和遥感

产品特点

◆优异的折射率均匀性

◆背景噪声低

◆高吸收

◆熔接损耗低

◆与 G652D 标准纤兼容

Er-Doped Active Fiber

Product Description

Fasten Er-Doped Active Fibers are rare earth doped active fibers with a working wavelength close to 1.5 μm, which can greatly increase the communication transmission bandwidth and reduce communication costs. Erbium-doped fibers have the advantages of high gain, large gain bandwidth and low noise in the 1.5 μm band. Therefore, it is widely used in optical communication DWDM optical transmission networks and CATV networks for amplifying optical signals. Additionally, erbium-doped fibers can also be applied in sensing fields such as LiDAR and remote sensing.

Product Specifications

Parameter	ER-4/125	ER-6/125	ER-7/125
Operating Wavelength (nm)	1530~1625	1530~1625	1530~1625
Cut-off Wavelength (nm)	⩽ 1300	⩽ 1300	⩽ 1300
Mode Field Diameter @1550nm (μm)	5.0±1.0	8.0±1.0	8.8±1.0
Core Absorption @1535nm (dB/m)	30.0±5.0	45.0±5.0	55.0±5.0
Core Attenuation @1200nm (dB/km)	⩽ 15.0	⩽ 15.0	⩽ 15.0
Core Numerical Aperture(NA)	0.26±0.02	0.26±0.02	0.15±0.02
Core Diameter (μm)	4.0±0.5	6.0±0.5	7.0±0.5
Cladding Diameter (μm)	125.0±1.0	125.0±1.0	125.0±1.0
Core/Clad Offset (μm)	⩽ 0.5	⩽ 0.5	⩽ 0.5
Coating Diameter (μm)	245.0±10.0	245.0±10.0	245.0±10.0
Proof test Level (kpsi)	⩾ 100	⩾ 100	⩾ 100
Operating Temperature (°C)	-5~75	-5~75	-5~75
Storage Temperature (°C)	-40~85	-40~85	-40~85

* To provide customized products and services according to customer needs

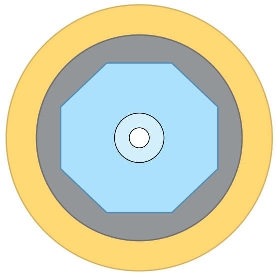
Product Application

- ◆ CATV Amplifier
- ◆ DWDM Amplifier
- ◆ 1.5μm Fiber Laser/Fiber Amplifier
- ◆ LiDAR and remote sensing

Product Features

- ◆ Excellent refractive index uniformity
- ◆ Low background losses
- ◆ High absorption
- ◆ Low splice loss
- ◆ Compatible with industry-standard G652D fiber

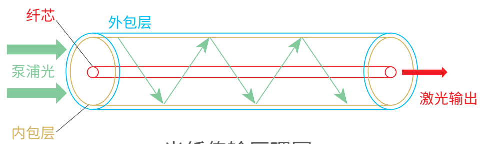
铒镱共掺有源光纤



光纤结构示意图

产品描述

法尔胜铒镱共掺有源光纤产品是种工作波长近 1.5μm 的稀土掺杂有源光纤。工作波长覆盖了 C 波段和 L 波段。该系列光纤具有高峰值功率、高光光转换效率、光束质量优异，以及对 1μm 波长自发放大辐射（ASE）的高抑制等优点。以上优点使铒镱共掺光纤成为传感、通信和医疗等领域的首选材料。



光纤传输原理图

产品参数

技术参数	SM-EYDF-10/125	EYDF-10/125	EYDF-25/300
工作波长（nm）	1530~1625	1530~1625	1530~1625
芯层直径（μm）	10.0±1.0	10.0±1.0	25.0±2.0
包层直径（μm）	125.0±1.0	125.0±1.0	300.0±8.0
芯 / 包同心度（μm）	≤ 1.0	≤ 1.0	≤ 2.0
涂层直径（μm）	245.0±15.0	215.0±5.0	400.0±15.0
芯层数值孔径（NA）	0.11±0.01	0.21±0.02	0.090±0.01
内包层数值孔径（NA）	≥ 0.46	≥ 0.46	≥ 0.46
包层吸收系数 @915nm（dB/m）	3.5±1.0	2.9±0.6	2.6±0.25
芯层吸收系数 @1530nm（dB/m）	50.0±20.0	50.0±20.0	85.0±15.0
包层损耗 @1095nm（dB/km）	≤ 15	≤ 15	≤ 15
筛选张力（kpsi）	≥ 100	≥ 100	≥ 100

* 可根据客户需求提供定制化产品服务

典型应用

◆通信

◆高功率 1.5μm 激光器

◆传感：雷达和光谱分析

◆医疗

◆国防

产品特点

◆精确几何控制

◆批次一致性高

◆低芯层 / 包层衰减系数

◆高吸收、高能量传递效率

◆折射率调整灵活

◆吸收可控

Er/Yb Co-Doped Active Fiber

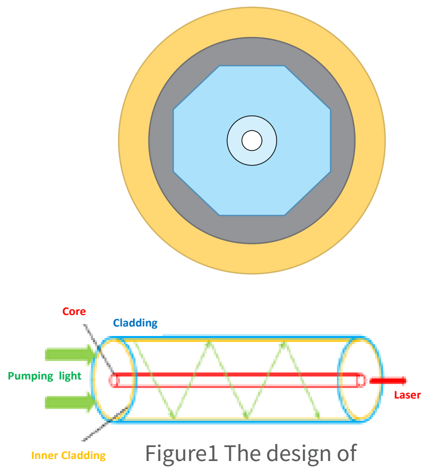


Figure1 The design of optical fiber structure

Product Description

Fasten Er/Yb Co-Doped Active Fiber products are rare earth doped active optical fibers with a working wavelength close to 1.5 μm. The working wavelength covers the C-band and L-band. This series of fibers offer high peak power, high energy transfer efficiency, excellent beam quality and high suppression of spontaneous emission (ASE) at 1 μm wavelength. These advantages make erbium-ytterbium co-doped fibers the preferred material in fields such as sensing, communication, and medical applications.

Product Specifications

Parameter	SM-EYDF-10/125	EYDF-10/125	EYDF-25/300
Operating Wavelength (nm)	1530~1625	1530~1625	1530~1625
Core Diameter (μm)	10.0±1.0	10.0±1.0	25.0±2.0
Cladding Diameter (μm)	125.0±1.0	125.0±1.0	300.0±8.0
Core/Clad Offset (μm)	⩽ 1.0	⩽ 1.0	⩽ 2.0
Coating Diameter (μm)	245.0±15.0	215.0±5.0	400.0±15.0
Core Numerical Aperture(NA)	0.11±0.01	0.21±0.02	0.090±0.01
Cladding Numerical Aperture(NA)	⩾ 0.46	⩾ 0.46	⩾ 0.46
Cladding Absorption @915nm (dB/m)	3.5±1.0	2.9±0.6	2.6±0.25
Core Absorption @1530nm (dB/m)	50.0±20.0	50.0±20.0	85.0±15.0
Cladding Attenuation @1095nm (dB/km)	⩽ 15	⩽ 15	⩽ 15
Proof test Level (kpsi)	⩾ 100	⩾ 100	⩾ 100

* To provide customized products and services according to customer needs

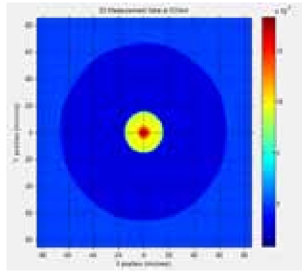
Product Application

- Telecom
- High-power lasers @ 1.5 μm
- Sensing: LiDAR and spectral analysis
- Medical
- Defense

Product Features

- Precise geometry control
- Perfect batch consistency
- Low core/cladding attenuation coefficient
- High absorption, and high energy transfer efficiency
- Flexible refractive index control
- Absorption controllable

掺铥有源光纤



产品描述

法尔胜公司提供各种满足高中低功率应用的掺铥有源光纤。掺铥光纤采用独特的低数值孔径纤芯和高铥离子掺杂浓度设计。掺铥光纤的工作波长在 2.0μm 左右，处于人眼安全波长范围，适用于激光雷达、激光医疗、特殊材料加工等领域。掺铥有源光纤充分优化了光纤在 793nm 泵浦时的斜率效率。高的铥离子掺杂浓度能够让用户使用更短的光纤得到更高的泵浦转换效率。低数值孔径纤芯的设计能够确保纤芯内单模激光传输。

产品参数

技术参数	SM-TDF-10/130	LMA-TDF-25/250	LMA-TDF-25/400
工作波长（nm）	1900~2100	1900~2100	1900~2100
包层衰减 @860nm（dB/km）	≤ 15.0	≤ 15.0	≤ 15.0
包层吸收 @793nm（dB/m）	3.6±0.3	9.5±0.5	3.6±0.5
包层吸收 @1180nm（dB/m）	1.2±0.3	1.9±0.2	0.6±0.2
纤芯数值孔径（NA）	0.15±0.01	0.09±0.01	0.09±0.01
内包层数值孔径（NA）	≥ 0.46	≥ 0.46	≥ 0.46
纤芯直径（μm）	10.0±1.0	25.0±2.5	25.0±2.5
包层直径（边对边）（μm）	130.0±1.5	250.0±8.0	400.0±15.0
芯包同心度（μm）	≤ 2.0	≤ 2.0	≤ 2.0
涂层直径（μm）	245.0±15.0	395.0±15.0	500.0±20.0
涂层同心度（μm）	≤ 5.0	≤ 5.0	≤ 5.0
筛选张力（kpsi）	≥ 100	≥ 100	≥ 100

* 可根据客户需求提供定制化产品服务

典型应用

◆人眼安全（~2um）波段的连续或者脉冲光纤激光器，光纤放大器

◆人眼安全工业光纤激光器和医疗光纤激光器

◆军事和商用激光雷达

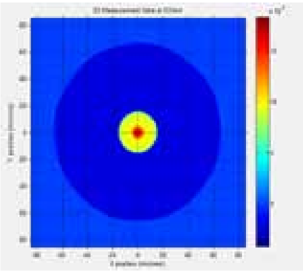
◆遥感探测

产品特点

◆独特的低数值孔径掺铥纤芯设计，实现单模的输出光束质量

◆针对 793nm 泵浦优化设计，实现高泵浦吸收

◆使用更短的光纤，更高的转换效率，输出近 2μm 波长激光输出



Tm-Doped Active Fiber

Product Description

Fasten offers a variety of Tm-Doped Active Fibers suitable for high, medium and low power applications. The thulium-doped fibers feature a unique design with a low numerical aperture core and high concentration thulium doping. The operating wavelength of the Tm-doped fibers is around 2.0 μm, within the eye-safe wavelength range. They are applicable in fields such as LiDAR, laser medicine, and special material processing etc. The fiber is fully optimized for slope efficiency when pumped at 793 nm. The high concentration Tm doping enables users to achieve higher pump conversion efficiency with shorter fibers. The low numerical aperture core design ensures single-mode laser transmission within the core.

Product Specifications

Parameter	SM-TDF-10/130	LMA-TDF-25/250	LMA-TDF-25/400
Operating Wavelength (nm)	1900~2100	1900~2100	1900~2100
Cladding Attenuation @860nm (dB/km)	⩽ 15.0	⩽ 15.0	⩽ 15.0
Cladding Absorption @793nm (dB/m)	3.6±0.3	9.5±0.5	3.6±0.5
Cladding Absorption @1180nm (dB/m)	1.2±0.3	1.9±0.2	0.6±0.2
Core (NA)	0.15±0.01	0.09±0.01	0.09±0.01
Cladding Numerical Aperture(NA)	⩾ 0.46	⩾ 0.46	⩾ 0.46
Core Diameter (μm)	10.0±1.0	25.0±2.5	25.0±2.5
Cladding Diameter (flat-to-flat) (μm)	130.0±1.5	250.0±8.0	400.0±15.0
Core/Clad Offset (μm)	⩽ 2.0	⩽ 2.0	⩽ 2.0
Coating Diameter (μm)	245.0±15.0	395.0±15.0	500.0±20.0
Coating Concentricity (μm)	⩽ 5.0	⩽ 5.0	⩽ 5.0
Proof test Level (kpsi)	⩾ 100	⩾ 100	⩾ 100

* To provide customized products and services according to customer needs

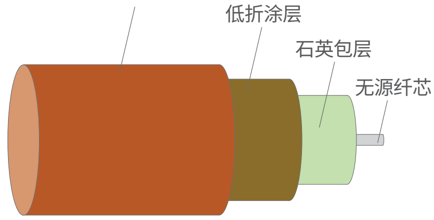
Product Application

- ◆ Eye Safe 2μm CW and pulsed lasers & amplifiers
- ◆ Eye Safe industrial & medical lasers
- ◆ Military and commercial LIDAR
- ◆ Remote sensing

Product Features

- ◆ Unique low NA Tm-doped core design, ensure single-mode beam quality
- ◆ Optimized composition for 793 nm pumping, High pump absorption
- ◆ Shorter fiber length, higher conversion efficiency, wavelength of output laser close to 2μm

大模场无源光纤



产品描述

法尔胜大模场无源光纤针对全光纤结构光纤激光器和放大器设计，具有出色的使用寿命和光束质量，满足工业级连续 / 脉冲光纤激光器的使用需求。不同规格尺寸的无源光纤除了可用于精确匹配相应尺寸的掺镱有源光纤外，还可用于高功率传能组件，在工业、医疗、武器装备等领域应用广泛。

产品参数

光纤类型	GDF-14/250 (0.065 / 0.11)	GDF-20/250 (0.065 / 0.11)	GDF-25/250 (0.065 / 0.11)	GDF-30/250 (0.065 / 0.11)	GDF-34/250 (0.065 / 0.11)	GDF-30/480 (0.065 / 0.11)
光学性能						
工作波长（nm）	1060-1600	1060-1600	1060-1600	1060-1600	1060-1600	1060-1600
芯层损耗 @1300nm (dB/km)	≤ 30.0	≤ 30.0	≤ 30.0	≤ 30.0	≤ 30.0	≤ 30.0
芯层损耗 @1200nm (dB/km)	≤ 15.0	≤ 15.0	≤ 15.0	≤ 15.0	≤ 15.0	≤ 15.0
包层损耗 @1095nm (dB/km)	≤ 15.0	≤ 15.0	≤ 15.0	≤ 15.0	≤ 15.0	≤ 15.0
芯层数值孔径（NA）	0.065±0.005 0.11±0.01	0.065±0.005 0.11±0.01	0.065±0.005 0.11±0.01	0.065±0.005 0.11±0.01	0.065±0.005 0.11±0.01	0.065±0.005 0.11±0.01
内包层数值孔径（NA）	≥ 0.46	≥ 0.46	≥ 0.46	≥ 0.46	≥ 0.46	≥ 0.46
几何尺寸						
芯层直径（μm）	14.0±1.5	20.0±1.5	25.0±1.5	30.0±2.0	34.0±2.0	30.0±2.0
内包层直径（μm）	250.0±5.0	250.0±5.0	250.0±5.0	250.0±5.0	250.0±5.0	480.0±5.0
芯包同心度（μm）	≤ 2.0	≤ 2.0	≤ 2.0	≤ 2.0	≤ 2.0	≤ 2.0
涂层直径（μm）	395.0±15.0	395.0±15.0	395.0±15.0	395.0±15.0	395.0±15.0	710.0±15.0
包层不圆度（%）	≤ 0.5	≤ 0.5	≤ 0.5	≤ 0.5	≤ 0.5	≤ 0.5
涂覆材料	低折涂料	低折涂料	低折涂料	低折涂料	低折涂料	低折涂料
机械性能						
筛选强度（kpsi）	≥ 100	≥ 100	≥ 100	≥ 100	≥ 100	≥ 100

* 可根据客户需求提供定制化产品服务

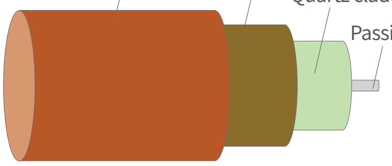
典型应用

◆全光纤结构光纤激光器和光纤放大器
◆高功率泵浦激光器尾纤
◆大模场（LMA）光纤合束器等
◆高功率光纤激光器输出光纤

产品特性

◆几何尺寸控制精确
◆大模场低 NA 值，保证单模输出
◆与有源光纤的熔接兼容性良好
◆光纤涂层具备较好的耐久性和可靠性

Large Mode Area Passive Fiber



Product Description

Fasten Large Mode Area Passive Fibers, which are designed for fiber lasers and amplifiers with all-fiber structure, have excellent service life and beam quality and can meet the use requirements of the industrial continuous/pulse fiber lasers. In addition to accurately matching ytterbium-doped active fiber with corresponding sizes, our passive fibers with different specifications and sizes can also be used in high power energy transfer components. The fibers can be widely used in industrial, medical, weapons and other fields.

Product Specifications

Fiber Type	GDF-14/250 (0.065 / 0.11)	GDF-20/250 (0.065 / 0.11)	GDF-25/250 (0.065 / 0.11)	GDF-30/250 (0.065 / 0.11)	GDF-34/250 (0.065 / 0.11)	GDF-30/480 (0.065 / 0.11)
Optical Specifications						
Operating Wavelength(nm)	1060-1600	1060-1600	1060-1600	1060-1600	1060-1600	1060-1600
Core Attenuation@1300nm (dB/km)	≤ 30.0	≤ 30.0	≤ 30.0	≤ 30.0	≤ 30.0	≤ 30.0
Core Attenuation@1200nm (dB/km)	≤ 15.0	≤ 15.0	≤ 15.0	≤ 15.0	≤ 15.0	≤ 15.0
Cladding Attenuation@1095nm (dB/km)	≤ 15.0	≤ 15.0	≤ 15.0	≤ 15.0	≤ 15.0	≤ 15.0
Core Numerical Aperture(NA)	0.065±0.005 0.11±0.01	0.065±0.005 0.11±0.01	0.065±0.005 0.11±0.01	0.065±0.005 0.11±0.01	0.065±0.005 0.11±0.01	0.065±0.005 0.11±0.01
Cladding Numerical Aperture(NA)	≥ 0.46	≥ 0.46	≥ 0.46	≥ 0.46	≥ 0.46	≥ 0.46
Geometrical Specifications						
Core Diameter(μm)	14.0±1.5	20.0±1.5	25.0±1.5	30.0±2.0	34.0±2.0	30.0±2.0
Inner Cladding Diameter(μm)	250.0±5.0	250.0±5.0	250.0±5.0	250.0±5.0	250.0±5.0	480.0±5.0
Core/Clad Offset(μm)	≤ 2.0	≤ 2.0	≤ 2.0	≤ 2.0	≤ 2.0	≤ 2.0
Coating Diameter(μm)	395.0±15.0	395.0±15.0	395.0±15.0	395.0±15.0	395.0±15.0	710.0±15.0
Clad Non-Circularity(%)	≤ 0.5	≤ 0.5	≤ 0.5	≤ 0.5	≤ 0.5	≤ 0.5
Coating Material	Low index polymer	Low index polymer	Low index polymer	Low index polymer	Low index polymer	Low index polymer
Mechanical properties						
Proof Test Level(kpsi)	≥ 100	≥ 100	≥ 100	≥ 100	≥ 100	≥ 100

* To provide customized products and services according to customer needs

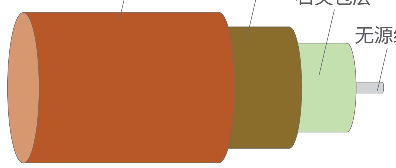
Typical Applications

◆ All-fiber structure fiber laser and fiber amplifier ◆ Large mode field（LMA） fiber combiner, etc
◆ High power pumped laser pigtail ◆ High power fiber laser output fiber

Product Features

◆ Precise geometry control
◆ Good compatibility with active optical fiber
◆ Large mode field and low NA
◆ Excellent reliability and durability

大模场无源光纤



产品描述

法尔胜大模场无源光纤针对全光纤结构光纤激光器和放大器设计，具有出色的使用寿命和光束质量，满足工业级连续/脉冲光纤激光器的使用需求。不同规格尺寸的无源光纤除了可用于精确匹配相应尺寸的掺镱有源光纤外，还可用于高功率传能组件，在工业、医疗、武器装备等领域应用广泛。

产品参数

光纤类型	GDF-20/400 (0.065 / 0.11)	GDF-25/400 (0.065 / 0.11)	GDF-28/400 (0.065 / 0.11)	GDF-30/400 (0.065 / 0.11)	GDF-34/400 (0.065 / 0.11)	GDF-50/400 (0.065 / 0.11)
光学性能						
工作波长（nm）	1060-1600	1060-1600	1060-1600	1060-1600	1060-1600	1060-1600
芯层损耗 @1300nm (dB/km)	≤ 12.0	≤ 30.0	≤ 30.0	≤ 30.0	≤ 30.0	≤ 30.0
芯层损耗 @1200nm (dB/km)	≤ 15.0	≤ 15.0	≤ 15.0	≤ 15.0	≤ 15.0	≤ 15.0
包层损耗 @1095nm (dB/km)	≤ 15.0	≤ 15.0	≤ 15.0	≤ 15.0	≤ 15.0	≤ 15.0
芯层数值孔径（NA）	0.065±0.005 0.11±0.01	0.065±0.005 0.11±0.01	0.065±0.005 0.11±0.01	0.065±0.005 0.11±0.01	0.065±0.005 0.11±0.01	0.065±0.005 0.11±0.01
内包层数值孔径（NA）	≥ 0.46	≥ 0.46	≥ 0.46	≥ 0.46	≥ 0.46	≥ 0.46
几何尺寸						
芯层直径（μm）	20.0±1.5	25.0±1.5	28.0±2.0	30.0±2.0	34±2.0	50±2.0
内包层直径（μm）	400±5.0	400±5.0	400.0±5.0	400.0±5.0	400±5.0	400±5.0
芯包同心度（μm）	≤ 2.0	≤ 2.0	≤ 2.0	≤ 2.0	≤ 2.0	≤ 2.0
涂层直径（μm）	550.0±15.0	550.0±15.0	550.0±15.0	550.0±15.0	550.0±15.0	550.0±15.0
包层不圆度（%）	≤ 0.5	≤ 0.5	≤ 0.5	≤ 0.5	≤ 0.5	≤ 0.5
涂覆材料	低折涂料	低折涂料	低折涂料	低折涂料	低折涂料	低折涂料
机械性能						
筛选强度（kpsi）	≥ 100	≥ 100	≥ 100	≥ 100	≥ 100	≥ 100

* 可根据客户需求提供定制化产品服务

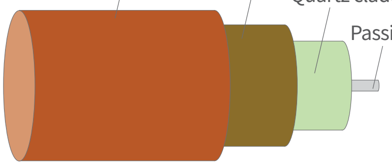
典型应用

◆全光纤结构光纤激光器和光纤放大器
◆高功率泵浦激光器尾纤
◆光纤光栅
◆大模场（LMA）光纤合束器等
◆高功率光纤激光器输出光纤
◆材料加工

产品特性

◆几何尺寸控制精确
◆大模场低 NA 值，保证单模输出
◆与有源光纤的熔接兼容性良好
◆光纤涂层具备较好的耐久性和可靠性

Large Mode Area Passive Fiber



Product Description

Fasten Large Mode Area Passive Fibers, which are designed for fiber lasers and amplifiers with all-fiber structure, have excellent service life and beam quality and can meet the use requirements of the industrial continuous/pulse fiber lasers. In addition to accurately matching ytterbium-doped active fiber with corresponding sizes, our passive fibers with different specifications and sizes can also be used in high power energy transfer components. The fibers can be widely used in industrial, medical, weapons and other fields.

Product Specifications

Fiber Type	GDF-20/400 (0.065 / 0.11)	GDF-25/400 (0.065 / 0.11)	GDF-28/400 (0.065 / 0.11)	GDF-30/400 (0.065 / 0.11)	GDF-34/400 (0.065 / 0.11)	GDF-50/400 (0.065 / 0.11)
Optical Specifications						
Operating Wavelength(nm)	1060-1600	1060-1600	1060-1600	1060-1600	1060-1600	1060-1600
Core Attenuation@1300nm (dB/km)	⩽ 12.0	⩽ 30.0	⩽ 30.0	⩽ 30.0	⩽ 30.0	⩽ 30.0
Core Attenuation@1200nm (dB/km)	⩽ 15.0	⩽ 15.0	⩽ 15.0	⩽ 15.0	⩽ 15.0	⩽ 15.0
Cladding Attenuation@1095nm (dB/km)	⩽ 15.0	⩽ 15.0	⩽ 15.0	⩽ 15.0	⩽ 15.0	⩽ 15.0
Core Numerical Aperture(NA)	0.065±0.005 0.11±0.01	0.065±0.005 0.11±0.01	0.065±0.005 0.11±0.01	0.065±0.005 0.11±0.01	0.065±0.005 0.11±0.01	0.065±0.005 0.11±0.01
Cladding Numerical Aperture(NA)	⩾ 0.46	⩾ 0.46	⩾ 0.46	⩾ 0.46	⩾ 0.46	⩾ 0.46
Geometrical Specifications						
Core Diameter(μm)	20.0±1.5	25.0±1.5	28.0±2.0	30.0±2.0	34±2.0	50±2.0
Inner Cladding Diameter(μm)	400±5.0	400±5.0	400.0±5.0	400.0±5.0	400±5.0	400±5.0
Core/Clad Offset(μm)	⩽ 2.0	⩽ 2.0	⩽ 2.0	⩽ 2.0	⩽ 2.0	⩽ 2.0
Coating Diameter(μm)	550.0±15.0	550.0±15.0	550.0±15.0	550.0±15.0	550.0±15.0	550.0±15.0
Clad Non-Circularity(%)	⩽ 0.5	⩽ 0.5	⩽ 0.5	⩽ 0.5	⩽ 0.5	⩽ 0.5
Coating Material	Low index polymer	Low index polymer	Low index polymer	Low index polymer	Low index polymer	Low index polymer
Mechanical properties						
Proof Test (kpsi)	⩾ 100	⩾ 100	⩾ 100	⩾ 100	⩾ 100	⩾ 100

* To provide customized products and services according to customer needs

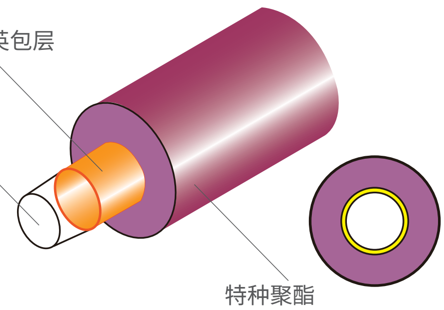
Typical Applications

◆ All-fiber structure fiber laser and fiber amplifier ◆ Large mode field（LMA） fiber combiner, etc
◆ High power pumped laser pigtail ◆ High power fiber laser output fiber ◆ Fiber Bragg Grating ◆ Material processing

Product Features

◆ Precise geometry control
◆ Large mode field and low NA
◆ Good compatibility with active optical fiber
◆ Excellent reliability and durability

大芯径传能光纤



产品描述

大芯径传能光纤根据羟基含量不同能在紫外、可见光和近红外工作波段的装置和系统中稳定工作；不同尺寸的光纤芯径能够在数据连接或其他连接器中提供很高的耦合效率，减少设备和组件的成本。

本系列大芯径光纤产品具有不同芯径、包层直径和数值孔径，并可以根据客户需求提供定制服务，最大限度满足客户不同的应用需求。

产品参数

光纤类型	SI 105/125-22/245	SI 200/220-22/320	SI 220/242-22/320	SI 400/440-22/625
光学性能				
纤芯数值孔径	0.22±0.02	0.22±0.02	0.22±0.02	0.22±0.02
几何性能				
光纤芯径 (μm)	105.0±2.0	200.0±3.0	220.0±3.0	400.0±4.0
光纤包层直径 (μm)	125.0±1.0	220.0±2.0	242.0±2.0	440.0±4.0
光纤外径 (μm)	245.0±10.0	320.0±20.0	320.0±20.0	625.0±30.0
芯 / 包同心度误差 (μm)	≤ 3.0	≤ 3.0	≤ 3.0	≤ 4.0
材　料				
纤芯材料	纯石英玻璃			
包层材料	掺 F 石英玻璃			
涂覆材料	双层特种聚酯			
机械性能				
筛选张力 (kpsi)	100	100	100	100
工作温度范围（°C）	-55~+85	-55~+85	-55~+85	-55~+85
商业盘长 (km)	根据客户需求提供合适盘长			

产品参数

光纤类型	DC135/155-22/320	DC200/220-22/320	DC220/242-22/320	DC600/660-22/875
光学性能				
纤芯数值孔径	0.22±0.02	0.22±0.02	0.22±0.02	0.22±0.02
内包层数值孔径	⩾ 0.46	⩾ 0.46	⩾ 0.46	⩾ 0.46
几何性能				
光纤芯径 (μm)	135.0±1.5	200.0±3.0	220.0±3.0	600.0±8.0
光纤包层直径 (μm)	155.0±1.0	220.0±2.0	242.0±2.0	660.0±4.0
光纤外径 (μm)	320.0±20	320.0±20	320.0±20	875.0±30
芯 / 包同心度误差 (μm)	⩽ 3.0	⩽ 3.0	⩽ 3.0	⩽ 5.0
材　料				
纤芯材料	纯石英玻璃			
包层材料	掺 F 石英玻璃			
涂覆材料	低折射率涂层 + 特种聚酯			
机械性能				
筛选张力 (kpsi)	100	100	100	100
工作温度范围（℃)	-55~+85	-55~+85	-55~+85	-55~+85
商业盘长 (km)	根据客户需求提供合适盘长			

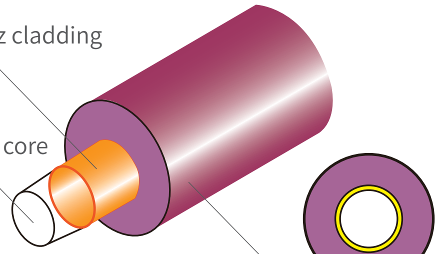
产品特性

◆较大的光纤芯径能够提供与 LED 和激光光源更高的耦合效率
◆ 更有效和便利的连接方式
◆ 能够适应更广的温度和湿度变化应用环境
◆ 抗辐射性能优良、较好的抗疲劳

应用领域

◆高能激光传输　◆近红外光谱应用　◆电力信号传输
◆工厂自动化控制　◆核辐射监测　◆激光治疗和手术
◆机车牵引控制　◆中短距离通信　◆光学测温

Large Core
Power Delivery Fiber



Product Description

Large Core Power Delivery Fibers can work stably in devices and systems operating in the ultraviolet, visible, and near-infrared bands depending on the hydroxyl content; Different sizes of fiber core diameters can provide high coupling efficiency in data connections or other connectors, reducing the cost of equipment and components.

This series of large core diameter fiber optic products have different core diameters, cladding diameters, and numerical apertures, and can provide customized services according to customer needs, maximizing the satisfaction of different application needs of customers.

Product Specifications

Fiber Type	SI 105/125-22/245	SI 200/220-22/320	SI 220/242-22/320	SI 400/440-22/625
Optical Performance				
Numerical Aperture	0.22±0.02	0.22±0.02	0.22±0.02	0.22±0.02
Geometric Performance				
Core Diameter(μm)	105.0±2.0	200.0±3.0	220.0±3.0	400.0±4.0
Cladding Diameter(μm)	125.0±1.0	220.0±2.0	242.0±2.0	440.0±4.0
Coating Diameter(μm)	245.0±10.0	320.0±20.0	320.0±20.0	625.0±30.0
Core/Clad Offset(μm)	⩽ 3.0	⩽ 3.0	⩽ 3.0	⩽ 4.0
Material				
Core Material	Pure Silica Core			
Cladding Material	Fluorine Doped Silica Cladding			
Coating Materials	Double Layer Special Polyester			
Mechanical Properties				
Proof Test Level(kpsi)	100	100	100	100
Operating Temperature Range (℃)	-55~+85	-55~+85	-55~+85	-55~+85
Length(km)	According to Customer Needs			

Product Specifications

Fiber Type	DC135/155-22/320	DC200/220-22/320	DC220/242-22/320	DC600/660-22/875
Optical Performance				
Numerical Aperture	0.22±0.02	0.22±0.02	0.22±0.02	0.22±0.02
Numerical Aperture of Inner Cladding	⩾ 0.46	⩾ 0.46	⩾ 0.46	⩾ 0.46
Geometric Performance				
Core Diameter	135.0±1.5	200.0±3.0	220.0±3.0	600.0±8.0
Cladding Diameter(μm)	155.0±1.0	220.0±2.0	242.0±2.0	660.0±4.0
Coating Diameter(μm)	320.0±20	320.0±20	320.0±20	875.0±30
Core/Clad Offset(μm)	⩽ 3.0	⩽ 3.0	⩽ 3.0	⩽ 5.0
Material				
Core Material	Pure Silica Core			
Cladding Material	Fluorine Doped Silica Cladding			
Coating Materials	Low Refractive Index Coating And Special Polyester			
Mechanical Properties				
Proof Test Level (kpsi)	100	100	100	100
Operating Temperature Range (°C)	-55~+85	-55~+85	-55~+85	-55~+85
Length (km)	According To Customer Needs			

Product Features

- ◆ A larger fiber core diameter can provide higher coupling efficiency with LED and laser light sources
- ◆ More effective and convenient connection methods
- ◆ Able to adapt to a wider range of temperature and humidity changes in application environments
- ◆ Excellent radiation resistance and good fatigue resistance

Product Applications

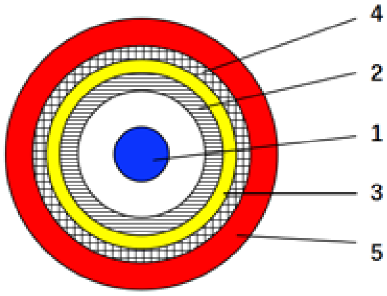
- ◆ High energy laser transmission
- ◆ Factory automation control
- ◆ Locomotive traction control
- ◆ Application of near-infrared spectroscopy
- ◆ Nuclear radiation monitoring
- ◆ Short and medium distance communication
- ◆ Power signal transmission
- ◆ Laser therapy and surgery
- ◆ Optical temperature measurement

温度感测光缆

产品描述

温度感测光缆是应用于分布式光纤感温系统（DTS）的一类特种光缆产品，具有实时监测、测温精度高、测量距离长、可精确定位、本质安全和不受电磁干扰等特点。

温度感测光缆可广泛应用于遂道消防测温，石化、钢铁、煤矿等大型工业企业消防测温，桥梁、仓库等大型建筑健康检查，以及产线设备温度监测等领域。



铠装型感温光缆

1. 传感光纤　2. 铠装软管　3. 芳纶　4. 不锈钢编织网　5. 外护套

铠装型感温光缆产品参数

光纤芯数	外径 mm	抗拉伸力 N		抗压扁力 N/100mm		最小弯曲半径 mm		衰减系数 dB/km		适用温度 °C		光缆单重 kg/km
		长期	短期	长期	短期	动态	静态	850nm	1300nm	长期	短期 2h	
1	2	200	400	2000	3000	60	30	≤ 3.0	≤ 1.0	-40~+85	120	11
1	2.5	200	400	2000	3000	60	30	≤ 3.0	≤ 1.0	-40~+85	120	14

产品特性

◆高强度铠装　◆抗拉、抗压

应用领域

◆广泛适用于遂道消防测温，石化、钢铁、煤矿等大型工业企业消防测温，桥梁、仓库等大型建筑健康检查，以及产线设备温度监测等领域。

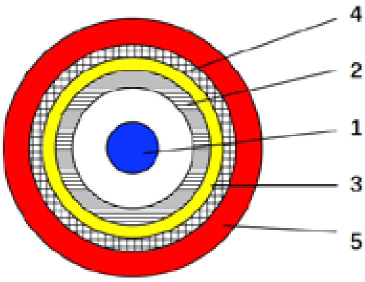
★所有光缆产品均可按照客户需求进行定制

Distributed Temperature Sensing (DTS) Cable

DESCRIPTION

Distributed Temperature Sensing Cable product used in distributed optical fiber temperature sensing systems (DTS). They have the characteristics of real-time monitoring, high temperature measurement accuracy, long measurement distance, precise positioning, intrinsic safety, and immunity from electromagnetic interference.

Distributed Temperature Sensing Cables can be widely used in tunnel fire temperature measurement, large-scale industrial enterprises such as petrochemical, steel, and coal mines fire temperature measurement, large-scale building health inspections such as bridges and warehouses, and temperature monitoring of production line equipment.



Armored DTS Cable

1. Sensing optical fiber 2. Armored hose 3. Aramid 4. Stainless steel woven mesh 5. Outer sheath

Armored DTS Cable Product Specifications

Fiber Count	Outer Dia. mm	Tensile Resistance N		Pressure Resistance N/100mm		Mini Bending Radius mm		Attenuation dB/km		Operation Temperature °C		N.W. kg/km
		Long term	Short term	Long term	Short term	Dynamic	Static	850nm	1300nm	Long term	Short term 2h	
1	2	200	400	2000	3000	60	30	⩽ 3.0	⩽ 1.0	-40~+85	120	11
1	2.5	200	400	2000	3000	60	30	⩽ 3.0	⩽ 1.0	-40~+85	120	14

Features

◆ High strength armor ◆ Tensile and compressive resistance

Application

◆ Widely used in tunnel fire temperature measurement, petrochemical, steel, coal and other large industrial enterprises fire temperature measurement, Bridges, warehouses and other large buildings health detecting, as well as production line equipment temperature monitoring and other fields.

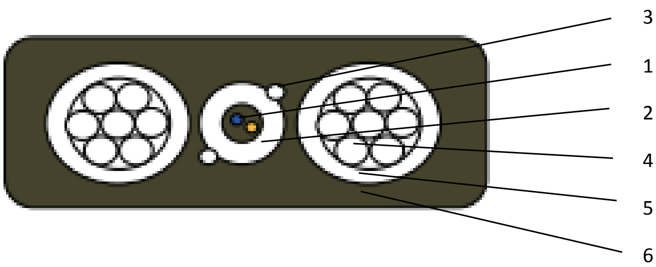
* All optical cable products can be customized according to customer needs

温度感测光缆

产品描述

温度感测光缆是应用于分布式光纤感温系统（DTS）的一类特种光缆产品，具有实时监测、测温精度高、测量距离长、可精确定位、本质安全和不受电磁干扰等特点。

温度感测光缆可广泛应用于遂道消防测温，石化、钢铁、煤矿等大型工业企业消防测温，桥梁、仓库等大型建筑健康检查，以及产线设备温度监测等领域。



高强度型感温光缆

1. 传感光纤　2. 松套管　3. 撕裂绳　4. 钢绞线　5. 绞线护套　6. 外护套

高强度型感温光缆产品参数

光纤芯数	外径 mm	抗拉伸力 N		抗压扁力 N/100mm		最小弯曲半径 mm		衰减系数 dB/km		适用温度 ℃		光缆单重 kg/km
		长期	短期	长期	短期	动态	静态	850nm	1300nm	长期	短期 2h	
1~4	6*10.5	5000	10000	5000	10000	200	100	≤ 3.0	≤ 1.0	-40~+85	120	120

产品特性

◆钢丝加强件　◆抗拉、抗压

应用领域

◆适用于在矿山采空区和开采区等机械冲击较强的环境进行温度感测，能有效抵御落石塌方等突发状况的破坏。

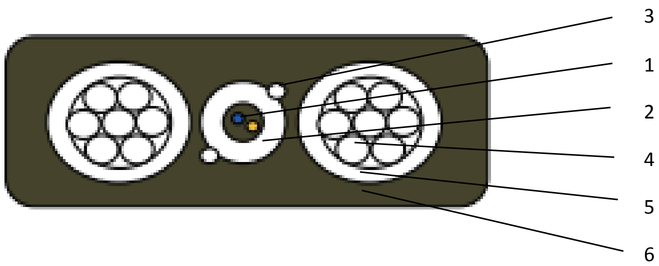
★所有光缆产品均可按照客户需求进行定制

Distributed Temperature Sensing (DTS) Cable

DESCRIPTION

Distributed Temperature Sensing Cable are a type of special optical cable product used in distributed optical fiber temperature sensing systems (DTS). They have the characteristics of real-time monitoring, high temperature measurement accuracy, long measurement distance, precise positioning, intrinsic safety, and immunity from electromagnetic interference.

Distributed Temperature Sensing Cables can be widely used in tunnel fire temperature measurement, large-scale industrial enterprises such as petrochemical, steel, and coal mines fire temperature measurement, large-scale building health inspections such as bridges and warehouses, and temperature monitoring of production line equipment.



High-Strength DTS Cable

1. Sensing optical fiber 2. Loose sleeve 3. Tearing rope 4. Steel strand 5. Strand sheath 6. Outer sheath

High-Strength DTS Cable Product Specifications

Core number	Outer Dia. mm	Tensile Resistance N		Pressure Resistance N/100mm		Min Bending Radius mm		Attenuation dB/km		Operation Temperature ℃		N.W. kg/km
		Long term	Short term	Long term	Short term	Dynamic	Static	850nm	1300nm	Long term	Short term 2h	
1~4	6*10.5	5000	10000	5000	10000	200	100	≤ 3.0	≤ 1.0	-40~+85	120	120

Features

◆ Steel wire reinforcement ◆ Tensile and compressive resistance

Application

◆ It is suitable for temperature sensing in the environment where mechanical impact is strong, such as the goaf and mining area, and can effectively resist the damage of rock fall and collapse and other sudden conditions.

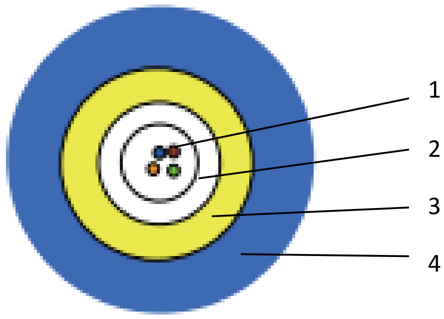
* All optical cable products can be customized according to customer needs

温度感测光缆

产品描述

温度感测光缆是应用于分布式光纤感温系统（DTS）的一类特种光缆产品，具有实时监测、测温精度高、测量距离长、可精确定位、本质安全和不受电磁干扰等特点。

温度感测光缆可广泛应用于遂道消防测温，石化、钢铁、煤矿等大型工业企业消防测温，桥梁、仓库等大型建筑健康检查，以及产线设备温度监测等领域。



非金属充油管型测温光缆

1. 传感光纤　2. 松套管　3. 芳纶　4. 外护套

非金属充油管型测温光缆产品参数

光纤芯数	外径 mm	抗拉伸力 N		抗压扁力 N/100mm		最小弯曲半径 mm		衰减系数 dB/km		适用温度 ℃		光缆单重 kg/km
		长期	短期	长期	短期	动态	静态	850nm	1300nm	长期	短期 2h	
1~2	4	400	800	300	1000	80	40	≤ 3.0	≤ 1.0	-40~+85	120	22
1~4	5	400	800	300	1000	100	50	≤ 3.0	≤ 1.0	-40~+85	120	28

产品特性

◆重量轻　◆无金属件

应用领域

◆适用于电力、石化等不适宜使用金属铠装光缆的环境。

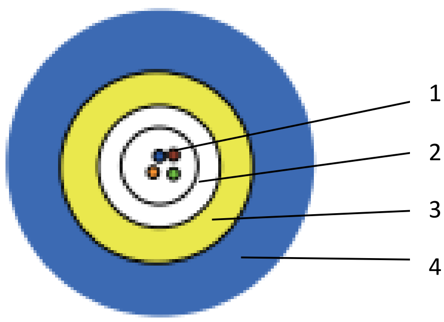
★所有光缆产品均可按照客户需求进行定制

Distributed Temperature Sensing (DTS) Cable

DESCRIPTION

Distributed Temperature Sensing Cable is a kind of special optical cable products applied in distributed optical fiber temperature sensing system (DTS). It has the characteristics of real-time monitoring, high temperature measuring precision, long measuring distance, accurate positioning, intrinsic safety and immunity from electromagnetic interference.

Distributed Temperature Sensing Cable can be widely used in fiber optic cable tunnel fire temperature measurement, large industrial companies such as petrochemical, steel, coal mine fire temperature, bridges, warehouse and other large construction health detecting, and production line equipment temperature monitoring and other fields.



Non-Metallic Oil-Filled DTS Cable

1. Sensor Fibre 2.Loose tube 3. Aramid yarn 4.Outer jacket

Non-Metallic Oil-Filled DTS Cable Product Specifications

Core number	Outer Dia. mm	Tensile Resistance N		Pressure Resistance N/100mm		Min Bending Radius mm		Attenuation dB/km		Operation Temperature °C		N.W. kg/km
		Long term	Short term	Long term	Short term	Dynamic	Static	850nm	1300nm	Long term	Short term 2h	
1~2	4	400	800	300	1000	80	40	≤ 3.0	≤ 1.0	-40~+85	120	22
1~4	5	400	800	300	1000	100	50	≤ 3.0	≤ 1.0	-40~+85	120	28

Features

◆ light weight ◆ Metalless

Application

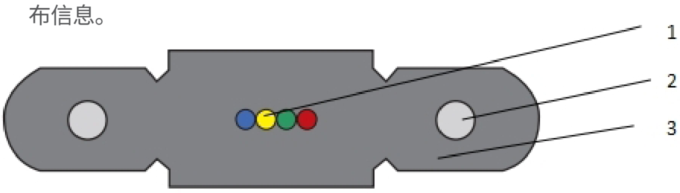
◆ Suitable for electric power, petrochemical and other not suitable for the use of metal armored cable environment.

*All optical cable products can be customized according to customer needs

应变感测光缆

产品描述

分布式光纤应变感测光缆是利用布里渊散射光对温度和应变敏感的特性，能探测出沿着光纤不同位置的温度和应变变化。当光纤沿线的温度发生变化或者存在轴向应变时，光纤中的反向布里渊散射光的频率将发生漂移。频率的漂移量与光纤应变和温度的变化呈良好的线性关系，通过测量光纤中的布里渊散射光频率漂移量就可以得到光纤沿线温度和应变的分布信息。



扁平型应变感测光缆

1. 传感光纤　2. 钢丝加强件　3. 外护套

扁平型应变感测光缆产品参数

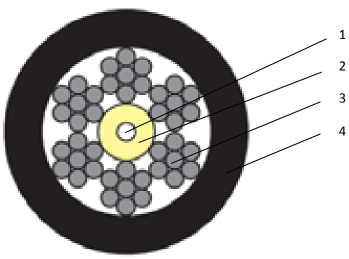
光纤芯数	外径 mm	抗拉伸力 N		抗压扁力 N/100mm		最小弯曲半径 mm		衰减系数 dB/km		适用温度 ℃		光缆单重 kg/km
		长期	短期	长期	短期	动态	静态	850nm	1300nm	长期	短期 2h	
4	1.4*4.8	50	100	300	1000	60	30	≤ 0.4	≤ 0.3	-40~85	120	9

产品特性

◆质地柔软　◆易于敷设　◆抗拉、抗压

应用领域

◆适用于管道监测、建筑物建康监测、土方沉降监测等。



高强度铠装型应变感测光缆

1. 传感光纤　2. 紧套　3. 钢绞线　4. 外护套

高强度铠装型应变感测光缆产品参数

光纤芯数	外径 mm	抗拉伸力 N		抗压扁力 N/100mm		最小弯曲半径 mm		衰减系数 dB/km		适用温度 ℃		光缆单重 kg/km
		长期	短期	长期	短期	动态	静态	850nm	1300nm	长期	短期 2h	
1	5	1500	2500	300	1000	100	50	≤ 0.4	≤ 0.25	-40~85	120	40

产品特性

◆钢绞线加强件　◆抗拉、抗压

应用领域

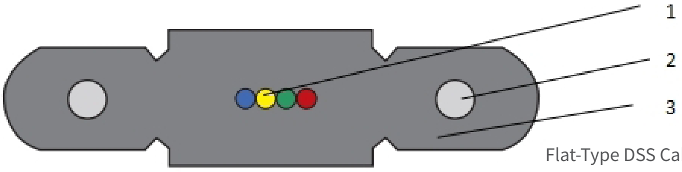
◆适用于桥梁、路基、大坝等大型土建工程结构变形监测可用于混凝土浇注直埋敷设。

★所有光缆产品均可按照客户需求进行定制

Distributed Strain Sensing (DSS) Cable

DESCRIPTION

Distributed Strain Sensing (DSS) Cables utilize the sensitivity of Brillouin scattering light to temperature and strain, and can detect temperature and strain changes at different positions along the fiber. When the temperature along the fiber changes or there is axial strain, the frequency of reverse Brillouin scattering light in the fiber will shift. The frequency drift has a good linear relationship with the changes in fiber strain and temperature. By measuring the frequency drift of Brillouin scattering light in the fiber, the distribution information of temperature and strain along the fiber can be obtained.



Flat-Type DSS Cable

1.Sensing fiber
2.Steel wire reinforcement
3.Outer jacket

Flat-Type DSS Cable Product Specifications

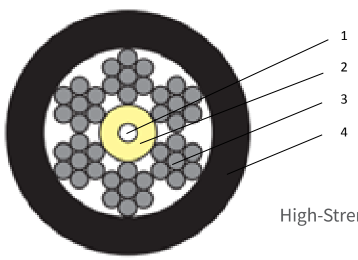
Core number	Outer Dia. mm	Tensile Resistance N		Pressure Resistance N/100mm		Min Bending Radius mm		Attenuation dB/km		Operation Temperature ℃		N.W. kg/km
		Long term	Short term	Long term	Short term	Dynamic	Static	850nm	1300nm	Long term	Short term 2h	
4	1.4*4.8	50	100	300	1000	60	30	≤ 0.4	≤ 0.3	-40~85	120	9

Features

◆ soft texture ◆ Easy to lay
◆ Tensile and compressive resistance

Application

◆ Suitable for pipe monitoring, building health monitoring, earthwork settlement monitoring, etc.



1.Sensing fiber 2.Tight buffer 3.Steel wire strand 4.Outer jacket

High-Strength Armored DSS Cable

High-Strength Armored DSS Cable product parameters

Core number	Outer Dia. mm	Tensile Resistance N		Pressure Resistance N/100mm		Mini Bending Radius mm		Attenuation dB/km		Operation Temperature ℃		N.W. kg/km
		Long term	Short term	Long term	Short term	Dynamic	Static	850nm	1300nm	Long term	Short term 2h	
1	5	1500	2500	300	1000	100	50	≤ 0.4	≤ 0.25	-40~85	120	40

Features

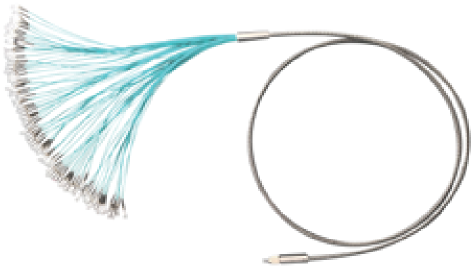
◆ Steel strand strengthening
◆ Tensile and compressive resistance

Application

◆ It is suitable for monitoring the structural deformation of large civil engineering such as bridge, roadbed and dam, and can be used for concrete pouring directly buried laying.

*All optical cable products can be customized according to customer needs

集束光纤组件



产品描述

集束光纤是将分支端分别与激光器连接，使多路激光柔性传输至集束端，汇聚成高功率光源， 单芯传输损耗小于 0.3dB。集束光纤由特殊工艺制作而成，光纤端面能够长期承受 1000℃。产品性能稳定，安全性高，可按客户需求实现不同芯数、不同传输波长、不同长度、不同接头的定制化解决方案。集束光纤是全激光显示系统、激光直接成像（LDI） 等设备的关键核心部件。

产品参数

光纤规格						
芯径 (μm)	50±2	100±2	105±2	200±3	300±3	400±5
包层直径 (μm)	125±2	110±2	125±2	220±3	330±3	420±5
涂覆直径 (μm)	245±10	245±10	245±10	320±10	520±20	650±20
芯包同心度 (μm)	≤ 3	≤ 3	≤ 3	≤ 3	≤ 3	≤ 3
光纤规格						
芯径 (μm)	400±5	475±5	600±5	600±5	800±5	1000±5
包层直径 (μm)	440±5	498±5	630±5	660±5	840±5	1050±5
涂覆直径 (μm)	700±20	800±20	960±20	960±20	1100±20	1600±20
芯包同心度 (μm)	≤ 3	≤ 3	≤ 3	≤ 3	≤ 3	≤ 3
光纤数值孔径	0.22±0.02					
纤芯材料	石英玻璃					
包层材料	掺 F 石英玻璃					
涂覆材料	紫外固化丙烯酸树脂					
光纤排列	六边形、矩形等					
集束端耐温	1000°C					
长度	定制					
芯数	25/37/61/91 或用户指定					
单芯传输损耗	＜ 0.3dB (＜ 7%)					
传输波段	红外、可见光、紫外					
接头结构	FC、SMA905 或其它定制结构					

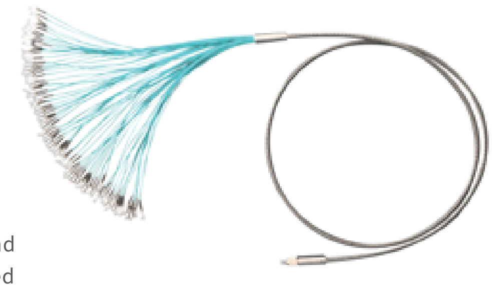
产品特性

◆传输能量损耗低 ◆可靠性高 ◆光纤紧密排列 ◆弯曲半径小 ◆可定制

应用领域

◆影院投影机 / 工程投影 / 激光电视等 ◆ UV 固化机 / LDI 电路板曝光机等

Fiber Bundle Assembly



Product Description

The Fiber Bundle Assembly is connected to the lasers at its branchingend respectively, so that the multi-channel laser can be transmitted to thebundled end flexibly and converge into a high-power light source . The singlefiber transmission loss is less than 7%. The bundled fiber is made by specialtechnology, and the bundled end face can withstand 1000 °C for a long time. Theproduct has stable performance and high security, which can realize customizedsolutions with different number of fibers, different transmission wavelengths,different lengths and different joints according to customer requirements. Theoptical fiber bundle is a key component of RGB laser display system, laser direct imaging (LDI) and other equipment.

Product Specifications

Fiber Specification						
Core Diameter(μm)	50±2	100±2	105±2	200±3	300±3	400±5
Clading Diameter(μm)	125±2	110±2	125±2	220±3	330±3	420±5
Coating Diameter(μm)	245±10	245±10	245±10	320±10	520±20	650±20
Concentricity(μm)	⩽ 3	⩽ 3	⩽ 3	⩽ 3	⩽ 3	⩽ 3
Fiber Specification						
Core Diameter(μm)	400±5	475±5	600±5	600±5	800±5	1000±5
Coating Diameters(μm)	440±5	498±5	630±5	660±5	840±5	1050±5
Coating Diameters(μm)	700±20	800±20	960±20	960±20	1100±20	1600±20
Concentricity(μm)	⩽ 3	⩽ 3	⩽ 3	⩽ 3	⩽ 3	⩽ 3
Numerical Aperture (NA)	0.22±0.02					
Core Material	Silica glass					
Clading Material	Fluorine doped silica					
Coating Material	UV cured acrylic resin					
Bundle geometry	Hexagon, Rectangle, etc					
Temperature Tolerance Of The Bundled End	1000℃					
Length	User specified					
Number Of Fibers	25/37/61/91/User specified					
Single Fiber Transmission Loss	＜ 0.3dB (＜ 7%)					
Transmission Band	Infrared, visible light, ultraviolet					
Connector Structure	FC, SMA905/ other customize structure					

Product Features

◆ Low transmission energy loss ◆ High reliability ◆ Close packed ◆ Small bending radius ◆ Customizable

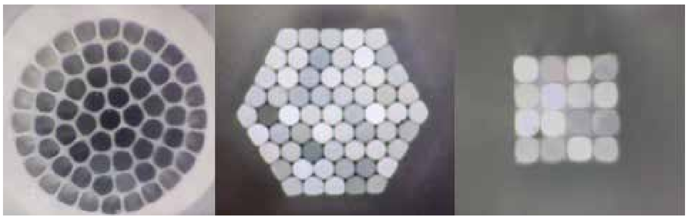
Product Applications

◆ Cinema projectors, engineering projections, laser televisions, etc
◆ Ultraviolet curing machine / LDI circuit board exposure machine, etc

熔融光纤束

产品描述

相较于常规的集束光纤，熔融光纤束集束端并未采用胶装工艺，而是将多根光纤熔融成一体，耐温性能更好。因为光纤之间没有间隙，使得熔融光纤束集束端出光能量密度更高。可按客户需求实现不同芯数、不同传输波长、不同长度、不同接头的定制化解决方案，让客户的光学系统更加灵活、便捷、稳定、可靠。



产品特性

◆ 集束端可耐 1200°C高温，可承受更高功率，在高温、高压等特殊环境中相较于胶装工艺优势更加明显，连续使用 2 年不烧毁。

◆ 光纤排列紧密程度高于传统工艺，填充系数接近 1。若从熔融端进光， 由于消除了光纤间的间隙，很大程度上 提高了光纤束的透过效率。在保持 NA 不变的情况下，通光量有较大的提升。

◆ 不会出现胶装工艺中可能存在的胶水脱落现象，长期使用稳定性高。

◆ 生产周期相比胶装工艺明显缩短。

◆ 解决了集束端光纤烧蚀、凝露、清洁困难、维护成本高等问题。

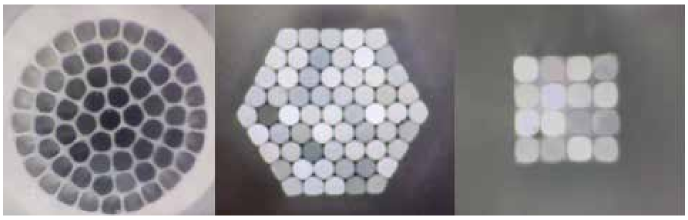
应用领域

◆ 激光投影◆ PCB 板光刻机◆ 光谱分析◆ 激光照明◆ 环境检测◆ 激光治疗◆ 生物分析

Fused Fiber Bundle

Product Description

Compared with the conventional bundled optical fiber, the bundle end of the fused fiber bundle does not adopt the adhesive bonding process, but melts a plurality of optical fibers into a whole, and has better temperature resistance. Because there is no gap between the optical fibers, the energy density of the light emitted from the bundle end of the fused optical fiber bundle is larger. Customized solutions with different core numbers, different transmission wavelengths, different lengths and different connectors can be realized according to customer needs, making customer's optical system more flexible, convenient, stable and reliable.



Product Features

◆ The bundling end can withstand 1200 °C high temperature and higher power, have more obvious advantage compared with that gluing process in special environment such as high temperature, high pressure and the like. and it will not be burnt down after 2 years of continuous use.

◆ The packing density of optical fiber is higher than that of the traditional process, and the filling factor is close to 1. If the light enters from the melting end, the transmission efficiency of the optical fiber bundle is greatly improved because the gap between the optical fibers is eliminated. In the case of keeping NA unchanged, the amount of light has been greatly improved.

◆ The phenomenon that the glue possibly falls off in the gluing process does not occur, the stability for long-term use is high.

◆ Compared with the gluing process, the production cycle is significantly shortened.

◆ Solves the problems of ablation, condensation, difficult cleaning, high maintenance cost and the like of the optical fiber at the bundling end in the gluing process;

Product Applications

◆ Laser Projection ◆ PCB Lithography Machine ◆ Spectral Analysis ◆ Laser Illumination

◆ Bioanalysis ◆ Environmental Detection ◆ Laser Therapy

玻璃光纤导光束

产品描述

玻璃光纤导光束使用进口光学玻璃作为传光材料，采用优质软管保护。根据客户需求匹配纤芯 & 包层直径，设计光纤 - 连接器 - 护套连接工艺，可选端面胶合或热融工艺，经精密研磨抛光、端面清洁处理，实现高效稳定传输。

产品参数

项目	工业视觉检测导光束	医用导光束	备注
光纤尺寸 (μm)	50（典型值）	50（典型值）	可指定光纤规格
数值孔径（NA）	0.54（典型值）	0.64（典型值）	可定制
光纤特性	阶跃型	阶跃型	
通光直径（mm）	ϕ10 （典型值）	ϕ4（典型值）	可定制
端面入光接头形式	圆形	圆形	尺寸可定制
入光端面工艺	胶合或热融	胶合或热融	
端面出光接头形式	线性、圆形、环形	圆形	尺寸可定制
工作波长	400~1000nm	400~1000nm	
传输效率	＞ 50%	＞ 50%	与长度有一定关系
长度	0.5m~5m	2.5 m（典型值）	可定制

产品特性

◆ 胶合和热融工艺可选
◆ 光斑均匀，采用进口材质玻璃光纤
◆ 端头可加匀光导光棒
◆ 传输效率大于 50% ，性能稳定
◆ 连接接头可选
◆ 优质软管保护

应用领域

◆ 工业视觉检测　◆ 自动化设备辅助照明　◆半导体缺陷检测　◆屏幕缺陷检测
◆ 内窥镜照明　◆ 医用设备照明

Flexible Fiber Optic Light Guide


Industrial Vision Fiber Optic Light Guide


Medical Fiber Optic Light Guide

Product Description

The flexible fiber optic light guide is manufactured using imported optical glass fibers as the light-transmission medium and is protected by a high-quality flexible hose. According to customer requirements, the core and cladding diameters can be matched, and the fiber–connector–jacket interface is designed accordingly. The fiber bundle termination can be realized by either adhesive bonding or thermal fusion. After precision grinding, polishing, and end-face cleaning, efficient and stable light transmission is achieved.

Product Specifications

Item	Industrial Vision Fiber Optic Light Guide	Medical Fiber Optic Light Guide	Remarks
Fiber Size (μm)	50 (typ.)	50 (typ.)	Fiber Specification Configurable
Numerical Aperture (NA)	0.54 (typ.)	0.64 (typ.)	Configurable
Fiber Type	Step-Index	Step-Index	
Light Output Diameter (mm)	Ø10 (typ.)	Ø4 (typ.)	Configurable
Input Connector Type	Circular	Circular	Dimensions Configurable
Input-End Termination Process	Adhesive Bonding/Thermal Fusion	Adhesive Bonding/Thermal Fusion	
Output Connector Type	Linear / Circular / Annular	Circular	Dimensions Configurable
Operating Wavelength	400~1000nm	400~1000nm	
Transmission Efficiency	＞ 50%	＞ 50%	Dimensions Configurable
Length	0.5m~5m	2.5 m (typ.)	Configurable

Product Features

- ◆ Adhesive bonding or thermal fusion termination available
- ◆ Uniform output beam, based on imported glass optical fibers
- ◆ Optional homogenizing light guide rod at the output end
- ◆ Transmission efficiency > 50%, with stable performance
- ◆ Connector options available
- ◆ Protected by a high-quality flexible hose

Applications

- ◆ Industrial vision inspection
- ◆ Semiconductor defect inspection
- ◆ Endoscope illumination
- ◆ Auxiliary illumination for automation equipment
- ◆ Display/screen defect inspection
- ◆ Medical equipment illumination

传能光纤跳线

产品描述

传能光纤跳线使用掺氟石英包层大芯径能量光纤，采用优质不锈钢软管保护。根据客户需求匹配纤芯 & 包层直径，设计光纤 - 连接器 - 护套连接工艺，可选端帽熔接及端面镀膜工艺，经精密研磨抛光、端面清洁处理，实现高效率耦合和高功率稳定传输。

产品参数

项目	参数	备注
光纤尺寸 (μm)	105/125~910/1000	可指定光纤规格
数值孔径（NA）	0.22±0.02（典型值）	可定制
光纤特性	阶跃型、高 / 低 OH、丙烯酸树脂涂层 /ETFE 紧套层	可定制
连接器类型	SMA905/FC/D80 等	可定制
端面形式	平头 /HP 悬空头	可选熔端帽及端面镀膜
长度	0.1m~25m	可定制
工作波长	200~1200nm	可定制
传输效率	＞ 93%	损耗＜ 0.3dB，与长度有一定关系

产品特性

◆光纤芯包匹配、激光损伤阈值高
◆ 夹持稳定、同心度高
◆ 优质不锈钢软管保护
◆ 传输效率大于 93% ，性能稳定
◆ 有机胶 / 无机胶工艺可选
◆ SMA905/FC/D80 连接器可选

应用领域

◆激光打标
◆硅片、陶瓷切割
◆光谱测量
◆半导体泵浦输出

Power Delivery Fiber Patch Cord

Product Description

The Power Delivery Fiber Patch Cord uses large core diameter energy optical fiber with fluoride doped quartz cladding and is protected by high quality stainless steel flexible hose . Match core & cladding diameters according to customer requirements, design fiber - connector - sheath connection process ,end cap welding and end face coating process are optional. Through precise grinding and polishing and cleaning of end face, high efficiency coupling and high power stable transmission are realized.

Product Specifications

Item	Parameters	Comment
Fiber Size (μm)	105/125~910/1000	Optical fiber specifications can be specified
Numerical Aperture (NA)	0.22±0.02 (typical value)	Customizable
Fiber Characteristic	Step, high/low OH, acrylic coating /ETFE sheath	Customizable
Connector Type	SMA905/FC/D80,etc	Customizable
End form	Flat head and HP suspended head	Optional end cap welding and end coating
Length	0.1m~25m	Customizable
Operating Wavelength	200~1200nm	Customizable
Transfer Efficiency	＞93%	Insertion loss <0.3dB,related to the length

Product Features

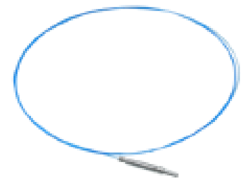
- Fiber core and package match and laser damage threshold are high
- Clamping stability, high concentricity
- High-quality stainless steel hose protection
- The transmission efficiency is greater than 93% and the performance is stable
- Organic glue/inorganic glue process is optional
- SMA905/FC/D80 connector is optional

Product Applications

- Laser Marking
- Silicon, Ceramic Cutting
- Spectral Measurement
- Semiconductor Pump Output

医疗光纤


静脉曲张治疗光纤

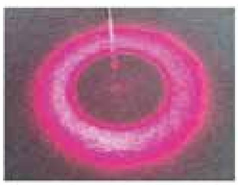

钬激光光纤

产品描述

医疗光纤的制备材料具有极低的体积面积比，有着散热快、损耗低、转换效率较高、激光阈值低、输出激光波长多、可调谐性强等特点。同时由于光纤有传输光线、传导图像的能力，且保持着柔软、可弯曲等特性，从而具备了小型化、集约化等优势。此外医用光纤还有高的电光效率，综合电光效率高达 20% 以上，大幅度节约工作时的耗电，节约运行成本。

光纤排列方式

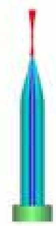
光纤出光方式


环状


球状

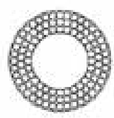

柱状


点状


锥形

多芯排列方式


圆形


环形

产品特性

- ◆ 光谱范围广，光纤传输效率高
- ◆ 光纤芯径、孔径等均支持定制
- ◆ 一致性均匀性好，透过率高。

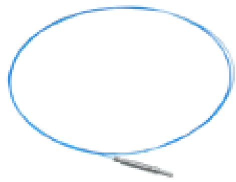
应用领域

◆ 静脉曲张治疗	◆ 光动力治疗	◆ 准分子激光光纤导管（消融治疗）
◆泌尿科治疗	◆ 眼科治疗	◆ 腰椎间盘突出治疗
◆ 理疗仪	◆ 偏振光治疗仪	◆ 其他医用治疗设备

* 所有光缆产品均可按照客户需求进行定制

Medical Laser Delivery Fiber


varicose vein treatment optical fiber

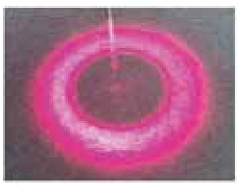

holmium laser fiber

Product Description

The preparation material of Medical Laser Delivery Fiber has the characteristics of very low volume area ratio, fast heat dissipation, low loss, high conversion efficiency, low laser threshold, many output laser wavelengths, and strong tunability. At the same time, because the optical fiber has the ability to transmit light and conduct images, and maintains the characteristics of softness and bendability, it has the advantages of miniaturization and intensification. In addition, Medical Laser Delivery Fiber has high electro-optical efficiency, and the comprehensive electro-optical efficiency is more than 20%, which greatly saves the power consumption during work and saves the operating cost.

Optical Fiber Arrangement

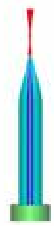
Optical fiber output mode


circularity


globular

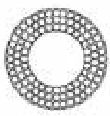

columnar


punctiform


cone

Arrangement of multiple optical fibers


circle


annular

Product Features

- ◆ Wide spectrum range and high optical fiber transmission efficiency
- ◆ The fiber core diameter and aperture can be customized
- ◆ Good uniformity, high transmittance

Product Applications

- ◆ Varicose veins treatment
- ◆ Urology treatment
- ◆ Physiotherapy instrument
- ◆ Photodynamics Therapy
- ◆ Ophthalmic treatment
- ◆ Polarized light therapy apparatus
- ◆ Lumbar disc herniation treatment
- ◆ Excimer laser fiber catheter (Ablation therapy)
- ◆ Other medical treatment equipment

*All optical fiber products can be customized according to customer needs