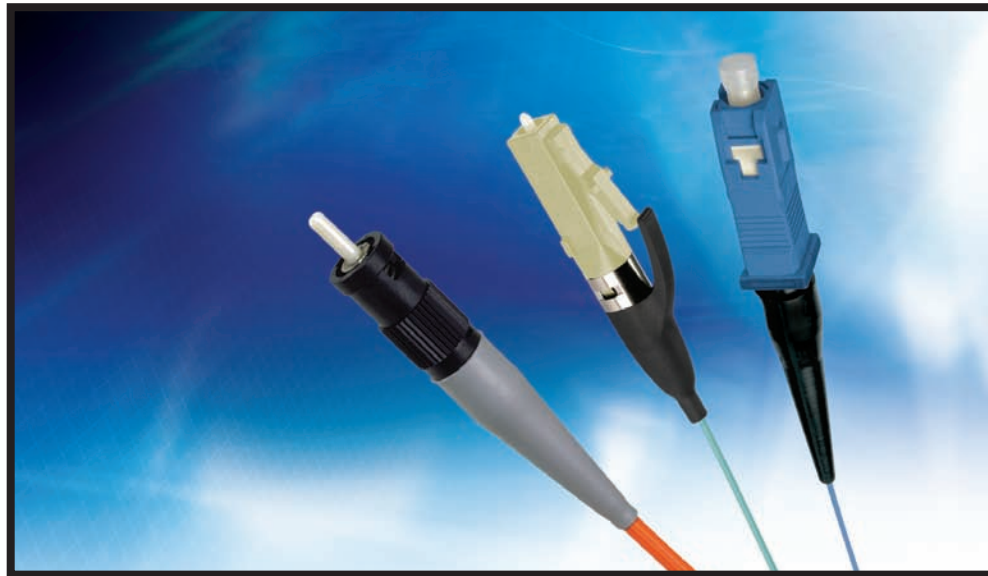


NP 270

**Belden® FiberExpress®
Optimax® Connectors**

Belden's Optimax optical fiber connector is ideal for high-speed optical networks. Its patented design also enables simple and fast connectorization in the field with no polishing, heat curing, bonding or epoxy.



Belden's Optimax LC, SC and ST-Compatible Connectors Are Designed for Optimal 10-Gigabit Ethernet Performance

Optical fiber networks are relied upon to transmit some of our most important data in our most demanding environments. A poorly designed and constructed connector can however severely impact overall network performance. To ensure reliable network performance, the connector must be of the highest quality possible, utilizing the best materials available and it should be simple to terminate in the field.

Belden's Optimax connector is a key component of the Belden IBDN® Structured Cabling Solutions line, plus it is the connector of choice for high-speed optical networks such as 10-Gigabit Ethernet. It is also the industry's best solution to the challenges of field connectorization of optical fiber networks.

**Superior Performance,
Exceptionally Easy to Use**

The Optimax connector's patented mechanical splice body incorporates a factory-mounted fiber stub and a premium quality, zirconia ceramic ferrule with a physical contact (PC) polish for multimode and a super physical contact (SPC) polish for single-mode. The quality of the ferrule construction ensures the connector's low loss, low reflectance characteristics and its suitability for high-bandwidth optical transmissions. The overall

construction of the connector enables a hassle-free, secure and reliable optical fiber cable termination. In fact, even novice technicians can install the Optimax connector in just a few minutes using inexpensive, commonly available tools such as industry-standard cleavers and strippers (since it requires no polishing, heat curing, bonding or epoxy). All the critical steps – such as the ferrule polishing operation – have been performed to exacting tolerances at the factory where strict manufacturing and testing controls ensure outstanding product quality and performance. *(See Sample Endface Geometry Results.)*

Easy-to-follow Installation Aids

To aid the technician, Belden provides illustrated, plasticized quick reference cards on key installation procedures, while an Optimax installation video provides step-by-step guidance. Essentially, however, there are four main steps to follow:

1. Cleave the fiber
2. Insert the fiber into the connector
3. Pull the release wire to activate the mechanical splice
4. Crimp the connector

Technical Specifications

Parameters	Specifications
Interconnection Compatibility	LC, SC and ST-Compatible connectors
Field Assembly Time	1 minute for 900 μ m, 3 minutes for jacketed fiber
Insertion Loss (Multimode and Single-mode)	0.3 dB (typical)
Durability (Multimode)	Less than 0.2 dB change, 500 cycles
Durability (Single-mode)	Less than 0.3 dB change, 500 cycles
Nominal Fiber OD	125 μ m
Storage Temperature	-40°F to 149°F (-40°C to 65°C)
Operating Temperature	32°F to 145°F (0°C to 60°C)
Tensile Load on jacketed fiber	50 N (11.2 lbs. / 5.1 Kg)
Tensile Load on 900 micron tight buffered fiber	6.7 N (1.5 lbs. / 0.68 Kg)
Ferrule	Ceramic
Reflectance (Multimode)	- 30 dB (typical)
Reflectance (Single-mode)	- 40 dB (guaranteed)

Note: All related performance specifications meet or exceed TIA/EIA-568-B.3 requirements

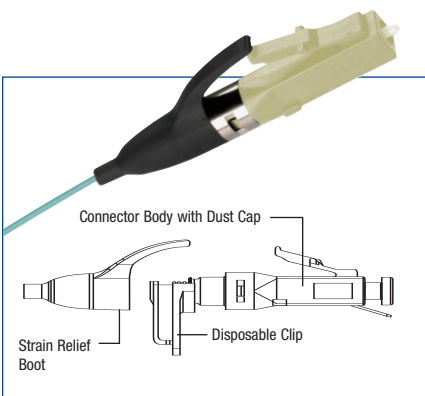


Photo: AX101982 Optimax LC Connector

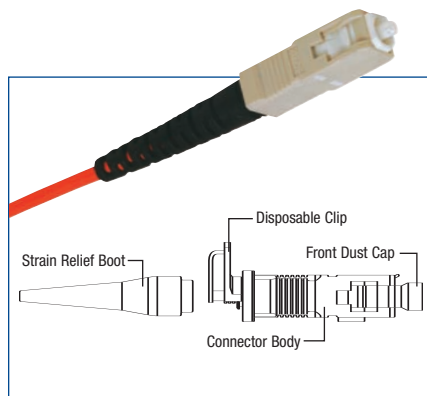


Photo: AX100029 Optimax SC Connector

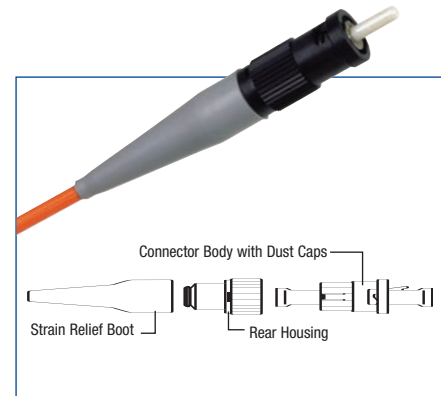


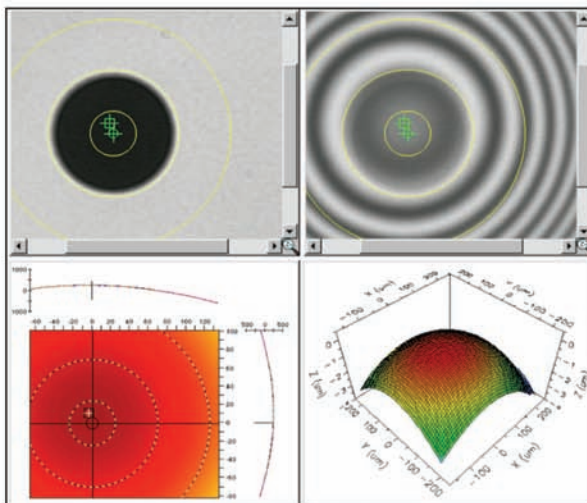
Photo: A0408835 Optimax ST-Compatible Connector



Typical Single-mode Endface Geometry Results

SAMPLE ID	
Sample Name & Type:	<i>Belden-PC Single-mode</i> Direct Optical Research Company
Measurement Time & Date:	<i>07:40:20 a.m. - 07/27/07</i> ZX-I Zoom Interferometer
Fitting Regions Used:	<i>D=250µm; E=140µm; F=50µm; A=1000µm</i> XR: No

MEASUREMENT PARAMETER	PASS/FAIL LIMITS MINIMUM/MAXIMUM	MEASURED VALUE	PASSED OR FAILED
Radius of Curvature	8.00 / 25.00	<i>11.52</i> mm	<i>Pass</i>
Fiber Height (Spherical Fit)	-109.83 / 50.0	<i>12.7</i> nm	<i>Pass</i>
Fiber Height (Planar Fit)	-10.0 / 200.00	<i>182.7</i> nm	
Apex Offset	0.00 / 50.00	<i>11.78</i> µm	<i>Pass</i>
Bearing		<i>340.100</i> deg	
Angel	-0.200 / 0.200	<i>0.059</i> deg	<i>Pass</i>
Tilt Offset		deg	
Actual Angle		deg	
Key Error		deg	
Fiber Roughness (Rq)	0 / 50	<i>3</i> nm	<i>Pass</i>
Fiber Roughness (Ra)	0 / 50	<i>3</i> nm	<i>Pass</i>
Ferrule Roughness (Rq)	0 / 50	<i>5</i> nm	<i>Pass</i>
Ferrule Roughness (Ra)	0 / 50	<i>4</i> nm	<i>Pass</i>
Diameter	123.0 / 135.0	<i>130.1</i> µm	<i>Pass</i>



Comments

Blank = Not Applicable or Not Selected

PASS

*7:40:20 am
07/27/07*

INSERTION LOSS

1310 nm 0.09
1550 nm 0.12

BACK REFLECTION

1310 nm 54.6
1550 nm 56.2

Sample test results: Belden® Single-mode fiber. Belden's optical fibers are manufactured with the most durable material available: zirconia ceramic. The ferrule polishing operation is performed to exacting tolerances at the factory for outstanding product quality and performance.

Optimax® Connector Ordering Information

Connector Type	Fiber Type	Fiber Size	UPC	Ordering Number
LC	62.5/125 µm	900 µm buffered	628575118014	AX101981
LC	50/125 µm	900 µm buffered	628575118021	AX101982
LC	Single-mode	900 µm buffered	628575118038	AX101983
SC	62.5/125 µm	900 µm buffered	628575052370	AX100029
SC	50/125 µm	900 µm buffered	628575060597	AX101077
SC	Single-mode	900 µm buffered	628575099634	AX101792
ST-Compatible	62.5/125 µm	900 µm buffered	628575043743	A0408835
ST-Compatible	50/125 µm	900 µm buffered	628575060573	AX101075
ST-Compatible	Single-mode	900 µm buffered	628575099627	AX101791

Accessory Kit Ordering Information

Connector Type	Fiber Size	UPC	Ordering Number
LC Accessory Kit	For jacketed fiber	628575118045	AX101984
SC Accessory Kit	For jacketed fiber	628575099658	AX101794
ST-Compatible Accessory Kit	For jacketed fiber	628575099641	AX101793

Belden® Optimax Enhanced Tool Kit

The Belden FiberExpress® Optimax Enhanced Installation Tool Kit is packaged in a small, convenient carrying case and has all the installation aids necessary to accomplish the error-free termination of Belden Optimax connectors.

Refer to New Product Bulletin 271 for more details.

