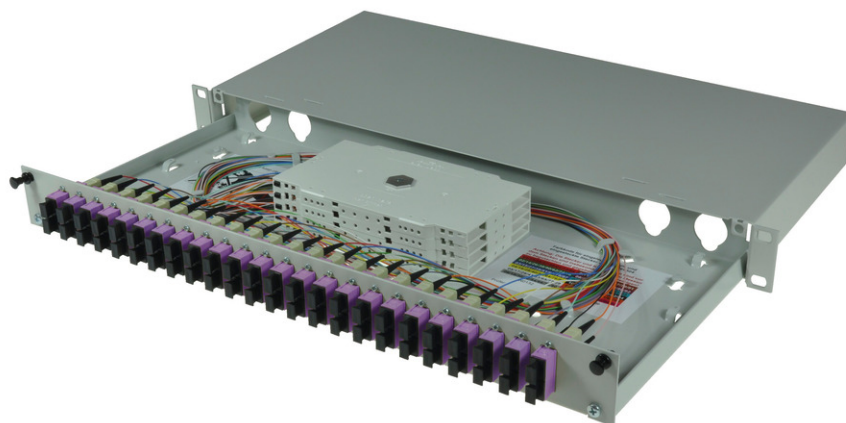


tBL<sup>®</sup> - FO Splice box 19" 1U MM 12x SC Duplex OM4, splice ready prepared

## tBL<sup>®</sup> - tde Basic Link (FO Enclosures)

The FO enclosures of the tBL<sup>®</sup> - tde Basic Link series are optimized products with a high functionality and an easy handling at the installation. The program includes splice and breakout boxes for 19 inch, wall and DIN rail mounting. These products are characterized by a high port density and an optimal fiber management, so that the permissible bending radii can't be undercut. Moreover, there are no sharp corners or edges, to avoid damage to the pigtails and buffer tubes. The front plates are removable. There are versions for E2000, FC, PC, LC, MPO / MTP, MTRJ, MU, SC, and ST. These products can be obtained with or without equipment. In addition, there are also special versions with IP66 for outdoor and offshore applications.

19" Splice box with extendable drawer and cover. For up to 24 x FO adapters, 1U 210mm deep. The splice box is optional equipped with colored fiber pigtails and splice ready prepared.

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tBL<sup>®</sup> - FO Splice box 19" 1U MM 12x SC Duplex OM4, splice ready prepared

## Technical Data

Pre-mounted	12 SC duplex adapters MM 24 SC Fiber pigtails 50/125μ OM4 2.0m, splice ready prepared 24 Crimp Splice protectors 2 Splice cassettes 2 Splice holder 1 Splice cover 1 Glands M20 for cable entry 1 set cage nuts and screws (M5)
Alternative pre-mounted	TBL-F24-xxSCD50-4yz (see below)
xx	(01 - 24) quantity of adapters
y	(S)plice ready prepared
z	With(O)ut Crimp Splice protectors

## FO Splice Boxes

Housing	Sheet steel, extendable drawer, front panel removable
Color	RAL 7035
Cable entry	On the back: Each over 2x metric cable glands (left and right)
Dimensions	19" 1U 210mm depth

Color	RAL 7035 light grey matt
Labeling	1 - 24 silk screen
Configuration	Attachment up to 24x SC Duplex or LC Quad adapter

## FO Adapters

Type	SC Duplex
Application	Multimode OM4
Design	One-Piece with flange
Connector style	SC Duplex
Color	Magenta
Material	Plastic
Sleeve	Zirconia Straight Split
Shutter	--
Manufacturer	tde

## FO Pigtails Standard

### FO Connectors

Connector Type	SC Simplex
Housing	Plastic, Magenta
Ferrule	Zirconia Straight Split, Spring-loaded Axially

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Ferrule Hole	127 µm
Mating Cycles	1.000
Operating Temperature	-40°C up to +75°C
Strain Relief to	150 N
Manufacturer	tde

### Optical performance

Fiber	Type	Wavelength	Insertion loss typ.	Insertion loss max.	Return loss min.
50/125µ OM4	SC	850 nm	≤ 0.25 dB	0.45 dB	30 dB

### FO Cables

Tight Buffer	Low smoke (IEC 61034 and EN 50268) and free of halogens (LSOH)
	Non corrosive after IEC 60754-2 and EN 50267
	Flame resistant after IEC 60332-3C and EN 50266-2-4
	Completely dry design
	Free from metal, no grounding problems and potential differences
	Tight Buffer for simple and direct connector mounting

### Characteristics

Fiber Count	1 (Tight Buffer)
Core-Ø	0.9 mm
Coreweight	1 kg/km
Min. Bending radius - Installation	30 mm
Min. Bending radius - Operation	30 mm
Removal	1500 mm
Fire load	0.15 MJ/m
Temperature range - Installation	-5 to +50°C
Temperature range - Operation	-20 to +60°C
Temperature range - Transport / Lagerung	-25 to +70°C

### FO Fiber

Type	Corning ClearCurve <sup>®</sup> 50/125µ OM4 multimode fiber
Optimized Data Rate over Distance	40/100 Gb over 170 m* 10 Gb/s over 550 m 1 Gb/s over 1100 m
Standard Compliance	ISO/IEC 11801: type OM4 fiber** IEC 60793-2-10: type A1a.3 fiber** TIA/EIA: 492AAAD ITU: ITU G651.1

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*	Distances specified in the 40G/100G per IEEE 802.3ba standard are 150m on OM4 and 100m on OM3; Corning fibers are manufactured to tighter dispersion specifications and thereby support the extended distances shown in the table (assuming cable attenuation $\leq 3.0$ dB/km and same 1.0 dB of connector loss for OM3 that the standard requires for OM4)
**	Assumes IEC draft standard is harmonized with 492AAAD which was approved by TIA

### Optical Specifications

Bandwidth	High Performance EMB* (MHz.km): 4700 at 850 nm only Legacy Performance EMB** (MHz.km): 3500 at 850 nm / 500 at 1300 nm
Attenuation	At 850 nm max. $\leq 2.3$ dB/km At 1300 nm max. $\leq 0.6$ dB/km
Macrobend Loss	Mandrel Radius (mm): 37.2 / 15 / 7.5 Number of Turns: 100 / 2 / 2 Induced Attenuation (dB) at 850 nm: $\leq 0.05$ / $\leq 0.1$ / $0.2$ Induced Attenuation (dB) at 1300 nm: $\leq 0.15$ / $\leq 0.3$ / $\leq 0.5$
Numerical Aperture	$0.200 \pm 0.015$
*	Ensured via miniEMBc, per TIA/EIA 455-220A and IEC 60793-1-49, for high performance laser-based systems (up to 10Gb/s)
**	OFL BW, per TIA/EIA 455-204 and IEC 60793-1-41, for legacy and LED-based systems (typically up to 100 Mb/s)

### Dimensional Specifications

Core Diameter	$50.0 \pm 2.5 \mu\text{m}$
Cladding Diameter	$125.0 \pm 1.0 \mu\text{m}$
Core-Clad Concentricity	$\leq 1.5 \mu\text{m}$
Cladding Non-Circularity	$\leq 1.0\%$
Core Non-Circularity	$\leq 5.0\%$
Coating Diameter	$242 \pm 5 \mu\text{m}$
Coating-Cladding Concentricity	$< 12 \mu\text{m}$

### Environmental

Environmental Test	Test Condition	Induced Attenuation 850 nm & 1300 nm (dB/km)
Temperature Dependence	$-60^\circ\text{C}$ to $+85^\circ\text{C}$	$\leq 0.10$
Temperature Humidity Cycling	$-10^\circ\text{C}$ to $+85^\circ\text{C}$ and 4% to 98% RH	$\leq 0.10$
Water Immersion	$23^\circ\text{C} \pm 2^\circ\text{C}$	$\leq 0.20$
Heat Aging	$85^\circ\text{C} \pm 2^\circ\text{C}$	$\leq 0.20$
Damp Heat	$85^\circ\text{C}$ at 85% RH	$\leq 0.20$
Operating Temperature Range	$-60^\circ\text{C}$ to $+85^\circ\text{C}$	

### Mechanical Specifications

Proof Test	The entire fiber length is subjected to a tensile stress $\geq 100$ kpsi ( $0.7 \text{ GN/m}^2$ ).
Length	Fiber lengths available up to 17.6 km/spool.

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### Performance Characterizations

Refractive Index Difference	1%
Effective Group Index of Refraction	850 nm: 1.480 1300 nm: 1.479
Fatigue Resistance Parameter (nd)	20
Coating Strip Force	Dry: 0.6 lbs (2.7N) Wet: 14 days in 23°C water soak: 0.6 lbs (2.7N)
Chromatic Dispersion	Zero Dispersion Wavelength ( $\lambda_0$ ): 1295 nm $\leq \lambda_0 \leq$ 1315 nm Zero Dispersion Slope ( $S_0$ ): $\leq 0.101$ ps/(nm <sup>2</sup> *km)

### FO Splice Accessories

Type	Splice cassette
Dimensions	155 x 92 x 8 mm
Material	Bright ABS, similar RAL 1013

### FO Splice Accessories

Type	FO Splice holder for 12 x Crimp splice protectors
Dimensions	40 x 26 x 6 mm
Material	Bright ABS, similar RAL 1013

### FO Splice Accessories

Type	Crimp splice protector
Dimensions	31 x 3 x 1 mm

### FO Splice Accessories

Type	Cassette cover long
Dimensions	155 x 92 x 2 mm
Material	Bright ABS, similar RAL 1013

Type	Cable tie
Dimensions	75 x 2.5 mm

Type	Locknut for cable gland M20
Color	light grey

Type	Cable gland M20
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Color	light grey
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## FO Splice Accessories

Type	Mounting set M5
	Set of 4 (cage nuts and screws)

Type	FO Blind stopper
Application	For covering of unused adapter slots

## Product variants & accessories

Art.-No.	Description
TBL-F24-12SCAD9AS	tBL <sup>®</sup> - FO Splice box 19" 1U SM 12x SC APC Duplex OS2, splice ready prepared
TBL-F24-12SCD50-3S	tBL <sup>®</sup> - FO Splice box 19" 1U MM 12x SC Duplex OM3, splice ready prepared
TBL-F24-12SCD50-4S	tBL <sup>®</sup> - FO Splice box 19" 1U MM 12x SC Duplex OM4, splice ready prepared
TBL-F24-12SCD50S	tBL <sup>®</sup> - FO Splice box 19" 1U MM 12x SC Duplex OM2, splice ready prepared
TBL-F24-12SCD62S	tBL <sup>®</sup> - FO Splice box 19" 1U MM 12x SC Duplex OM1, splice ready prepared
TBL-F24-12SCD9S	tBL <sup>®</sup> - FO Splice box 19" 1U SM 12x SC Duplex OS2, splice ready prepared