

tBL<sup>®</sup> - S/FTP 4P AWG22/1 Cat.7 LSHF-FR



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

tBL<sup>®</sup> tde Basic Link (TP) is a complete system solution for structured cabling in Cat6A for transfer rates of up to 10GbE in real time. The tBL<sup>®</sup> - cabling link corresponds to a permanent link in accordance with ISO / IEC 11801 (EN 50173). The RJ45 modules are available in the form factors Keystone (KS) and Data Center (DC). The compact design of the 6fold RJ45 DC module allows a high packing density of up to 48 RJ45 ports on 1U. The RJ45 module is connected to the tBL<sup>®</sup> - cable termination block by simply plugging. The slim cable termination block can be easily assembled on the cable by using the tBL<sup>®</sup> - crimp tool and is suitable for preterminated cables. The modular design of individual RJ45 modules are interchangeable at any time without termination. The RJ45 modules are optional with a LID - Light ID function available. This feature facilitates searching of related ports within a cable link. A cost effective alternative product is the RJ45 keystone module without cable termination block in the tool-less design.

The system solution is complemented by an extensive portfolio of carrier systems. These include design-capable data outlets, floor box frames, Consolidation points, DIN rail modules and patch panels in 1/2 and 1U.

### Application



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## tBL<sup>®</sup> - S/FTP 4P AWG22/1 Cat.7 LSHF-FR

Primary (Campus), Secondary (Riser), Tertiary (Horizontal)  
IEEE 802.5; IEEE 802.3: 10Base-T; 100Base-T; 1000Base-T; 10GBase-T  
ISDN; TPDDI; ATM, CATV, Broadband Video, SOHO-Cabling

### Standards

EN 50173-1; EN 50288-4-1  
ISO/IEC 11801;  
IEC 61156-5; IEC61156-7

### Flame resistance

LSHF-FR (LSFROH): IEC 60754-2; IEC 61034; IEC 60332-1; IEC 60332-3-24

## Technical Data

### Construction

Conductor	bare copper wire Ø 0.64 mm (AWG 22)
Insulation	Foamskin PE, Ø 1.6 mm
Twisting	2 cores to the pair
Pair screen	Al-laminated plastic foil
Cable lay up	4 pairs (PiMF) to the core
Screen	copper braid, tinned (ca. 62%)
Sheath	LSHF-FR yellow RAL 1028

### Mechanical properties

Minimum bending radius	Without load	4 x D
	With load	8 x D
Temperature range	During operation	-20°C up to +60°C
	During installation	0°C up to +50°C

### Electrical properties at 20°C ± 5°C

Loop resistance		Nom. 110 Ω/km
Resistance unbalance		≤ 2%
Insulation resistance	500 V	≥ 5000 MΩ*km
Mutual capacitance	at 800 Hz	Nom. 43 nF/km
Capacitance unbalance	(pair/ground)	≤ 1200 pF/km
Characteristic impedance	at 100 MHz	(100 ± 5) Ω
Nominal velocity of propagation		ca. 74%
Propagation delay		450 ns/100m
Delay skew		15 ns/100m
Test voltage	(DC, 1 min) core/core and core/screen	1000 V
Transfer impedance	at 1 MHz	≤ 5 mΩ/m
	at 10 MHz	≤ 5 mΩ/m

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	at 30 MHz	≤ 10 mΩ/m
	at 100 MHz	≤ 20 mΩ/m
Coupling attenuation		≥ 85 dB

### Electrical Data (nominal) acc. to Cat.7<sub>A</sub> (at 20°C)

F	Attenuation	NEXT	PS-NEXT	ACR	PS-ACR	ELFEXT	PS-ELFEXT	Return loss
MHZ	dB/100m	dB	dB	dB/100m	dB/100m	dB/100m	dB/100m	dB
1	1.7	100	97	98	95	100	97	23
4	3.3	100	97	97	94	97	94	26
10	5.1	100	97	95	92	95	92	28
16	6.5	100	92	94	91	90	87	28
20	7.3	100	90	93	90	90	87	28
31.25	9.1	100	90	91	88	90	87	27
62.50	12.8	100	90	87	84	85	82	25
100	16.3	100	87	83	80	80	77	23
155	18.2	95	87	75	72	78	75	21
200	20.3	95	87	72	69	75	72	21
250	21.5	90	87	64	61	69	66	20
300	23.0	89	52	61	58	65	62	20
600	25.8	85	82	45	42	45	42	20
1000	28.3	83	80	31	28	40	37	20
1200	40.2	83	80	26	23	35	32	18
1400	49.4	81	78	21	18	30	27	16
1500	52.1	80	77	16	13	28	25	16

Outer diameter	8.5 mm
Fire load	674 MJ/km
Weight	73 kg/km
Copper content	45
Tensile force	150 N

## Product variants & accessories

Art.-No.	Description
TBL-1500-22	tBL <sup>®</sup> - S/FTP 4P AWG22/1 Cat.7 LSHF-FR