



## Cat.7 S/FTP AWG23/1

LAN cable with 4 pairs,  
category 7 , with shielded pairs  
and overall braiding



Standards: ISO/IEC 11801, IEC 61156-5  
EN 50173-1, EN 50288-10-1; EIA/TIA 568-B



Ambient installation T°  
C range  
0 + 50 °C



Operating temp.  
-20 + 60 °C



Storage temperature  
range  
-20 + 70 °C



Flame retardant  
IEC 60332-1



Smoke density

### Application

CAT 7 S/FTP (Screened/Foiled Twisted Pair) cable is used for high-performance, shielded, and reliable network cabling, supporting data rates up to 10 Gbps and bandwidths up to 600 MHz. It is primarily used in professional environments—such as data centers, industrial, and high-interference areas—for Ethernet, PoE (Power over Ethernet), and voice/video applications, notes. Used for connecting workstations, routers, switches, and servers in data centers and enterprise networks. Designed to support Gigabit and 10-Gigabit Ethernet applications. Due to the individual pair foil shields and overall braid (S/FTP), this cable is ideal for locations with high Electromagnetic Interference (EMI), such as factories with heavy machinery. Specialized versions (like PE-sheathed options) are used for outdoor surveillance, IP security cameras, and rugged industrial environments.

Compliant with 802.3bt/at standards for supplying power to devices like VoIP phones, IP cameras, and wireless access points. Each of the four pairs is shielded with foil, plus an overall braid, providing excellent protection against EMI and crosstalk. Frequently available in Low Smoke Zero Halogen (LSZH) for data centers, which reduces toxicity in fire conditions. Designed to comply with ISO/IEC 11801 and Class F specifications. Delivers 10 Gbps performance over up to 100-meter distances. While popular in professional installations, and note that Category 7 is often overkill for typical residential networks, where and recommend Cat6 or Cat6A for most standard home applications.

**Temperature limit conditions:**

- Ambient installation temperature, range: from 0°C to +50°C
- Operating temperature, range: from -20 °C to +60°C

**Mechanical properties:**

Minimum internal bending radius:  
(D = cable outer diameter)

- No load 4xD
- during installation (under load): 8xD
- packaging: 305m in box, 500m on wooden reel

**Flame resistance:**

- the cable is self-extinguishing according to IEC 60332-1 / EN 60332-1
- LSHF version additionally:
  - halogen-free according to IEC 60754-2; IEC 60332-1
  - non-corrosive combustion gases according to IEC 60754-2
  - minimal smoke emission according to IEC 61034-2

**Cable construction**

Conductor category class:	1 = solid conductor
Conductor material	Pure copper
AWG size	23/1
Insulation material	Skin-Foam-Skin PE
Nominal diameter through insulation	1.32 mm
Twisting:	2 cores in a pair
Pair screen	Aluminum Polyester Tape
Cable lay up:	4 pairs to the core
Screen material	Tinned copper
Screen over stranding	Braiding
Sheath:	LSHF (LSZH, FRNC)
Outer diameter:	7.2-7.4 mm
Sheath color:	Orange (RAL 2003); Violet (RAL 4001)

Conductor color marking:

- 1st suit: blue/white with blue line
- 2nd suit: orange/white with orange line
- 3rd suit: green/white with green line
- 4th suit: brown/white with brown line

**Electrical characteristics at 20°C ± 5°C**

Main characteristic impedance at 100 MHz	100±5 Ω
Resistance unbalance , max.	≤ % 2
Loop resistance at 20°C , max.	(Ω/km) ≤ 154
Test voltage ( DC,1min)	v 1000

Operating voltage, max.  
 Capacitance unbalance  
 Capacitance at 800 Hz

v 125  
 (pF/km) ≤ 1500  
 nF/km 43

**Transmission characteristics**

Propagation delay (max. 100MHz)  
 Delay skew  
 Nominal velocity of propagation

(ns/100m) ≤ 427  
 (ns/100m) ≤ 12  
 approx. 79 %

**Technical data**

Cable type	Number of pairs (23AWG)	insulation diameter mm	Outer diameter mm	weight kg/km	Tensile force N
Cat 7 S/FTP LSZH	4	1.32	7.2-7.4	63-66	100

**Electrical performance**

f (MHz)	Attenuation (dB/100 m)	NEXT (dB)	PS-NEXT (dB)	ACR (dB/100m)	PS-ACR (dB/100m)	ELFEXT (dB/100m)	PS-ELFEXT (dB/100m)	Return loss (dB)
1	1.8	100	97	98	95	105	102	-
4	3.4	100	97	97	94	105	102	27
10	5.1	100	97	95	92	96	93	30
16	6.5	100	97	94	91	92	89	30
20	7.3	100	97	93	90	91	88	30
31.25	9.1	100	97	91	88	86	83	30
62.5	13.2	100	97	87	84	81	78	30
100	17.1	100	97	83	80	76	73	30
125	19.2	96	93	77	74	74	71	26
155.5	21.7	95	92	72	69	72	69	26
175	23.1	94	91	71	68	71	68	25
200	25.1	93	90	68	65	70	67	25
250	28.3	92	89	64	61	69	66	24
300	31.5	90	87	59	56	67	64	24
450	38.2	87	84	49	46	64	61	23
600	44.8	85	82	40	37	62	59	22



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