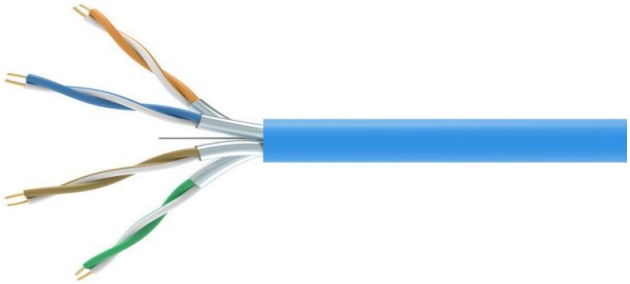
Cat.6 U/FTP AWG23/1

LAN cable with 4 pairs,
category 6 ,with pair screen

Standards: ISO/IEC 11801, IEC 61156-5
EN 50173-1, EN 50288-6-1; 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

A high-performance 4-pair cable consisting of twisted pairs of conductors, used primarily for data transmission. Category 6 U/FTP is recommended for all new installations, supports a frequency range of up to 250 MHz and is designed for transmission speeds of up to 1 gigabit per second (Gigabit Ethernet). It is also used in installations where fire, smoke emissions and toxic fumes pose a potential risk to life and equipment.

.

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 60754-1
- 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	copper
AWG size	23/1
Insulation material	polyethylene (HDPE)
Nominal diameter through insulation	1.03 mm
Twisting:	2 conductors in a pair
Pair screen	Aluminium Polyester Tape
Cable lay up:	4 pairs to the core
Sheath:	PVC or LSHF (LSZH,FRNC)
Outer diameter:	6.7-7.1 mm
Sheath color:	blue (RAL 5012)

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

Characteristic impedance at 100 MHz	(Ω) 100 ± 5
Resistance unbalance , max.	% 2
Loop resistance at 20°C , max.	(Ω/km) ≤ 156
Test voltage (DC,1min)	v 1000
Operating voltage, max.	v 125
Capacitance unbalance	(pF/km) ≤ 1500
Capacitance at 800 Hz	nF/km 45

Transmission characteristics

Propagation delay (max. 100MHz)	(ns/100m) ≤ 429
Delay skew	(ns/100m) ≤ 12
Nominal propagation speed	ca. 79 %

Technical data

Cable type	Number of pairs (23AWG)	insulation diameter mm	Outer diameter mm	weight kg/km	Tensile force N
Cat 6 U/FTP PVC	4	1.03	6.7-7.0	48-50	100
Cat 6 U/FTP LSHF	4	1.03	6.8-7.1	49-52	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	5.6	100	97	94	93	96	93	30
16	6.9	100	97	93	90	92	89	30
20	7.9	100	97	92	89	91	88	30
31.25	9.7	100	97	90	87	86	83	30
62.5	13.7	100	97	86	83	81	78	30
100	17.6	100	97	82	79	76	73	29
125	19.5	96	93	76	73	74	71	26
155.5	21.9	95	92	73	70	72	69	25
175	23.4	94	90	70	67	71	68	25
200	25.2	93	88	68	63	70	67	24
250	28.2	92	87	63	59	69	66	23
300	31	90	86	59	55	67	64	23

ALEVADO ENERGY
NETWORK & DATA CABLES