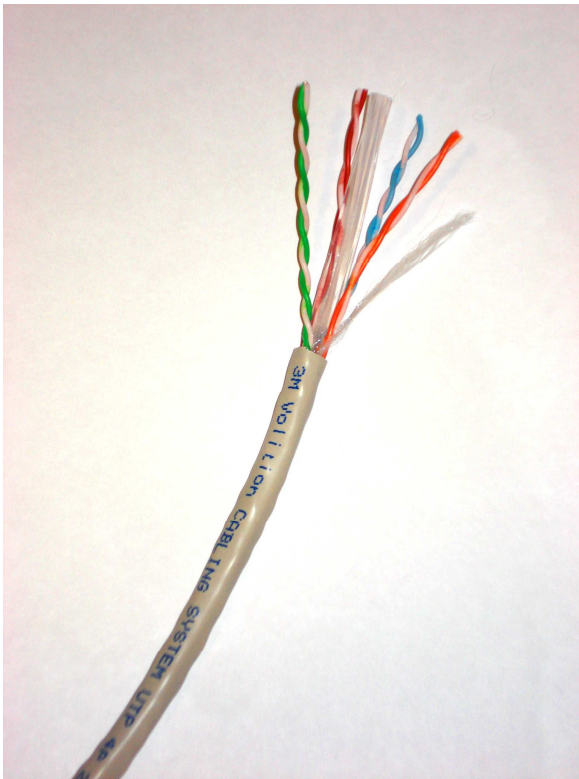




Volition™

Category 6 UTP 4 Pair 23AWG - PVC Cable



Belonging to the 3M™ Volition™ Network Solutions, this 350 MHz UTP Category 6 cable will deliver the best performance when used with the 3M™ RJ45 K6 Jacks, to give highest margins over Category 6 / TIA/EIA 568 and ISO 11801 and EN 50173 Class E Standard.

An integral cross separator structure ensures permanent stability of the physical structure for enhancing long term performance and reduced crushing risk at cable anchorage points.

The green sheath has length marking which is easy and convenient for the installer and gives a clear identification of cable and link lengths.

Reference Standards ISO/IEC 11801; IEC 61156-5; EN50173; EN50288-6-1; TIA/EIA -568B.2-1

Applications

- IEE 802.3-IEEE802.5
- FDDI
- ATM
- RNIS

Standards

- EN 50288-1
- EN 50173
- ISO/IEC 11801
- TIA/EIA 568-B
- IEC 611156-5

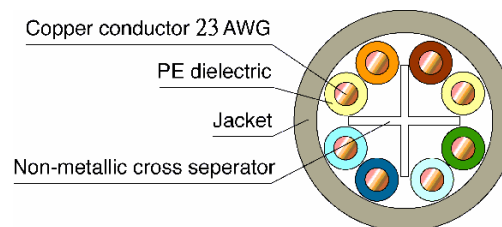
Installation Characteristic

Maximum pulling tension (N)	90
Minimum bend radius during installation (mm):	55
Bending radius	≥ 4xOD without load ≥ 8xOD with load
Normal Weight	40 kg/km
Temperature range,	
during operation	-20°C up to 60°C
during installation	0°C up to 50°C

Specification

Electrical Properties (at 20°C ± 5°C)

DC resistance	max. 8.2Ω/ 100m at 20°C
Resistance unbalance	max. 2% at 20°C
Insulation resistance (500 V)	min. 5000 M Ω /Km at 20°C
Mutual capacitance	nom. 5.1 nf / 100 m at 1 kHz
Capacitance unbalance (pair to ground)	max. 160 pf / 100 m at 1 kHz
Nominal velocity of propagation	nom. 67 %
Test voltage (DC, 1 min)	1 kV / 1 min



Construction

Conductor	Bare copper wire nom. 0.56mm (AWG23)
Insulation	Polyethylene, nom. 1.0 mm
Twisting	4 twisted pairs, 2 single conductors paired, Twisted pair color code: 1: white- blue / blue 2: white- orange / orange 3: white-green / green 4: white-brown / brown
Cable lay up	4 pairs with different pitches Non-metallic cross separator (spine)
Outer jacket	PVC
Outer diameter	6.0 mm ± 0.5 mm
Marking	3M Volition CABLING SYSTEM UTP 4P 23AWG PVC CAT.6 ETL VERIFIED TO TIA/EIA 568B.2-1 ISO/IEC 11801 & EN50173 CM 75°C 001~305M
Packing	305M

Cable Performance

Transmission characteristics acc. to TIA/EIA 568-B.2-1 Cat.6 (at 20°C)

Frequency		1	4	10	16	20	31.25	62.5	100	125	200	250
Impedance (Ω)		100± 15								100±22		
[MHz]												
Max Attenuation (dB) Max	Typical Value Cat 6	1.9 2.0	3.6 3.8	5.7 6.0	7.3 7.6	8.3 8.5	10.3 10.7	14.8 15.4	19.0 19.8	- 22.4	27.3 29	31.0 32.8
NEXT (dB) Min	Typical Value Cat 6	77.0 74.3	68.0 65.5	62.0 59.3	59.0 56.3	57.0 54.8	55.0 51.9	50.0 47.4	47.0 44.3	- 42.8	42.0 39.8	41.0 38.3
PSNEXT (dB) Min	Typical Value Cat 6	74.0 72.3	65.0 63.3	59.0 57.3	56.0 54.3	54.0 52.8	52.0 49.9	47.0 45.4	44.0 42.3	- 40.8	39.0 37.8	38.0 36.3
ELFEXT (dB) Min	Typical Value Cat 6	80.0 67.8	73.0 55.8	65.0 47.8	61.0 43.7	59.0 41.8	55.0 37.9	49.0 31.9	45.0 27.8	- 25.9	39.0 21.8	37.0 19.8
PSELFEXT (dB) Min	Typical Value Cat 6	77.0 64.8	70.0 52.8	62.0 44.8	58.0 40.7	56.0 38.8	52.0 34.9	46.0 28.9	42.0 24.8	- 22.9	36.0 18.8	34.0 16.8
Return Loss (dB) Min	Typical Value Cat 6	25.0 20.0	25.0 23.0	25.0 25.0	25.0 25.0	25.0 25.0	25.0 23.6	23.8 21.5	23.0 20.1	- 19.4	21.0 18.0	20.0 17.3
Propagation Delay (ns) Max	Cat 6	570	552	545.4	543	542	540.4	538.6	537.6	537.2	536.6	536.3
Delay Skew (ns) Max	Cat 6									45		

Ordering Information

UTP Cat.6 solid cable , PVC , 23AWG, 305M/easy-reel box , grey
UTP Cat.6 solid cable , PVC , 23AWG, 305M/easy-reel box , Blue
UTP Cat.6 solid cable , PVC , 23AWG, 305M/easy-reel box , Turquoise
UTP Cat.6 solid cable , PVC , 23AWG, 305M/easy-reel box , Dark grey

Ref. No.

VOL-6C4V-UGY-305
VOL-6C4V-UBL-305
VOL-6C4V-UTQ-305
VOL-6C4V-UDG-305

Important Notice

Buyer and/or user of this 3M product has to make sure before using this product that it is suitable for the intended use. All questions of liability relating to this product are subject - in accordance with the prevailing law - to the Terms of Sale of the selling 3M subsidiary.
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