

SHAHID GHANDI COMMUNICATION CABLE CO.

CODE: 0302-000

**TECHNICAL SPECIFICATION FOR
DATA CABLE
CATEGORY 5 FOILED TWISTED PAIR
(CAT-5e FTP)**



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SPECIFICATION FOR DATA CABLE (CAT-5e FTP)

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1 - GENERAL

This specification details the construction of Category 5 foiled twisted pair network cable. The conductors are solid copper, covered with a solid plastic insulating compound. The insulated conductors (four twisted pairs) are inside cable core. The core will be wrapped with aluminum foil. A tinned copper wire as earth continuity will be applied under aluminum foil. The cable structure is completed with PVC jacket. The cable is fully color coded so that each insulated conductor in the cable is distinguishable from other insulated conductor. Cat-5 cable supports frequencies up to 100 MHz and speeds up to 1000 Mbps

2 - ASSOCIATED DOCUMENTS

This specification is in accordance with REA'ASTM (American society for testing and material), BS (British Standard Institute), IP (Institute of Petroleum) and ISO (International Organization for Standardization) have been specified.

3 - TEMPERATURE AND ENVIRONMENT

The cables shall without detriment, perform suitably throughout a temperature range of -40 to +70 C.

4 - CONDUCTOR

Each conductor is a solid wire of commercially pure annealed copper, smoothly drawn, circular in cross section, uniform in quality and free from defects. Conductors meet the quality requirements of ASTM B3. The maximum resistance for a cross section area of 1 mm² and a length of 1 km is 17.241 ohms when measured at 20±2 °C. The nominal conductor diameters may be 0.5 mm.

5 - CONDUCTOR INSULATION

Each conductor is uniformly covered with solid polyethylene conforming to ASTM D-1248. Type III class A category 4 or 5 Grade EB. Insulation contains a suitable antioxidant system including a copper inhibitor. The insulation will be uniform, smooth and have non-porous surface.

The insulation colors are in accordance with the following table (1).

Table 1

Number Pairs	Color Coded
1	White – Blue / Blue
2	White – Orange / Orange
3	White – Green / Green
4	White – Brown / Brown

6 – TWISTING

Two appropriately colored insulated conductors are uniformly twisted together to form a pair. The lays of all pairs are in the same direction and different for each pair in a unit.



7 - STRANDING

The pairs colored according to the table (1) are stranded to form a cylindrical core. Stranding may be accomplished by using a concentric stranding where the pairs will change positions according to the change in direction of lay.

8 - ALUMINUM SHIELD

An aluminum foil with copolymer coating on one side will be applied longitudinally with 3 mm overlap at least. The Aluminum thickness is 35 micron.

9 - RIP CORD

The rip cords will be placed over the core under the jacket and must be strong and flexible enough to be able to strip or the jackets easily.

10 - JACKET

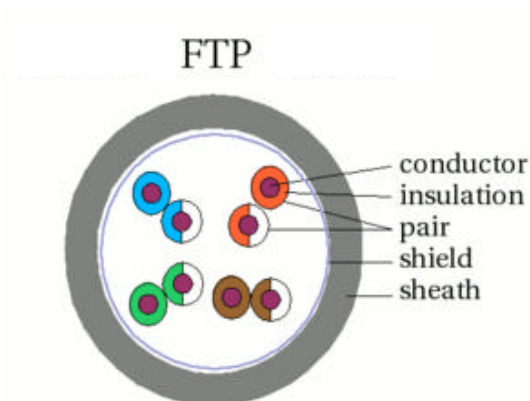
A polyvinyl chloride jacket in accordance with polyvinyl chloride (PVC) conforming to DIN VDE 0207 part 4 designating YI3.. The nominal jacket thickness will be 0.5mm for all cables. The outer jacket color is grey or white.

11 - IDENTIFICATION MARKING

Each length of the cable shall be permanently identified as to the manufacturer, year of manufacture and cable type. The marking will be printed on the outer jacket.

NOTE: Other method as request

12 - CABLE FORMATION





13 – ELECTRICAL PARAMETERS

Freq.	Atten.	NEXT	RL	ACR	ELFEXT	PS NEXT	PS ACR	PS ELFEXT
MHz	dB	dB	dB	dB	dB	dB	dB	dB
1	3	60.0	17.0	57.0	57.4	57.0	54.0	54.4
4	4.5	53.5	17.0	49.1	45.4	50.5	46.1	42.4
8	6.3	48.6	17.0	42.3	39.3	45.6	39.3	36.3
10	7.1	47.0	17.0	39.9	37.4	44.0	36.9	34.4
16	9.1	43.6	17.0	34.5	33.3	40.6	31.5	30.3
20	10.2	42.0	17.0	31.8	31.4	39.0	28.8	28.4
25	11.4	40.3	16.0	28.9	29.4	37.3	25.9	26.4
31.25	12.9	38.7	15.1	25.9	27.5	35.7	22.9	24.5
62.5	18.6	33.6	12.1	15.0	21.5	30.6	12.0	18.5
100	24	30.1	10.0	6.1	17.4	27.1	3.1	14.4