

## Technical Data for Telecom Cables



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## INSULATION COLOR FOR TELECOM CABLES

Permissible temperature range for laying of plastic insulation telecommunication cables should be -5 to +50 °C -5 to +50 °C .

**Insulation color**

Pair no.	Pair color	
	Conductor A	Conductor B
1	White	Blue
2	White	Orange
3	White	Green
4	White	Brown
5	White	Grey
6	Red	Blue
7	Red	Orange
8	Red	Green
9	Red	Brown
10	Red	Grey
11	Black	Blue
12	Black	Orange
13	Black	Green
14	Black	Brown
15	Black	Grey
16	Yellow	Blue
17	Yellow	Orange
18	Yellow	Green
19	Yellow	Brown
20	Yellow	Grey
21	Violet	Blue
22	Violet	Orange
23	Violet	Green
24	Violet	Brown
25	Violet	Grey

Notes:

\* In cables with more than 25 pairs, pair color repeat again from pair No.1

**Colors for spare pairs**

Pair no.	Pair color	
	Conductor A	Conductor B
1	White	Red
2	White	Black
3	White	Yellow
4	White	Violet
5	Red	Black
6	Red	Yellow
7	Red	Violet
8	Black	Yellow
9	Black	Violet
10	Yellow	Violet
11	Blue	Orange
12	Blue	Green
13	Blue	Brown
14	Blue	Grey
15	Orange	Green
16	Orange	Brown
17	Orange	Grey
18	Green	Brown
19	Green	Grey
20	Brown	Grey

Notes:

\* each length of cable of 100 pairs and larger shall have one percent of spare pairs

## TELECOMMUNICATION CABLES CONSTRUCTION

No. of pairs in cable	Center		Layer 1		Layer 2	
	Pairs in group or sub-group	Pair count	Pairs in group or sub-group	Pair count	Pairs in group or sub-group	Pair count
30	12	1-12	-	-	-	-
	13	13-25				
	5	26-30				
40	12	1-12	-	-	-	-
	13	13-25				
	15	26-40				
50	12	1-12	-	-	-	-
	13	13-25				
	12	26-37				
	13	38-50				
70	25	1-25	-	-	-	-
	25	26-50				
	20	51-70				
100	25	1-25	-	-	-	-
	25	26-50				
	25	51-75				
	25	76-100				
150	25	1-25	25	26-50	-	-
			25	51-75		
			25	76-100		
			25	101-125		
			25	126-150		
200	12	1-12	25	51-75	-	-
	13	13-25	25	76-100		
	12	26-37	25	101-125		
	13	38-50	25	126-150		
			25	151-175		
			25	176-200		
300	25	1-25	25	76-100	-	-
	25	26-50	25	101-125		
	25	51-75	25	126-150		
			25	151-175		
			25	176-200		
			25	201-225		
			25	226-250		
			25	251-275		
400	25	1-25	25	26-50	25	151-175
			25	51-75	25	176-200
			25	76-100	25	201-225
			25	101-125	25	226-250
			25	126-150	25	251-275
					25	276-300
					25	301-325
					25	326-350
					25	351-375
					25	376-400

## TELECOMMUNICATION CABLES CONSTRUCTION

No. of pairs in cable	No. of pairs in group or sub-group	Super group number		
		Center	Layer 1	Layer 2
500	50	1-3	4-10	-
600	100	1	2-6	-
1000	100	1-3	4-10	-
1200	100	1-3	4-12	-
1800	100	1	2-7	8-18
2400	100	1-3	4-12	13-24

## INSPECTION AND TESTS PERFORMED FOR TELECOMMUNICATION CABLES

### A) Non electrical tests

- Conductor diameter measurement
- Insulation thickness
- Eccentricity of insulation
- Insulation adhesion
- Insulation colors
- Inner sheath thickness
- Eccentricity of inner sheath
- Screen adhesion
- Screen continuity
- Screen thickness
- Jacket thickness
- Eccentricity of jacket
- Ovality of jacket
- Marking
- Conductor elongation
- Insulation tensile strength and elongation
- Insulation shrink back
- Insulation cold bend
- Jacket tensile strength and elongation
- Jacket shrink back
- Jacket cold bend
- Jacket carbon black content
- Pressurization test (if required)

### B) Electrical tests

- Conductor resistance
- Conductor resistance unbalance for pairs
- Mutual capacitance
- Capacitance unbalance (pair to pair, pair to ground)
- Attenuation
- Crosstalk
- Insulation resistance
- Dielectric strength
- Spark test (in production line)