

**POLYETHYLENE INSULATED, POLYETHYLENE SHEATHED,**  
**JELLY FILLED, UNDERGROUND CABLES (ARMOURED OR**  
**UNARMOURED) FOR DEPT. OF TELECOM**



**Application** Used for Primary or Secondary Underground (Direct buried or in ducts) distribution networks.

**Specification** TEC Specification No. GR/CUG-01/03 August, 2003

CONSTRUCTION		TECHNICAL DATA				
<b>Conductor</b>	Solid Annealed Plain Copper to IEC 28 or IS 12444 in 0.4, 0.5, 0.63 & 0.9mm diameter	<b>Nominal Conductor Diameter (mm)</b>	0.4	0.5	0.63	0.9
<b>Insulation</b>	Solid polyethylene as per ASTM D 1248 Type II or III, Class 'A' Category 4 or 5	<b>Max. Conductor Resistance at 20°C (ohms/Km)</b>	135±8	86±6	58±4	28±2
<b>Colour Coding</b>	As per Table 2 of specification	<b>Min. Insulation Resistance at room temperature (M.ohm/Km)</b>	----- 5000 -----			
<b>Unit Formation</b>	For 50 pair cable, 10 pair unit with coloured P.P. binder as per Table 3 shall be open helically wrapped for unit identification.  For 100 pair cable, 20 pair unit with coloured P.P. binder as per Table 3 shall be open helically wrapped for unit identification	<b>Mutual Capacitance at 0.8/1.0 KHz (nF/Km)</b>	Max.Average ---- 52 ± 3 --- Max. Individual --- 52 ± 4.5 ---			
<b>Super Unit Formation</b>	50 pair or 100 pair super units with coloured P.P. binder as per Table 4 of specification shall be formed for larger sizes of cables above 100 pair as per specification	<b>Capacitance Unbalance (pF/Km)</b>				
		<b>Pair to Pair Average</b>	----- 50 -----			
		<b>Indv. Combination</b>	----- 200 -----			
		<b>Pair to Ground Average</b>	----- 750 -----			
		<b>Indv. Combination</b>	----- 3000 -----			
<b>Cable Core Formation</b>	Required no. of pairs/units/super units shall be stranded to form a round and compact cable. Spare pairs where required shall be placed in cable core as per Table 5 of specification	<b>Attenuation at 150 KHz (Average Max.)/Km</b>	12.0	8.25	6.3	4.4
<b>Jelly Filling</b>	The cables core thus formed shall be fully filled with suitable water resistant compound like Jelly					

<b>Core Wrapping</b>	A closed helical or longitudinal lapping of non-hygroscopic, non-wicking polyester tape or tape of another suitable material		
<b>Moisture Barrier/Screen</b>	An Aluminium tape of nominal $0.2 \pm 10\%$ thickness with PE coated on both sides having thickness 0.05mm nominal on each side shall be longitudinally applied with an overlap of min. 3 mm or 6 mm as applicable		
<b>Sheath</b>	Extruded polyethylene of grade 03C or H03C as per BS 6234. Thickness & diameter over sheath shall be as per Table no. 6 & 7 respectively		
<b>Bedding</b>	Two close helical lappings of PE or PP Tape with min. 5% overlap shall be provided under Armour		
<b>D.S.T. Armour (For armoured cables only)</b>	Two applications of G.S. Tape of 0.5mm/0.8 mm thickness as per Table 8 of specification conforming to IS 3975 each applied helically in the same direction with a gap in the first tape of $25 \pm 10\%$ of width of the tape and the second tape evenly covering the gap of first tape with an overlap of min. 20%		
<b>Jacket (for Armoured Cables only)</b>	Extruded polyethylene of grade 03C or H03C as per BS 6234 & thickness as per Table 9 of specification		

**NOTE:-**

☐ The given picture of the product may differ to its actual in construction/colour.



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