SCOPE -

This specification is based on the specifications of UL 444, ANSI/TIA/EIA-568B.2 and ISO/IEC 11801 and covers the requirements for unshielded twisted pair (UPT) out door cables Direct Burial type of 100Ω , Enhanced Category 5 (Cat.5E). *Applicable cable size; 4 pairs*

CABLE CONSTRUCTION -

Conductor - The conductors shall be solid, annealed and bare copper with a diameter of AWG24 and minimum acceptable diameter shall be 0.485mm.

Insulation - Each conductor shall be insulated with solid high density polyethylene. The insulation shall be uniform and shall not have any defects. The diameter over the insulation shall be maximum 1.22mm.

Color Code - The color code of the insulation shall be shown on TABLE 1.

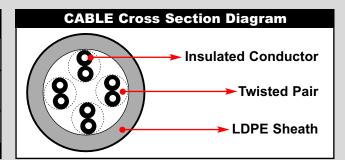
TABLE 1 - Color Code of Insulation										
Pair	a-wire		b-wire							
No.	BASE	STRIPE	BASE	STRIPE						
1	White	Blue	Blue	-						
2	White	Orange	Orange	-						
3	White	Green	Green	-	350					
4	White	Brown	Brown	-						

^{*} The stripe marking shall be applied on the white color.

Core Assembly - Two insulated conductors shall be twisted into a pair. Four twisted pairs shall be stranded into a core. If required for manufacturing reasons, a plastic tape may be applied over the cable core.

Sheath - The low density polyethylene compound colored black shall be applied over the cable core. The sheath shall be uniform and shall not have any defects. The thickness of the sheath and cable diameter shall be shown on TABLE 2.

TABLE 2 - Sheath Thickness & Cable Diameter									
Sheath Th	ickness (mm)	Cable Diameter							
Nom.	Min. Avg.	(Nom. mm)							
0.7	0.60	6.0							



ELECTRICAL CHARACTERISTICS

Characteristics	Unit	Cat.5E			
DC Resistance		Ω/100m	Max. 9.38		
DC Resistance Unbalanced		%	Max. 5.0		
Mutual Capacitance	nF/100m	Max. 5.6			
Capacitance Unbalanced	pF/100m	Max. 330			
(Pair to Ground)		·			
Insulation Resistance	MΩ-300m	Min. 100			
Dielectric Strength		DC KV/sec.	2.5/2		
Impedance		Ω			
- Zo	1~100MHz		100 ± 15		
- Zinput	1~100MHz	dB/100m	100 ± 15		
Return Loss (RL)			RL	Att.	PSNEXT
			(Min.)	(Max.)	(Min.)
Attenuation (Att.)	0.772MHz		-	1.8	64.0
	1MHz		20.0	2.0	62.3
Pair-to-Pair	4MHz		23.0	4.1	53.3
Near End	8MHz		24.5	5.8	48.8
Cross Talk (NEXT)	10MHz		25.0	6.5	47.3
	16MHz		25.0	8.2	44.2
Power Sum	20MHz		25.0	9.3	42.8
Near End	25MHz		24.3	10.4	41.3
Cross Talk	31.25MHz		23.6	11.7	39.9
(PSNEXT)	62.5MHz		21.5	17.0	35.4
	100MHz		20.1	22.0	32.3
Pair-to pair		dB/100m	ELFEXT	PSELFEXT	PSACR
Equal Level Far End			(Min.)	(Min.)	(Min.)
Cross Talk (ELFEXT)	0.772MHz		-	-	62.2
	1MHz		63.8	60.8	60.3
Power Sum	4MHz		51.8	48.8	49.2
Equal Level Far end	8MHz		45.7	42.7	43.0
Cross Talk	10MHz		43.8	40.8	40.8
(PSELFEXT)	16MHz		39.7	36.7	36.0
	20MHz		37.8	34.8	33.5
Pair-to-Pair ACR	25MHz		35.8	32.8	30.9
(ACR)	31.25MHz		33.9	30.9	28.2
	62.5MHz		27.9	24.9	18.4
Power Sum ACR	100MHz		23.8	20.8	10.3
(PSACR)					
Propagation	1MHz	ns/100m		Max. 570	
Delay	10MHz			Max. 545	
	100MHz			Max. 538	
Propagation	1MHz	ns/100m		Max. 45	
Delay Skew	10MHz			Max. 45	
	100MHz			Max. 45	

PHYSICAL PERFORMANCE —

Insulation - The un-aged tensile strength and elongation, measured in accordance with clause 6.3 of UL 444 shall be minimum 16.5MPa and 300%, respectively. The heat-aged tensile strength and elongation, measured in accordance with clause 6.3 of UL 444 shall be minimum 75% of un-aged respectively. The insulation shrinkage, measured in accordance with clause 6.4 of UL 444, shall not exceed 9.5mm. The insulation cold bend, measured in accordance with clause 6.5 of UL 444, shall show no visible cracks.

Sheath - The un-aged tensile strength and elongation, measured in accordance with clause 4.9 of UL 444 shall be minimum 9.7MPa and 350%, respectively. The heat-aged tensile strength and elongation, measured in accordance with clause 6.8 of UL 444 shall be minimum 75% and 75% of un-aged respectively.

MARKING OF CABLES _

The cable shall be marked on the sheath to designate the transmission performance and/or others (if ordered by purchaser). The marking shall be repeated through the outer sheath clearly.

PACKING _

Each length of completed cable shall be wound on wooden drum or pull-out box. The standard delivery length shall be 1,000 feet.

MARKING ON TAG AND/OR REEL -

The following details shall be marked on a tag affixed to each shipping length of cable in a reel. Or directly marked on the outer surface of the reel.

- 1) AWG size and number of pairs
- 2) Length
- 3) Others

