

INSTRUMENTATION CABLES, UNARMoured/WIRE ARMoured, UNSHIELDED/OVERALL/INDIVIDUAL SHIELDED



Specification : Generally to BS:5308 PART-1 (Polyethylene Insulation)
Application : Can be used for instrumentation/process control in chemical and petrochemical industries.

CONSTRUCTION		TECHNICAL DATA	
Conductor	Solid/Stranded/Flexible Annealed Bare/Tinned copper class 1/2/5 to BS:6360 Available in the following sizes : 0.50 Sq.mm (1/0.80 mm) 1.00 Sq.mm (1/1.13 mm) 0.50 Sq.mm (16/0.20 mm) 1.50 Sq.mm (7/0.53 mm)	Temperature range. Stationary Flexing	-30DEG.C to +70 DEG.C -5 DEG.C to +50 DEG.C
Insulation	The conductors are insulated with solid Polyethylene Type 03 as per BS:6234, uniformly twisted together to form a pair with a max. lay length of 100 mm, and colour coded for identification. Available in the following no of pairs : 1, 2(1 quad), 5, 10, 15, 20, 30 and 50 Pairs.	Working voltage	300 /500Volt
Colour code	As per BS: 5308 Part-1.	Minimum bending radius	12 X cable diameter
Pair shield (for individual pair shielded cables)	Each twisted pair shielded with aluminium polyester tape and a stranded tinned copper drain wire of size 0.5 mm ² for maximum electrostatic noise and cross talk rejection. All pair shields are electrically isolated from each other. Individually shielded pairs are cabled with non-hygroscopic fillers if necessary, and the entire assembly is shielded with aluminium polyester tape and a stranded tinned copper drain wire of size 0.5 mm ² .	Conductor resistance at 20°C - R.M.S. test voltage: Core to Core & Core to screen	Refer Technical Section. Or BS: 6360 1000 V rms for 1 minute.
Overall shield (for overall shielded cables only)	Twisted pairs are cabled with non-hygroscopic fillers if necessary, and the entire assembly is shielded with aluminium polyester tape and a stranded tinned copper drain wire of size 0.5 mm ² .	L/R ratio(Max)	40 Micro Henry/Ohms for 1.5 Sq. mm. 25 Micro Henry/Ohms for 0.5/0.75/1 .Osq. mm.
Bedding (applicable for Type 2 cables)	Extruded Black Polyethylene Type 2 C or 03 as per BS:6234.	Mutual Capacitance NF/Km	Refer Technical Section
Wire Armour (applicable for Type 2 cables)	A serving of round galvanized steel wires as per BS:1442, is applied with 90% minimum coverage.	Capacitance Unbalance	250 pF/250 m Max..
Sheath	Type -1 & 2 Extruded Black PVC Type TM1 of BS:7655.		
Printing Legend	Delton Cables Limited , Conductor area of cross section x no of pairs, BS:5308 Part No Type No., year of manufacture or any other marking detail on request.		

NOTE:-

- ❑ Type 1 are Unarmoured Cables and Type 2 are Armoured Cables.
- ❑ 2 pair cable shall be cabled in Quad formation and colour coded in clockwise order of rotation with BLACK, BLUE, GREEN & BROWN.
- ❑ Other Conductor Sizes and Types, Alternative Colour Codes, Higher Pair Count and Sheath Material - FR/FRLS/ZERO HALOGEN compound are available on request
- ❑ As an alternate, armoured cable shall be supplied with Flat Strip/ Double Steel Tape/ Wire Braided as per customer requirement.
- ❑ The given picture of the product may differ to its actual in construction/colour.



Specification : Generally to BS:5308 PART-2 (PVC Insulation).
Application : Can be used for instrumentation/process control in chemical and petrochemical industries.

	CONSTRUCTION	TECHNICAL DATA	
Conductor	Plain Annealed Copper Wire in accordance with BS:6360 Available in the following Sizes : 0.50 Sq.mm (16/0.20 mm) 0.75 Sq.mm (24/0.20 mm) 1.50 Sq.mm (7/0.53 mm)	Temperature range. Stationary Flexing	-30DEG.C to +70 DEG.C -5 DEG.C to +50 DEG.C
Insulation	The conductors are insulated with PVC Type 1 to BS:7655, uniformly twisted together to form a pair with a max. lay length of 100 mm, and colour coded for identification. Available in the following no of pairs : 1, 2(1 quad), 5, 10, 15, 20, 30 and 50 Pairs.	Working voltage	300 /500Volt
Colour code	As per BS:5308 Part-2.	Minimum bending radius	12 X cable diameter
Pair shield (for individual pair shielded cables)	Each twisted pair shielded with aluminium polyester tape and a stranded tinned copper drain wire of size 0.5 mm ² for maximum electrostatic noise and cross talk rejection. All pair shields are electrically isolated from each other.	Conductor resistance at 20°C -	Refer Technical Section. Or BS: 6360
Overall shield (for overall shielded cables only)	Individually shielded pairs are cabled with non-hygroscopic fillers if necessary, and the entire assembly is shielded with aluminium polyester tape and a stranded tinned copper drain wire of size 0.5 mm ² .	R.M.S. test voltage: Core to Core & Core to screen	1000 V rms for 1 minute.
Bedding (applicable for Type 2 cables)	Extruded Black PVC Type TM1 of BS:7655.	L/R ratio(Max)	40 Micro Henry/Ohms for 1.5 Sq. mm. 25 Micro Henry/Ohms for 0.5/0.75/1.0 sq.mm.
Wire Armour (applicable for Type 2 cables)	A serving of round galvanized steel wires as per BS:1442, is applied with 90% minimum coverage.	Mutual Capacitance Core to Core Core to Screen	250 nF/Km. Max. 450 nF/Km. Max.
Sheath	Type -1 & 2 Extruded Black PVC Type TM1 of BS:7655.		
Printing Legend	Delton Cables Limited , Conductor area of cross section x no of pairs, BS:5308 Part No Type No., year of manufacture or any other marking detail on request.		

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Insulation	The conductors are insulated with PVC Type 1 to BS:7655, uniformly twisted together to form a pair with a max. lay length of 100 mm, and colour coded for identification. Available in the following no of pairs : 1, 2(1 quad), 5, 10, 15, 20, 30 and 50 Pairs.	Working voltage	300 /500Volt
Colour code	As per BS:5308 Part-2. ie. upto 40 C: All cores in YELLOW with core numbering. 41 to 80 C: All cores in BLACK with core numbering.	Minimum bending radius	12 X cable diameter
Overall shield (for overall shielded cables only)	Required number of cores are laid up in concentric layers with non- hygroscopic fillers if necessary, and the entire assembly is shielded with aluminium polyester tape and a stranded tinned copper drain wire of size 0.5 mm ² .	Conductor resistance at 20°C -	Refer Technical Section. or BS: 6360
Bedding (applicable for Type 2 cables)	Extruded Black PVC Type TM1 of BS:7655.	R.M.S. test voltage: Core to Core & Core to screen	1000 V rms for 1 minute.
Wire Armour (applicable for Type 2 cables)	A serving of round galvanized steel wires as per BS:1442, is applied with 90% minimum coverage.	Mutual Capacitance Core to Core Core to Screen	250 nF/Km. Max. 450 nF/Km. Max.
Sheath	Type -1 & 2 Extruded Black PVC Type TM1 of BS:7655.	L/R ratio(Max)	40 Micro Henry/Ohms for 1.5 Sq. mm. 25 Micro Henry/Ohms for 0.5/0.75/1.0 sq.mm.
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TECHNICAL INFORMATION

Copper Conductor Classes and Requirements

Class 1: Solid Copper Conductors

CROSS SECTIONAL AREA	MAXIMUM RESISTANCE AT 20 DEG.C PER KM	
	SQ.MM	PLAIN
0.50	36.8	37.5
0.75	26.0	26.5
1.00	18.4	18.6
1.50	12.3	12.4

Class 2: Stranded Copper Conductors

0.50	36.0	36.7
0.75	24.5	24.8
1.00	18.1	18.2
1.50	12.3	12.4

Class 5: Flexible Copper Conductors

0.50	39.7	41.0
0.75	26.5	26.7
1.00	19.5	20.0
1.50	13.3	13.7

Max. Mutual Capacitance Requirements as per BS:5308 Part-1

		0.5 SQ.MM	1.0 SQ.MM	1.5 SQ.MM
Cable without screen	nF/Km	75	75	85
Cables with only collective screen (except 1 & 2 pair)	nF/Km	75	75	85
1 Pair & 2 Pair with collective screen & all cable with individual pair screen	nF/Km	115	115	120

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- Application** : Suitable for measurement and control in the field of electronics. This cable is also used for data transmission in computers. Suitable for fixed installation in dry and humid premises.
- Special Application** : Suitable for maxi-termi point connections.

	CONSTRUCTION	TECHNICAL DATA	
Conductor	Stranded Plain/Tinned copper	Temperature range Stationary Flexing	- 30°C to +70°C - 5°C to +50°C
Insulation	PVC insulation type YI-3 to VDE 0207	Peak working voltage	225 Volts
Pair	Cores twisted into pairs. Two(2) pairs shall be a quad. Pairs colour coded as per VDE-0815. First Pair : Blue + Red, Second Pair : Grey + Yellow Third Pair : Green + Brown Fourth Pair : White + Black..	Minimum bending radius	7.5 X cable diameter
Unit	Four pairs bundled into a unit and wrapped with an open helix of numbered polyester tape.	Conductor resistance at 20°C	39.2/40.1 Ohm/Km for Plain/Tinned copper.
Assembly	Units cabled with non-hygroscopic fillers if necessary, shielded with aluminium polyester tape and stranded tinned copper drain wire for electrostatic noise rejection.	Insulation resistance	100MOhm-Km
Outer Sheath	PVC type YM-1 as per VDE 0207 coloured grey (blue for Intrinsically safe circuits).	Mutual Capacitance	100 nF/Km (cables upto 4 pairs the value can exceed by 20%)
		Capacitance unbalance maximum	200pF/100m.
		R.M.S. test voltage	2000 V core/core 500 V core/screen
		Attenuation	1.1dB/Km at 800Hz. 3.0dB/Km at 10KHz.

NOTE:-

- ❑ Braid with tinned copper can be provided. Packing : Wooden Drums of 500/1000 Metres.
- ❑ The 4 pair unit shall be identified by single, double, triple & quadruple band marking for unit identification as an alternate.
- ❑ Sheath material may be FR/FRLS/ZERO HALOGEN compound as per customer's request.
- ❑ The given picture of the product may differ to its actual in construction/colour.