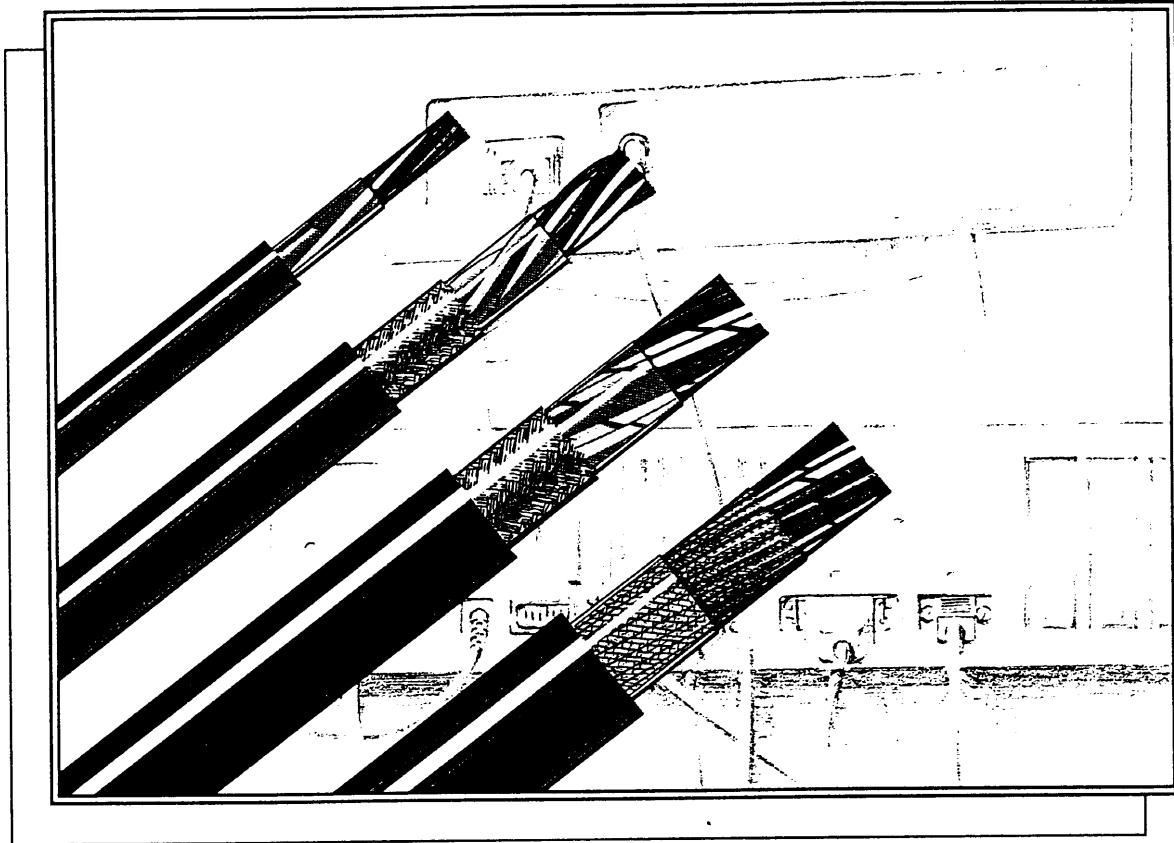


715-562 to
715-712

Defence Standard 61-12 (Part 5) Small Multicore Cables



Defence Standard 61-12 (Part 5)

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This Ministry of Defence Standard details requirements of small multicore cables having PVC and polyethylene insulated cores, with or without screening, and a PVC sheath. Cables to this standard are intended for use in similar applications to those detailed in DEF STAN 61-12 (Part 4).

As in DEF STAN 61-12 (Part 4), none of the cables listed in this standard are intended to be used as power cables or for the direct connection of equipment to mains power supplies.

Two types of cores are included:
Low tension (LT) cores, which are either 16/0.2mm or 37/0.315mm and having PVC insulation;
High tension (HT) cores, which are 16/0.2mm having a polyethylene insulation.

Low tension cores are suitable for operation at voltages up to 440V (rms) and frequencies up to 1600Hz.

High tension cores are suitable for operation at voltages up to 2,000V (rms) and frequencies up to 1600Hz.

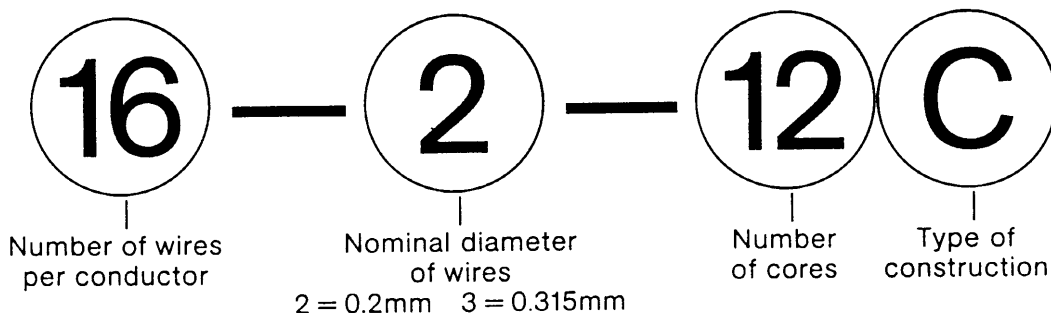
Conductor Details

Conductor Composition (No. of Wires/ Nominal Wire Diameter - mm)	Nominal Conductor Area (mm ²)	Maximum Conductor Resistance @ 20°C (Ohms/km)
16/0.2	0.5	40.1
37/0.315	2.89	6.79

The cables having PVC insulation and sheath can be offered with either general purpose or heat resisting grades of PVC. The standard types are suitable for a maximum (conductor) operating temperature of 70°C, whilst those manufactured with heat resisting PVC are suitable for a maximum (conductor) operating temperature of 85°C.

Explanation of Identification Code Numbers

Example:

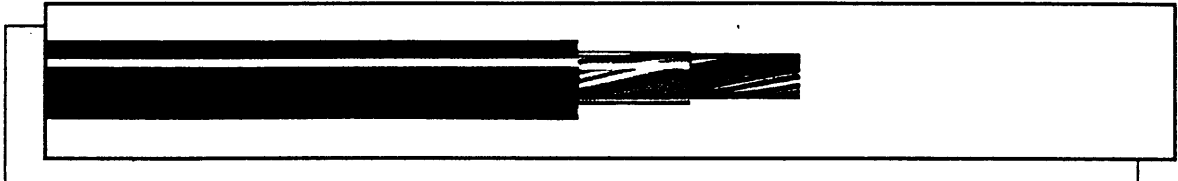


Type A: (UNSCREENED)**Construction:** Flexible, tinned annealed copper conductors, complying with the requirements of BS 6360.

PVC insulated (Type TI 1 to BS 6746).

Cores twisted together and collectively polyester taped.

PVC sheathed (Type 6 to BS 6746) BLACK.



Defence Standard 61-12 (Part 5)

Cable Identification Code No.	Number of Cores	Conductor Composition	Nominal Radial Thickness of Insulation (mm)	Core Diameter (mm)		Overall Diameter (mm)		NATO Stock No. 6145-99-
				Minimum	Maximum	Minimum	Maximum	
16-2-2A	2	16/0.2	0.45	1.75	1.90	5.1	5.9	111-6715
16-2-3A	3	16/0.2	0.45	1.75	1.90	5.4	6.2	111-6722
16-2-4A	4	16/0.2	0.45	1.75	1.90	5.9	6.7	111-6726
16-2-6A	6	16/0.2	0.45	1.75	1.90	6.9	7.7	111-6733
16-2-12A	12	16/0.2	0.45	1.75	1.90	9.1	9.9	111-6743
16-2-18A	18	16/0.2	0.45	1.75	1.90	10.5	11.5	111-6749
16-2-25A	25	16/0.2	0.45	1.75	1.90	12.6	13.6	111-6756

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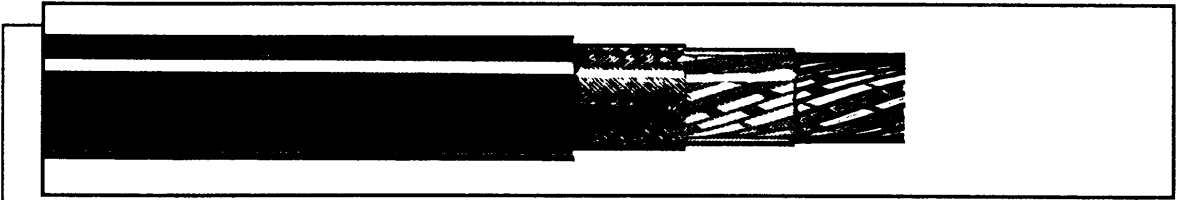
Type C: (COLLECTIVELY SCREENED)**Construction:** Flexible, tinned annealed copper conductors, complying with the requirements of BS 6360.

PVC insulated (Type TI 1 to BS 6746).

Cores twisted together and collectively polyester taped.

Collectively tinned copper wire braided screened (91% minimum coverage).

PVC sheathed (Type 6 to BS 6746) BLACK.



Cable Identification Code No.	Number of Cores	Conductor Composition	Nominal Radial Thickness of Insulation (mm)	Core Diameter (mm)		Overall Diameter (mm)		NATO Stock No. 6145-99-
				Minimum	Maximum	Minimum	Maximum	
16-2-1C	1	16/0.2	0.45	1.75	1.90	3.3	3.8	015-1682
16-2-2C	2	16/0.2	0.45	1.75	1.90	6.1	6.9	111-6717
16-2-3C	3	16/0.2	0.45	1.75	1.90	6.4	7.2	111-6724
16-2-4C	4	16/0.2	0.45	1.75	1.90	6.9	7.7	111-6728
16-2-6C	6	16/0.2	0.45	1.75	1.90	7.9	8.7	111-6735
16-2-10C	10 (5 pair)	16/0.2	0.45	1.75	1.90	10.8	11.8	111-6742
16-2-12C	12	16/0.2	0.45	1.75	1.90	10.0	11.0	111-6745
16-2-18C	18	16/0.2	0.45	1.75	1.90	11.5	12.5	111-6751
16-2-25C	25	16/0.2	0.45	1.75	1.90	13.6	14.6	111-6758
16-2-36C	36	16/0.2	0.45	1.75	1.90	15.5	16.7	111-6760
16-2-60C	60	16/0.2	0.45	1.75	1.90	19.1	20.3	111-6761

Type D: (INDIVIDUALLY SCREENED)

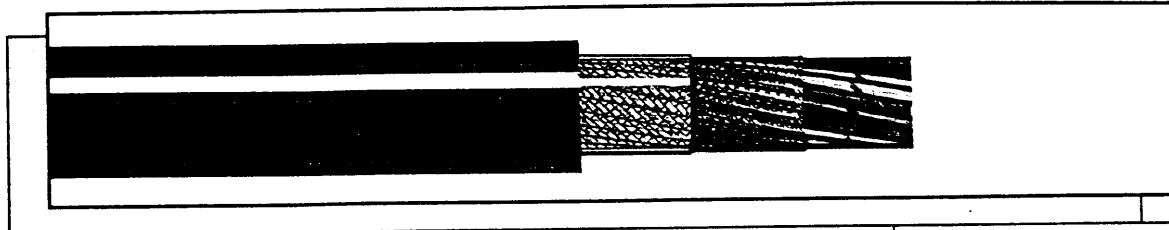
Construction: Flexible, tinned annealed copper conductors, complying with the requirements of BS 6360.

PVC insulated (Type TI 1 to BS 6746).

Cores individually tinned copper wire braided screened (70% minimum coverage).

Screened cores twisted together and collectively polyester taped.

PVC sheathed (Type 6 to BS 6746) BLACK.



Cable Identification Code No.	Number of Cores	Conductor Composition	Nominal Radial Thickness of Insulation (mm)	Core Diameter (mm) (UNSCREENED)		Overall Diameter (mm)		NATO Stock No. 6145-99-
				Minimum	Maximum	Minimum	Maximum	
16-2-2D	2	16/0.2	0.45	1.75	1.90	6.0	6.8	111-6718
16-2-3D	3	16/0.2	0.45	1.75	1.90	6.4	7.2	111-6725
16-2-4D	4	16/0.2	0.45	1.75	1.90	7.0	7.8	111-6729
16-2-6D	6	16/0.2	0.45	1.75	1.90	8.3	9.1	111-6736
16-2-7D	7	16/0.2	0.45	1.75	1.90	8.3	9.1	111-6741
16-2-12D	12	16/0.2	0.45	1.75	1.90	10.8	11.8	111-6746
16-2-18D	18	16/0.2	0.45	1.75	1.90	12.8	13.8	111-6752
16-2-25D	25	16/0.2	0.45	1.75	1.90	15.3	16.5	111-6759

Type P: (UNSCREENED)

Construction: Flexible, tinned annealed copper conductors, complying with the requirements of BS 6360, where applicable.

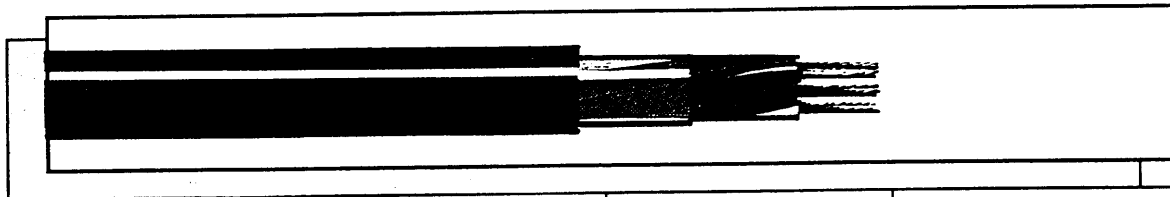
PVC insulated (Type TI 1 to BS 6746).

For 2-core cables, two cores laid parallel.

For 4-core cables, four cores twisted together.

Collectively polyester taped.

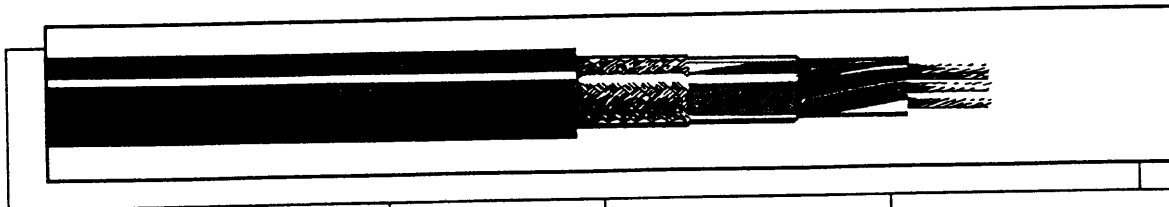
PVC sheathed (Type 6 to BS 6746) BLACK.



Cable Identification Code No.	Number of Cores	Conductor Composition	Nominal Radial Thickness of Insulation (mm)	Core Diameter (mm)		Overall Diameter (mm)		NATO Stock No. 6145-99-
				Minimum	Maximum	Minimum	Maximum	
37-3-2P	2	37/0.315	0.65	3.40	3.60	8.5 x 5.0	9.3 x 5.8	111-6719
37-3-4P	4	37/0.315	0.65	3.40	3.60	9.8	10.8	111-6730

Type R: (COLLECTIVELY SCREENED)

Construction: Flexible, tinned annealed copper conductors, complying with the requirements of BS 6360, where applicable.
 PVC insulated (Type TI 1 to BS 6746).
 For 2-core cables, two cores laid parallel.
 For 4-core cables, four cores twisted together.
 Collectively polyester taped.
 Collectively tinned copper wire braided screened (91% minimum coverage).
 PVC sheathed (Type 6 to BS 6746) BLACK.



Cable Identification Code No.	Number of Cores	Conductor Composition	Nominal Radial Thickness of Insulation (mm)	Core Diameter (mm)		Overall Diameter (mm)		NATO Stock No. 6145-99-
				Minimum	Maximum	Minimum	Maximum	
37-3-2R	2	37/0.315	0.65	3.40	3.60	9.5 x 6.0	10.3 x 6.8	111-6721
37-3-4R	4	37/0.315	0.65	3.40	3.60	10.8	11.8	111-6732

Heat Resisting Types

The A, C and D types may also be manufactured with heat resisting grades of PVC. For these, the PVC Insulation is Type 5 compound and the PVC Sheath is Type 4 compound, to BS 6746. The dimensional limits are identical to the general purpose types, as detailed previously, although the NATO stock numbers are different. The identification code numbers can be recognised by the repetition of the suffix letter, eg. 16-2-12CC, and the cable will have a RED PVC Sheath.

In addition to those detailed above, the types listed below can also be supplied:

- Type B** – Unscreened PVC insulated 16/0.2mm cores, PVC sheathed and tinned copper braided screened overall.
- Type E** – Screened high tension cores, PVC sheathed overall.
- Type F** – Mixed high and low tension screened cores, PVC sheathed overall.
- Type J** – Mixed high and low tension cores (HT screened, LT unscreened), collectively screened, PVC sheathed overall.

Core Colours

For Bi-colours, first colour is the base colour, second colour is the tracer colour.

For 16-2-60C, all the cores are WHITE, with one RED and one BLUE core adjacent in each layer of cores.

For 16-2-10C, core colours are as follows:
 1st pair – WHITE twisted with BLUE
 2nd pair – WHITE twisted with ORANGE
 3rd pair – WHITE twisted with GREEN
 4th pair – WHITE twisted with BROWN
 5th pair – WHITE twisted with GREY

Cables containing up to 25 cores		Cables containing over 25 cores up to 36 cores
Red	1	Red
Blue	2	Blue
Green	3	Green
Yellow	4	Yellow
White	5	White
Black	6	Black
Brown	7	Brown
Violet	8	Violet
Orange	9	Orange
Pink	10	Pink
Turquoise	11	Turquoise
Grey	12	Grey
Red/Blue	13	Red/Blue
Green/Red	14	Green/Red
Yellow/Red	15	Yellow/Red
White/Red	16	White/Red
Red/Black	17	Red/Black
Red/Brown	18	Red/Brown

Cables containing up to 25 cores		Cables containing over 25 cores up to 36 cores
Yellow/Blue	19	Yellow/Blue
White/Blue	20	White/Blue
Blue/Black	21	Blue/Black
Orange/Blue	22	Orange/Blue
Yellow/Green	23	Green/Blue
White/Green	24	Grey/Blue
Orange/Green	25	Yellow/Green
	26	White/Green
	27	Green/Black
	28	Orange/Green
	29	Grey/Green
	30	Yellow/Brown
	31	White/Brown
	32	Brown/Black
	33	Grey/Brown
	34	Yellow/Violet
	35	Violet/Black
	36	White/Violet