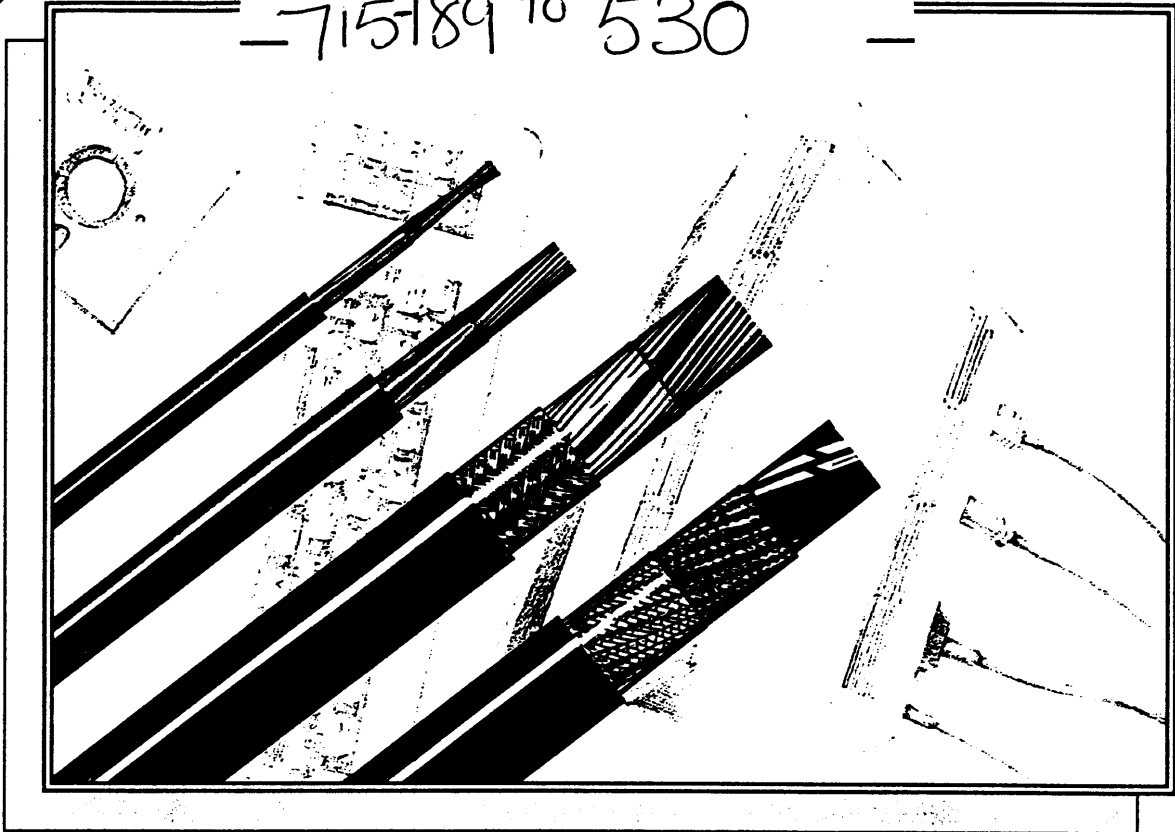


715-189 to
715-438

Defence Standard 61-12 (Part 4), Sub-Miniature Electric Cables

Also
715-440 to
715-530

-715189 to 530-



Defence Standard 61-12 (Part 4)

This Ministry of Defence Standard details requirements of sub-miniature multicore electric cables with PVC insulation and sheath, intended for the internal wiring and local interconnection of instruments and electronic equipment.

Although originally designed for use within the MOD, these types have now found their way into the commercial sector, and are extensively used in avionic control systems, computers, data processors, process control systems, military vehicles, signalling and telemetry applications.

Due to their actual mechanical design, NONE of the cables listed in this standard are

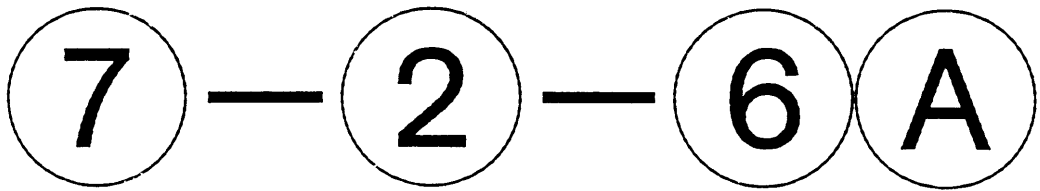
intended to be used as power cables or for the direct connection of equipment to mains power supplies. For this reason, the three core cables do NOT have BROWN, BLUE and GREEN/YELLOW cores.

Cores of cables containing 7/0.2mm conductors have a maximum conductor resistance of 92 Ohms/km (@ 20°C), and are suitable for operation at voltages up to 440V (rms), and frequencies up to 1600Hz.

All the cables listed have a recommended maximum operating temperature of 70°C.

Explanation of Identification Code Numbers

Example:



7	—	2	—	6	A
Number of Wires per conductor		Nominal diameter of Wires (ie 0.2mm)		Number of Cores	Type of construction

A wide range of screened and unscreened cables are included, and the types within our range of manufacture are detailed on pages 27-28.

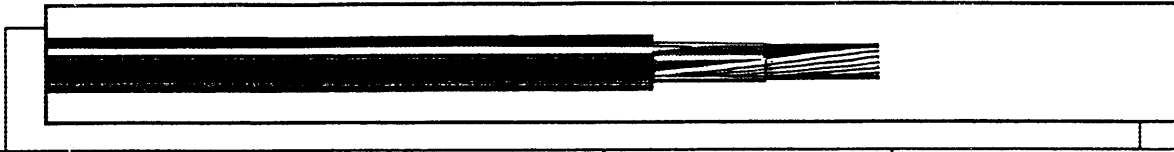
Type A: (UNSCREENED)

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

PVC insulated (Type 2 to BS 6746).

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)		Overall Diameter (mm)		NATO Stock No. 6145-99-
				Minimum	Maximum	Minimum	Maximum	
7-2-2A	2	7/0.2	0.3	1.15	1.25	3.1	3.6	110-8621
7-2-3A	3	7/0.2	0.3	1.15	1.25	3.3	3.8	110-8624
7-2-4A	4	7/0.2	0.3	1.15	1.25	3.6	4.1	110-8627
7-2-6A	6	7/0.2	0.3	1.15	1.25	4.3	4.8	110-8630
7-2-8A	8*	7/0.2	0.3	1.15	1.25	5.3	5.8	*
7-2-12A	12	7/0.2	0.3	1.15	1.25	5.8	6.4	110-8633
7-2-18A	18	7/0.2	0.3	1.15	1.25	7.1	7.7	110-8636
7-2-25A	25	7/0.2	0.3	1.15	1.25	8.4	9.0	110-8639
7-2-36A	36	7/0.2	0.3	1.15	1.25	9.5	10.1	110-8642
7-2-50A	50	7/0.2	0.3	1.15	1.25	11.2	12.0	110-8645
7-2-60A	60	7/0.2	0.3	1.15	1.25	12.0	12.8	110-8648

Defence Standard 61-12 (Part 4)

27

Type C: (COLLECTIVELY SCREENED) 715-181 to 715-426

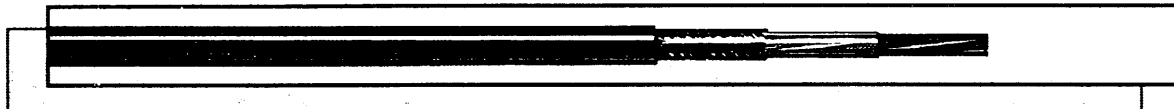
Construction: Flexible, tinned annealed copper conductors, complying with the requirements of BS 6360.

PVC insulated (Type 2 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	
7-2-2C	2	7/0.2	0.3	1.15	1.25	3.6	4.1	110-8622
7-2-3C	3	7/0.2	0.3	1.15	1.25	3.8	4.3	110-8625
7-2-4C	4	7/0.2	0.3	1.15	1.25	4.1	4.6	110-8628
7-2-6C	6	7/0.2	0.3	1.15	1.25	5.3	5.9	110-8631
7-2-8C	8*	7/0.2	0.3	1.15	1.25	5.7	6.3	*
7-2-12C	12	7/0.2	0.3	1.15	1.25	6.6	7.2	110-8634
7-2-18C	18	7/0.2	0.3	1.15	1.25	7.9	8.5	110-8637
7-2-20C	20*	7/0.2	0.3	1.15	1.25	8.2	8.8	*
7-2-25C	25	7/0.2	0.3	1.15	1.25	9.2	9.8	110-8640
7-2-36C	36	7/0.2	0.3	1.15	1.25	10.4	11.2	110-8643
7-2-50C	50	7/0.2	0.3	1.15	1.25	12.2	13.0	110-8646
7-2-60C	60	7/0.2	0.3	1.15	1.25	13.0	13.8	110-8649

Cables marked * are types which are not actually listed in DEF STAN 61-12 (Part 4).

However, they have been included because of their suitability and popularity in certain electronic applications. They are manufactured in keeping with similar cables in the Defence Standard.

Type D: (INDIVIDUALLY SCREENED)

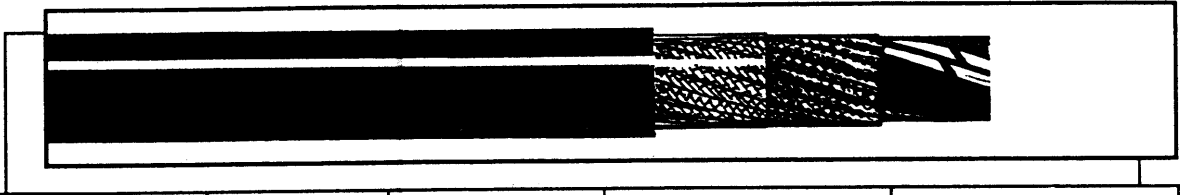
Construction: Flexible, tinned annealed copper conductors, complying with the requirements of BS 6360.

PVC insulated (Type 2 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.



Defence Standard 61-12 (Part 4)

28

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	
7-2-2D	2	7/0.2	0.3	1.15	1.25	4.0	4.5	110-862
7-2-3D	3	7/0.2	0.3	1.15	1.25	4.3	4.8	110-862
7-2-4D	4	7/0.2	0.3	1.15	1.25	4.8	5.4	110-862
7-2-6D	6	7/0.2	0.3	1.15	1.25	5.8	6.4	110-863
7-2-12D	12	7/0.2	0.3	1.15	1.25	7.9	8.5	110-863
7-2-18D	18	7/0.2	0.3	1.15	1.25	9.3	9.9	110-863
7-2-25D	25	7/0.2	0.3	1.15	1.25	11.3	12.1	110-864
7-2-36D	36	7/0.2	0.3	1.15	1.25	12.7	13.5	110-864
7-2-50D	50	7/0.2	0.3	1.15	1.25	15.1	16.1	110-864
7-2-60D	60	7/0.2	0.3	1.15	1.25	16.2	17.2	110-865

Core Colours

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

For cables having 50 and 60 cores, all the cores are WHITE, with one RED and one BLUE core adjacent in each layer of cores.

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