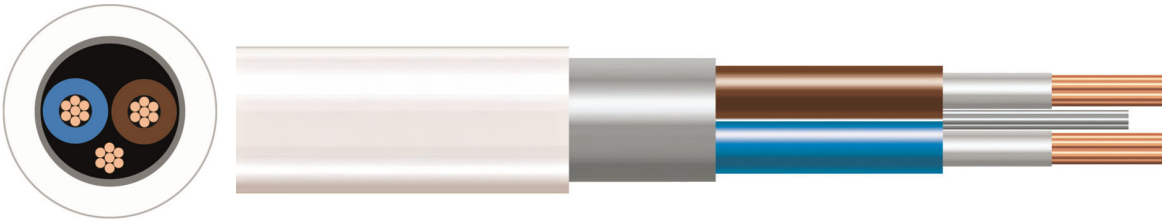
ALI TUBE FIXED WIRING CABLE BS8436



Designed for use in walls, partitions, and building voids where the risk of damage or penetration from nails and screw fixings exists. This protected fixed wiring cable, with an aluminum tube screen, offers mechanical shock protection, making it suitable for ring main power and lighting applications. It serves as an alternative to singles in conduit or armoured cables and can be installed in air, trunking, or closed systems, as well as in thin partitions and building voids when connected to a suitable protective device.

CONDUCTOR	Plain Copper
STRANDING	Class 2
INSULATION	XLPE
COLLECTIVE SCREEN	Collective Aluminium Mylar
METALLIC SCREEN	Aluminium Wire Screen
OUTERSHEATH	LSZH
OUTERSHEATH COLOUR	Black, White
RATED VOLTAGE	500V
CORE IDENTIFICATION	2 core: Brown, Blue 3 Core: Brown, Black, Grey 4 Core: Brown, Black, Grey, Blue
MINIMUM BENDING RADIUS	9 x Overall Diameter
OPERATING TEMPERATURE	90°C

SPECIFICATION DATA

Area sq mm	Max DC Resistance ohms/Km at 20°C	Nominal AC resistance ohms/km at 90°C at 50Hz	Inductive reactance ohms/km at 50Hz	Max continuous conductor operating temperature °C	Short circuit rating in kA for 1 second
1.5	12.1	15.3	0.100	90	0.21
2.5	7.41	9.43	0.097	90	0.35
4	4.61	5.86	0.092	90	0.57
6	3.08	3.93	0.088	90	0.85

ERA Technology Results Earthing capabilities of the screen under nail penetration test conditions: The results have shown the screen on Guardian can withstand a fault current of over 200A, which is the fault current required to operate a 40A Type B circuit breaker instantaneously. Impact resistance tests: Guardian passed these conditions and eventually reached the level of a 1.0kg weight dropped from a height of 0.8m, at ambient temperatures thus exceeding the requirements of fire performance cables.

BATT Part No White	Core	Nominal cross sectional area of conductor	Approx overall diameter	Weight
12022	2	1.5	9.6	105
12023	2	2.5	10.7	140
12024	2	4	11	209
12038	2	6	13.2	260
12025	3	1.5	10.2	140
12026	3	2.5	11	184
12027	3	4	13.2	267
12040	3	6	14.2	330
12028	4	1.5	11	160
12029	4	2.5	13.2	258
12030	4	4	13.8	320
12054	4	6	15.7	433

RATING TABLES

TABLE 4D5 – 70 °C thermoplastic insulated and sheathed flat cable with protective conductor (COPPER CONDUCTORS)

COPPER CONDUCTORS

CURRENT-CARRYING CAPACITY (amperes) and VOLTAGE DROP (per ampere per metre):

Ambient temperature: 30 °C
Conductor operating temperature: 70 °C

Conductor cross-sectional area	Method 100# (above a plasterboard ceiling covered by thermal insulation not exceeding 100 mm in thickness)	Method 101# (above a plasterboard ceiling covered by thermal insulation exceeding 100 mm in thickness)	Method 102# (in a stud wall with thermal insulation with cable touching the inner wall surface)	Method 103# (in a stud wall with thermal insulation with cable not touching the inner wall surface)	Reference Method C* (clipped direct)	Reference Method A* (enclosed in conduit in an insulated wall)	Voltage drop (per ampere per metre)
1	2	3	4	5	6	7	8
(mm^2)	(A)	(A)	(A)	(A)	(A)	(A)	(mV/A/m)
1	13	10.5	13	8	16	11.5	44
1.5	16	13	16	10	20	14.5	29
2.5	21	17	21	13.5	27	20	18
4	27	22	27	18.5	37	26	11
6	34	27	35	23.5	47	32	7.3
10	45	36	47	32	64	44	4.4
16	57	46	63	42.5	85	57	2.8

A* For full installation method refer to Table 4A2 Installation Method 2 but for flat twin and earth cable
C* For full installation method refer to Table 4A2 Installation Method 20 but for flat twin and earth cable
100# For full installation method refer to Table 4A2 Installation Method 100
101# For full installation method refer to Table 4A2 Installation Method 101
102# For full installation method refer to Table 4A2 Installation Method 102
103# For full installation method refer to Table 4A2 Installation Method 103

Wherever practicable, a cable is to be fixed in a position such that it will not be covered with thermal insulation.
Regulation 523.9, BS 5803-5: Appendix C: Avoidance of overheating of electric cables.
Building Regulations Approved Document B and Thermal insulation: avoiding risks, BR 262, BRE, 2001 refer.

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