

Tri-Rated Cable - BS6231, UL, CSA, PVC - 0.5mm - 400mm



The British standard Tri-Rated cable is sometimes referred to as panel wiring cable due to its application and purpose. It is a high temperature, flame retardant cable designed for use in instrumentation panels, motor starters or power switchgear. The cable features flexible plain annealed copper conductors and a circular high temperature PVC outer sheath. UL & CSA approved also to BS6231. Bi-Rated cables UL and CSA Approval.

Key Features



Voltage Rating
600/1000 Volts



Minimum Bending Radius
As Per Manufacturers Datasheet



Temperature Limits
Ambient Temperature: -15°C to + 90°C



Temperature Limits
Ambient Temperature: -15°C to +105°C

Construction

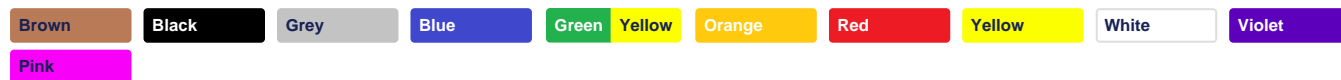
- **Conductor:** Class 5 Flexible Plain Annealed Copper Conductors
- **Sheath:** Circular high temperature PVC outer sheath in a large range of colours

Standards

- Flame propagation to BS EN 50265, IEC 60332-1, BS6231, UL 1015, BS EN 50525-2-31

Core Colours

0.5mm- 2.5mm



4mm - 16mm



25mm - 120mm



150mm -



185mm - 400mm -



Tri-Rated Cable - BS6231, UL, CSA, PVC - 0.5mm - 400mm - Dimensions

Reference	Conductor Size (mm ²)	No Of Cores	Stranding(mm)	Overall Diameter(mm)	Weight(Kg/Km)	Gland Size
TRI0/5*	0.5	1	16/0.20	2.7	12	NONE
TRI/75*	0.75	1	24/0.20	2.9	15	NONE
TRI1*	1	1	32/0.20	3.1	18	NONE
TRI1/5*	1.5	1	30/0.25	3.3	23	20/16
TRI2/5*	2.5	1	50/0.25	3.7	34	20/16
TRI4*	4	1	56/0.30	4.3	50	20/16
TRI6*	6	1	84/0.30	4.9	71	20/16
TRI10*	10	1	80/0.40	6.3	123	20/16
TRI16*	16	1	126/0.40	9	207	20S
TRI25*	25	1	196/0.40	10.4	303	20S
TRI25RDR100	25	1	0	0	0	0
TRI35*	35	1	276/0.40	11.9	412	20
TRI50*	50	1	396/0.40	14.7	607	25
TRI70*	70	1	360/0.50	16.8	837	25
TRI95*	95	1	475/0.50	18.8	1079	25
TRI120*	120	1	608/0.50	19.9	1280	32
BI150*	150	1	756/0.50	22.9	1619	32
BI185*	185	1	925/0.50	24.1	1948	32
BI240*	240	1	1221/0.50	28.6	2518	40
BI300*	300	1	1525/0.50	32.2	3112	50S
BI400BK	400	1	2013/0.50	36	4051	50

TABLE 4F2A

CURRENT-CARRYING CAPACITY (Amps)

Ambient temperature: 30 °C
Conductor operating temperature: 90 °C

Conductor cross sectional area	Single-phase AC or DC	Three-phase AC	Single-phase AC or DC
	1 x 2 core cable, with or without protective conductor	1 x 3 core, 4 core or 5 core cable	2 single-core cables, touching
(mm ²)	(A)	(A)	(A)
4	42	37	-
6	55	49	-
10	76	66	-
16	103	89	-
25	136	119	-
35	-	146	200
50	-	177	250
70	-	225	310
95	-	273	369
120	-	316	432
150	-	414	497
185	-	487	564
240	-	560	673
300	-	394	773
400	-	-	924
500	-	-	1062
630	-	-	1242

NOTES:

- 1 The current ratings tabulated are for cables in free air but may also be used for cables resting on a surface. If the cable is to be wound on a drum on load the ratings should be reduced in accordance with **NOTE 2** below and for cables which may be covered, **NOTE 3 below**.

2 Flexible cables wound on reeling drums

The current ratings of cables used on reeling drums are to be reduced by the following factors:

a) Radial type drum	b) Ventilated cylindrical type drum
ventilated: 85 %	1 layer of cable: 85 %
unventilated: 75 %	2 layers of cable: 65 %
	3 layers of cable: 45 %
	4 layers of cable: 35 %

A radial type drum is one where spiral layers of cable are accommodated between closely spaced flanges; it fitted with solid flanges the ratings given above should be reduced and the drum is described as non-ventilated. If the flanges have suitable apertures the drum is described as ventilated.

A ventilated cylindrical cable drum is one where layers of cable are accommodated between widely spaced flanges and the drum and end flanges have suitable ventilating apertures.

- 3 Where cable may be covered over or coiled up whilst on load, or the air movement over the cable restricted, the current rating should be reduced.

It is not possible to specify the amount of reduction but the table of rating factors for reeling drums can be used as a guide.

- 4 For 180 °C cables, the rating factors for ambient temperature allow a conductor operating temperature up to 150 °C. Consult the cable manufacturer for further information.

Where it is intended to connect the cables in this table to equipment or accessories designed to operate at a temperature lower than the maximum operating temperature of the cable, the cables should be rated at the maximum operating temperature of the equipment or accessory (see Regulation 512.1.5).

- 6 Where it is intended to group a cable in this table with other cables, the cable should be rated at the lowest of the maximum operating temperatures of any of the cables in the group (see Regulation 512.1.5).

TABLE 4F2B

VOLTAGE DROP (per ampere per metre):

Conductor operating temperature: 90 °C

Conductor cross-sectional area (mm ²)	Two-core cable or 2 x Single core cables DC (mV/Nm)	2 core cable, single-phase AC (mV/Nm)			1 x 3 core, 4 core or 5 core cable, three-phase AC (mV/Nm)			2 single-core cables, touching Single-phase AC* (mV/Nm)		
4	13.20	13.20			11.10			-		
6	8.50	8.50			7.40			-		
10	5.10	5.10			4.40			-		
16	3.20	3.20			2.70			-		
		r	x	z	r	x	z	r	x	z
25	2.03	2.03	0.175	2.04	1.73	0.150	1.73	-	-	-
35	1.420	-	-	-	1.22	0.150	1.23	1.44	0.21	1.46
50	1.000	-	-	-	0.91	0.145	0.93	1.00	0.21	1.02
70	0.710	-	-	-	0.62	0.140	0.64	0.71	0.20	0.73
95	0.540	-	-	-	0.47	0.135	0.49	0.54	0.195	0.57
120	0.420	-	-	-	0.37	0.135	0.39	0.42	0.190	0.46
150	0.340	-	-	-	0.29	0.130	0.32	0.34	0.190	0.39
185	0.270	-	-	-	0.24	0.130	0.27	0.27	0.190	0.33
240	0.210	-	-	-	0.188	0.130	0.23	0.210	0.185	0.28
300	0.167	-	-	-	0.147	0.125	0.195	0.173	0.180	0.25
400	0.127	-	-	-	-	-	-	0.132	0.175	0.22
500	0.100	-	-	-	-	-	-	0.107	0.170	0.20
630	0.074	-	-	-	-	-	-	0.085	0.170	0.190

NOTES:

- 1 The voltage drop figures given above are based on a conductor operating temperature of 90 °C and are therefore not accurate when the operating temperature is in excess of 90 C. In the case of the 180 °C cables with a conductor temperature of 150 °C the above resistive values should be increased by a factor of 1.2.
- 2 *A larger voltage drop will result if the cables are spaced.

THE INFORMATION CONTAINED WITHIN THIS DATASHEET IS FOR GUIDANCE ONLY AND IS SUBJECT TO CHANGE WITHOUT NOTICE OR LIABILITY. WE BELIEVE THE INFORMATION IS CORRECT AT THE TIME OF PUBLICATION. PLEASE NOTE WHEN SELECTING CABLE ACCESSORIES THAT ACTUAL CABLE DIMENSIONS MAY VARY DUE TO MANUFACTURING TOLERANCES.

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