

TQ FLEXIBLE MAINS AND CONTROL CABLE EPR, CSP



APPLICATION

Our range of flexible TQ cables is designed for fixed wiring installations. It is a range of unarmoured cable designed to prevent the risk of electric shock in the event of fault or surge. Our TQ cable is suitable as a flexible marine cable, both on and offshore.

This range of 300/750V (refer to core size in CHARACTERISTICS) is heat and oil resistant, and flame retardant (HOFR)

CABLE STANDARDS

BS EN 50525-2.21

BS EN 60332-1-2

CONSTRUCTION

Conductor: Flexible tinned annealed or plain copper conductor

Insulation: EPR (Ethylene Propylene Rubber)

Sheath: CSP (chlorosulphonated polyethylene)

Harmonised Code: H07BN4-F

CHARACTERISTICS

Voltage Rating:

300/500V .75mm² – 2.5mm²

450/750V 4mm² – 630mm²

Temperature Limits:

Fixed: -25°C to +90°C

Minimum Bending Radius:

As per cable manufacturer datasheet

CORE IDENTIFICATION

2 core - Blue Brown

3 core - Blue Brown Green/Yellow

4 core - Brown Black Grey Green/Yellow

5 core - Blue Brown Black Grey Green/Yellow

6 core and above - Black with White Numbers 5

plus Green/Yellow

Should not be installed at temperatures below -25°C

TQ FLEXIBLE MAINS AND CONTROL CABLE EPR, CSP - DIMENSIONS

CCC CODE	CONDUCTOR SIZE (MM ²)	STRANDING (MM)	NO. OF CORES	WEIGHT (KG/KM)	OUTSIDE DIAMETER (MM)	GLAND SIZE (MM)
3182TQ/75	0.75	24/0.20	2	58	5.7	7.4
3183TQ/75	0.75	24/0.20	3	72	6.2	8.1
3184TQ/75	0.75	24/0.20	4	86	6.8	8.8
3182TQ1	1	32/0.20	2	80	6.1	8
3183TQ	1	32/0.20	3	90	6.5	8.5
3184TQ1	1	32/0.20	4	110	7.1	9.3
3181TQ1/5	1.5	30/0.25	1	38	5.7	7.1
3182TQ1/5	1.5	30/0.25	2	115	7.6	9.8
3183TQ1/5	1.5	30/0.25	3	135	8	10.4
3184TQ1/5	1.5	30/0.25	4	170	9	11.6
3185TQ1/5	1.5	30/0.25	5	200	11.2	14.4
3186TQ1/5	1.5	30/0.25	6	335	13.4	17.2
3187TQ1/5	1.5	30/0.25	7	366	14.6	18.2
3180/12TQ1/5	1.5	30/0.25	12	410	17.6	22.4
3180/16TQ1/5	1.5	30/0.25	16	570	19.8	24.3
3180/20TQ1/5	1.5	30/0.25	20	710	21.4	26.7
3180/27TQ1/5	1.5	30/0.25	27	920	25.3	30
3180/37TQ1/5	1.5	30/0.25	37	1260	29	34.2
3181TQ2/5	2.5	50/0.25	1	41	6.3	7.9
3182TQ2/5	2.5	50/0.25	2	160	9	11.6
3183TQ2/5	2.5	50/0.25	3	195	9.6	12.4
3184TQ2/5	2.5	50/0.25	4	245	10.7	13.8
3185TQ2/5	2.5	50/0.25	5	300	13.3	17
3187TQ2/5	2.5	50/0.25	7	424	17.2	21
3180/12TQ2/5	2.5	50/0.25	12	600	20.6	26.2
3180/16TQ2/5	2.5	50/0.25	16	780	23.8	28.4
3180/20TQ2/5	2.5	50/0.25	20	1050	26.4	31.2
3180/27TQ2/5	2.5	50/0.25	27	1390	30.1	35.4
3180/37TQ2/5	2.5	50/0.25	37	1720	35	40.9
6381TQ4	4	56/0.30	1	105	7.2	9
6382TQ4	4	56/0.30	2	275	11.8	15.1
6383TQ4	4	56/0.30	3	335	12.7	16.2
6384TQ4	4	56/0.30	4	420	14	17.9
6385TQ4	4	56/0.30	5	515	15.6	19.9
6387TQ4	4	56/0.30	7	773	19.8	24.4
6380/12TQ4	4	56/0.30	12	1183	24.4	30.9
6381TQ6	6	84/0.30	1	130	7.9	9.8
6382TQ6	6	84/0.30	2	370	13.1	16.8
6383TQ6	6	84/0.30	3	450	14.1	18
6384TQ6	6	84/0.30	4	565	15.7	20
6385TQ6	6	84/0.30	5	690	17.5	22.9
6387TQ6	6	84/0.30	7	904	21.6	26.9
6388TQ6	6	84/0.30	8	1040	25.2	29.6
6381TQ10	10	80/0.40	1	200	9.5	11.9
6382TQ10	10	80/0.40	2	690	17.7	22.6
6383TQ10	10	80/0.40	3	835	19.1	24.2
6384TQ10	10	80/0.40	4	1020	20.9	26.5
6385TQ10	10	80/0.40	5	1240	22.9	29.1

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CCC CODE	CONDUCTOR SIZE (MM ²)	STRANDING (MM)	NO. OF CORES	WEIGHT (KG/KM)	OUTSIDE DIAMETER (MM)	GLAND SIZE (MM)
6381TQ16	16	126/0.40	1	275	10.8	13.4
6382TQ16	16	126/0.40	2	910	20.2	25.7
6383TQ16	16	126/0.40	3	1120	21.8	27.6
6384TQ16	16	126/0.40	4	1380	23.8	30.1
6381TQ25	25	196/0.40	1	400	12.7	15.8
6382TQ25	25	196/0.40	2	1290	24.3	30.7
6383TQ25	25	196/0.40	3	1600	26.1	33
6384TQ25	25	196/0.40	4	2140	28.9	36.6
6385TQ25	25	196/0.40	5	2470	32	40.4
6381TQ35	35	276/0.40	1	520	14.3	17.9
6382TQ35	35	276/0.40	2	1308	26.4	31.5
6383TQ35	35	276/0.40	3	2080	29.3	37.1
6384TQ35	35	276/0.40	4	2610	32.5	41.1
6385TQ3	35	276/0.40	5	3187	34	43
6381TQ50	50	396/0.40	1	730	16.5	20.6
6383TQ50	50	396/0.40	3	2890	34.1	42.9
6384TQ50	50	396/0.40	4	3650	37.7	47.5
6385TQ50	50	396/0.40	5	4450	39.03	49.18
6381TQ70	70	360/0.50	1	980	18.6	23.3
6383TQ70	70	360/0.50	3	3850	38.4	48.3
6384TQ70	70	360/0.50	4	4880	42.7	54
6385TQ70	70	360/0.50	5	5938	48.5	55
6381TQ95	95	475/0.50	1	1270	20.8	26
6383TQ95	95	475/0.50	3	4970	43.3	54
6384TQ95	95	475/0.50	4	6390	48.4	61
6385TQ95	95	475/0.50	5	7924	54	64.5
6381TQ120	120	608/0.50	1	1570	22.8	28.6
6383TQ120	120	608/0.50	3	6350	47.4	60
6384TQ120	120	608/0.50	4	7750	53	66
6385TQ120	120	608/0.50	5	7542	57.9	68.5
6381TQ150	150	756/0.50	1	1960	25.2	31.4
6383TQ150	150	756/0.50	3	7700	52	66
6384TQ150	150	756/0.50	4	9780	58	73
6381TQ185	185	925/0.50	1	2380	27.6	34.4
6383TQ185	185	925/0.50	3	9350	57	72
6384TQ185	185	925/0.50	4	11900	64	80
6381TQ240	240	1221/0.50	1	3100	30.6	38.3
6383TQ240	240	1221/0.50	3	12000	65	82
6384TQ240	240	1221/0.50	4	15330	72	91
6381TQ300	300	1525/0.50	1	3790	33.5	41.9
6383TQ300	300	1525/0.50	3	14910	72	90
6384TQ300	300	1525/0.50	4	19030	80	101
6381TQ400	400	2013/0.50	1	4880	37.4	46.8
6381TQ500	500	1769/0.60	1	6070	41.3	52
6381TQ630	630	2257/0.60	1	7460	45.5	56.5

TQ FLEXIBLE CABLE - CURRENT CARRYING CAPACITY (AMPERES)

CONDUCTOR CROSS - SECTIONAL AREA	30°C AMBIENT TEMPERATURE 90°C CONDUCTOR OPERATING TEMPERATURE		
	SINGLE-PHASE AC OR DC		THREE-PHASE AC
	1 TWO CORE CABLE WITH OR WITHOUT PROTECTIVE CONDUCTOR	2 SINGLE CORE CABLES TOUCHING	1 THREE CORE 1 FOUR CORE OR FIVE CORE CABLE
(MM ²)	(A)	(A)	(A)
4	42	-	37
6	55	-	49
10	76	-	66
16	103	-	89
25	136	-	119
35	-	200	146
50	-	250	177
70	-	310	225
95	-	369	273
120	-	432	316
150	-	497	363
185	-	564	414
240	-	673	487
300	-	773	560
400	-	924	-
500	-	1062	-
630	-	1242	-

NOTES:

- 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.
- Flexible cables wound on reeling drums**
The current ratings of cables used on coiling drums are to be reduced by the following factors:
 - Radial type drum
ventilated: 85%
unventilated: 75%
 - Ventilated cylindrical type drum
1 layer of cable: 85 %
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; if 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
- 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.
- 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).
- 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 S 12.1.5).

TQ FLEXIBLE CABLE - VOLTAGE DROP

NOMINAL CROSS SECTIONAL AREA MM ²	2 CORE CABLE DC mV/A/m	TWO CORE CABLE SINGLE-PHASE AC mV/A/m			1 X THREE CORE, FOUR CORE OR FIVE CORE CABLE, THREE PHASE AC			2 X SINGLE CORE CABLES TOUCHING		
		R	X	Z	R	X	Z	R	X	Z
(MM ²)					(mV/A /m)			SINGLE PHASE AC * mV/A/m		
1	50.5			50.5			43.7			
1.5	34.4			34.4			29.8			
2.5	20.7			20.7			17.9			
4	12.8			12.8			11.10			
6	8.5			8.5			7.4			
10	5.1			5.1			4.4			
16	3.2			3.2			2.7			
		R	X	Z	R	X	Z	R	X	Z
25	2.03	1.4	0.175	2.04	1.73	0.15	1.73	-	-	-
35	1.42	-	-	-	1.22	0.15	1.23	144	0.21	1.46
50	1	-	-	-	0.91	0.145	0.93	1.0	0.21	1.02
70	0.71	-	-	-	0.62	0.14	0.64	0.71	0.2	0.73
95	0.54	-	-	-	0.47	0.135	0.49	0.54	0.195	0.57
120	0.42	-	-	-	0.37	0.135	0.39	0.42	0.19	0.46
150	0.34	-	-	-	0.29	0.13	0.32	0.34	0.19	0.39
185	0.27	-	-	-	0.24	0.13	0.27	0.27	0.19	0.33
240	0.21	-	-	-	0.188	0.13	0.23	0.21	0.185	0.28
300	0.167	-	-	-	0.147	0.125	0.195	0.173	0.18	0.25
400	0.127	-	-	-	-	-	-	0.132	0.175	0.22
500	0.1	-	-	-	-	-	-	0.107	0.17	0.2
630	0.074	-	-	-	-	-	-	0.085	0.17	0.19

THE ABOVE IS IN ACCORDANCE WITH 18TH EDITION OF IET WIRING REGULATIONS

CONDUCTOR OPERATING TEMPERATURE: 90°C

R = RESISTIVE COMPONENT
X = REACTIVE COMPONENT
Z = IMPEDANCE VALUE

* A LARGER VOLTAGE DROP WILL RESULT IF THE CABLES ARE SPACED APART

RATING FACTOR OF AMBIENT TEMPERATURE

90°C THERMOSETTING INSULATED CABLES												
AMBIENT TEMPERATURE	35°C	40°C	45°C	50°C	55°C	60°C	65°C	70°C	75°C	80°C	85°C	
RATING FACTOR	0.95	0.91	0.86	0.82	0.76	0.70	0.64	0.57	0.50	0.40	0.28	

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.