

Cables And Wires

CALTER INDUSTRIAL FLEXIBLE CABLES

CURRENT-CARRYING CAPACITY(Amperes)

Calter make 100 % Electrolytic bright annealed, multistrand unilay copper conductor HR PVC insulated, Single Core Industrial Cables HR PVC Insulated & HR PVC round Sheathed Multicore Industrial Cable for Voltage Grade upto 1100 volts as per IS 694:1990

Ambient temperature:30°C

Conductor operating temperature:85°C

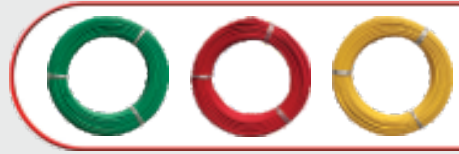
Nominal Area of Conductor mm ²	Number / Diameter of Wires	REFERENCE METHOD 4		REFERENCE METHOD 3		REFERENCE METHOD 1		REFERENCE METHOD 11	
		enclosed in conduit in thermally insulating wall etc		enclosed in conduit in wall or in trunking etc		clipped direct		on a perforated cable tray	
		2 core cable	3 or 4 core	2 core cable	3 or 4 core	2 core cable	3 or 4 core	2 core cable	3 or 4 core
		single phase	cable	single phase	cable	single phase	cable	single phase	cable
		a.c or d.c	3 phase a.c	a.c or d.c	3 phase a.c	a.c or d.c	3 phase a.c	a.c or d.c	3 phase a.c
1	32/0.2	14.5	13	17	15	19	17	21	18
1.5	48/0.2	18.5	16.5	22	19.5	24	22	26	23
2.5	80/0.2	25	22	30	26	33	30	36	32
4	56/0.3	33	30	40	35	45	40	49	42
6	84/0.3	42	38	51	44	58	52	63	54
10	80/0.4	57	51	69	60	80	71	86	75
16	126/0.4	76	68	91	80	107	96	115	100
25	196/0.4	99	89	119	105	138	119	149	127
35	276/0.4	121	109	146	128	171	147	185	158
50	396/0.4	145	130	175	154	209	179	225	192
70	354/0.5	183	164	221	194	269	229	289	246
95	484/0.5	220	197	265	233	328	278	352	298
120	608/0.5	253	227	305	268	382	322	410	346
150	750/0.5	290	259	334	300	441	371	473	399
185	925/0.5	329	295	384	340	506	424	542	456
240	1210/0.5	386	347	459	398	599	500	641	538
300	1527/0.5	442	396	532	455	693	576	741	621
400	2036/0.5	-	-	625	536	803	667	865	741

Note :

- 1) The size and dimensions of conductors are only nominal values for guidelines the actual size may differ as the wire size is determined with its resistance value as per the norms of IS 8130 which is also adopted by Bureau of Indian Standards.
- 2) REFERENCE METHODS OF INSTALLATION ARE DESCRIBED IN IEEE REGULATIONS & B.S. 7671
- 3) THESE ARE ALSO APPLICABLE TO CABLES WITH/WITHOUT CIRCUIT PROTECTIVE CONDUCTOR.



PVC Single Core Flexible Cables



CALTER 650/1100 V Grade Single Core Multi-Strand Annealed Bright, Unilay Copper Conductor, PVC Insulated Cables Conforming to ISI 694/90

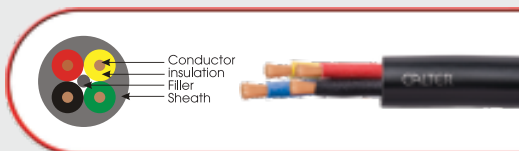


Conductor Area	No. & Size of Strand	Max. DC Resistance at 20°C	Unsheathed Cable		# Current
			Insulation Thickness nominal	Overall dia approx.	Carrying Capacity
		Copper	mm	amp	Copper Conductor
Sq mm	mm	ohms/km	mm	amp	
1.00	14/0.3	18.1	0.70	2.60	10
1.50	22/0.3	12.1	0.70	2.90	13
2.50	36/0.3	7.41	0.80	3.50	20
4.00	56/0.3	4.61	0.80	4.00	26
6.00	84/0.3	3.08	0.80	4.50	35
10.00	80/0.4	1.83	1.00	6.20	45
16.00	126/0.4	1.15	1.00	7.20	55
25.00	196/0.4	0.727	1.20	8.90	75
35.00	276/0.4	0.524	1.20	10.00	90
50.00	396/0.4	0.387	1.40	12.00	120
70.00	354/0.5	0.268	1.40	13.80	150
95.00	484/0.5	0.193	1.60	16.00	175

CALTER Current Carrying Capacity is given considering the standard condition and basic assumption of laying as per ISI 3961 (Part V) 1967

PVC Multi Core Flexible Cables

CALTER 650/1100V Grade Multi Strand Flexible Annealed Copper Conductor, PVC Insulated and Sheathed Multi Core Flexible Cables Conforming to ISI 694/90 with ISI mark



Conductor Area	No. & Size of Strand	Conductor Bunch dia (approx)	Max. DC Resistance at 20°C	Insulation Thickness nominal	Core dia	Sheath Thickness Nominal			
						2 Core	3 Core	4 Core	5 Core
Sq mm	mm	mm	ohms/km	mm	mm	mm	mm	mm	
0.50	16/0.2	0.94	39.0	0.6	2.20	0.9	0.9	0.9	0.9
0.75	24/0.2	1.13	26.0	0.6	2.50	0.9	0.9	0.9	0.9
1.00	32/0.2	1.31	19.5	0.6	2.60	0.9	0.9	0.9	1.0
1.50	48/0.2	1.60	13.3	0.6	2.90	0.9	0.9	1.0	1.0
2.50	80/0.2	2.08	7.98	0.7	3.60	1.0	1.0	1.0	1.0
4.00	56/0.3	2.6	4.95	0.8	4.30	1.0	1.0	1.0	1.1

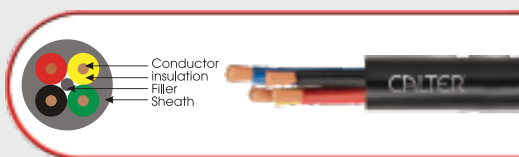
Conductor Insulation Filler Sheath

Overall Diameter (approx)				# Current Rating
2 Core	3 Core	4 Core	5 Core	amp
mm	mm	mm	mm	
6.2	6.6	7.2	7.80	4
6.8	7.2	7.9	8.60	7
7.0	7.5	8.17	9.00	11
7.6	8.1	9.0	9.90	14
9.2	9.9	10.7	11.70	19
10.6	11.3	12.4	13.80	26

CALTER 650/1100V

Grade Multi Strand Flexible Copper Conductor, PVC Insulated and Sheathed Multi Core Flexible Cables Conforming to ISI 694/90

Conductor Area	No. & Size of Strand	Conductor bunch dia (approx)	Max. DC Resistance at 20°C	Insulation Thickness nominal
Sq mm	mm	mm	ohms/km.	mm
6	85/0.3	3.20	3.30	0.80
10	140/0.3	4.67	1.91	1.00
16	226/0.3	6.00	1.21	1.00
25	354/0.3	7.51	0.78	1.20
35	276/0.4	8.74	0.55	1.20
50	396/0.4	10.60	0.39	1.40
70	354/0.5	12.56	0.27	1.40
95	484/0.5	14.54	0.21	1.60



Core dia	Sheath Thickness Nominal			Overall Diameter (approx)			# Current Rating
	2 Core	3 Core	4 Core	2 Core	3 Core	4 Core	amp
mm	mm	mm	mm	mm	mm	mm	
5.00	1.10	1.10	1.20	12.00	12.80	14.20	31
6.60	1.20	1.20	1.30	15.90	17.00	19.00	42
8.00	1.30	1.30	1.40	18.80	20.00	22.40	57
10.90	1.40	1.50	1.60	22.80	24.60	27.40	71
11.40	1.50	1.60	1.70	25.50	27.50	30.60	91
13.70	1.60	1.70	1.80	30.20	32.60	36.30	120
15.60	1.80	1.80	1.90	34.60	37.00	41.20	160
18.00	2.00	2.00	2.00	39.60	42.70	47.60	190

Submersible 3 Core Flat Cable



Application

The PVC insulated and sheathed 3 core flat cables are used for giving electrical connection to submersible pump motors. These are manufactured keeping in mind the severe, tough and difficult conditions in which they have to operate. The slot available in the tube well being narrow the shape of the cables has to be suited for such an application. These cables conform to and are marked IS: 694:1990 up to 4.00 sq mm. Cables 6.00 sq mm and above generally conform to IS: 694:1990.

Features

Manufactured from bright annealed 99.97% pure bare copper conductors.
Low conductor resistance.

Inner cores are insulated with a special grade PVC compound formulated and manufactured in-house Tough robust outer PVC jacket protects it from the oils, greases, various chemicals and abrasions, thereby giving long life and electrical safety.

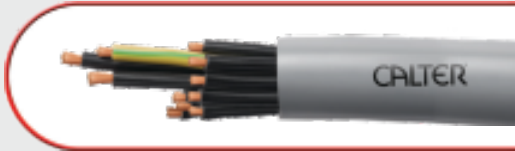
Specifications

Working Voltage	: Up to 1100 V
Temperature Range	: -15°C to +70°C
Sizes	: 1.50 sq mm to 4.00 sq mm with ISI mark 6.00 to 95.00 sq mm generally conforming to IS: 694
Color Code	: 3 core - red, yellow, blue black or gray outer sheath
Specification	: IS: 694
Packing	: 500/1000 meters on drums

Submersible Flat Cable (Three Core) Voltage grade 1100 V, Conforming to IS: 694-1990

Nominal Area of Conductor	No. & Size of Strand Item	Max Thickness of PVC Insulation Nominal	PVC Outer Sheath Nominal	Max Resistance per km at 20°C	Approx. Overall Dimension (W x H)	Current Carrying Capacity at 20°
Sq mm	mm	mm	mm	ohms	mm	amp
1.5	22/0.3	0.8	1.2	12.10	11.5 x 5.40	18
2.5	36/0.3	0.9	1.2	7.41	14.0 x 6.40	24
4.0	56/0.3	1.0	1.2	4.95	16.5 x 7.20	32
6.0	84/0.3	1.0	1.2	3.30	18.0 x 8.00	42
10.0	80/0.4	1.0	1.4	1.91	22.5 x 9.6	55
16.0	126/0.4	1.0	1.4	1.21	26.5 x 11.2	75
25.0	196/0.4	1.2	2.0	0.78	32.5 x 13.5	100

Control Cable



PVC Insulated and Sheathed Flexible Control Cables

Specifications

- Core Colors : Black with white numbering + yellow/green/gray with number printing
- Sheath Colors : Gray, black and white
- Conductor : Annealed bare copper as per IS: 8130
- Insulating PVC : Type A conforming to IS: 5831
- PVC Sheath : Type ST-1 conforming to IS: 5831;
- HR, FR and FRLS sheathing can be provided if required
- Rated Voltage : 300/500 V
- Test Voltage : AC 2000 V
- Min. Bending Radius : 4 times the overall diameter of cable
- Tensile Strength : 12.50 N per sq mm of PVC insulation and sheath
- Max. Working Temperature : 70°C; also available for 85°C and 105°C
- Max. Short Circuit Temperature : 160°C
- Minimum Laying Temperature : 15°C
- Usage : For medium mechanical stresses with free movement without tensile stress in dry & moist condition.
- For measuring and control cables in tool machines, conveyor belts, production lines in machinery production and steel production

No. of Cores X Cross Section	Max. Dia of Conductor Strand	Insulation Thickness (Nominal)	Finished Cable Dia (Nominal)	Approx. Weight	Max. Electrical Resistance at 20°C
	mm	mm	mm	kg/km	ohms/km
5 x 0.5	0.2	0.6	6.2	52.3	39
6 x 0.5	0.2	0.6	6.7	63.6	39
7 x 0.5	0.2	0.6	7.4	74.2	39
8 x 0.5	0.2	0.6	8.0	89.5	39
10 x 0.5	0.2	0.6	8.8	104.2	39
12 x 0.5	0.2	0.6	9.1	110.8	39
14 x 0.5	0.2	0.6	9.5	122.0	39
16 x 0.5	0.2	0.6	10.0	133.0	39
18 x 0.5	0.2	0.6	10.7	149.4	39
20 x 0.5	0.2	0.6	11.2	161.8	39
24 x 0.5	0.2	0.6	13.0	211.0	39
27 x 0.5	0.2	0.6	13.5	226.0	39
37 x 0.5	0.2	0.6	15.7	298.6	39
61 x 0.5	0.2	0.6	19.4	445.4	39
5 x 0.75	0.2	0.6	6.8	58.6	26
6 x 0.75	0.2	0.6	7.5	70.7	26
7 x 0.75	0.2	0.6	8.1	81.9	26
8 x 0.75	0.2	0.6	8.9	92.3	26
10 x 0.75	0.2	0.6	9.6	107.5	26
12 x 0.75	0.2	0.6	9.9	103.6	26
14 x 0.75	0.2	0.6	10.6	127.0	26

No. of Cores X Cross Section	Max. Dia of Conductor Strand	Insulation Thickness (Nominal)	Finished Cable Dia (Nominal)	Approx. Weight	Max. Electrical Resistance at 20°C
	mm	mm	mm	kg/km	ohms/km
16 x 0.75	0.2	0.6	11.2	141.8	26
18 x 0.75	0.2	0.6	11.9	160.1	26
20 x 0.75	0.2	0.6	12.6	179.5	26
24 x 0.75	0.2	0.6	14.5	237.7	26
27 x 0.75	0.2	0.6	15.2	261.2	26
37 x 0.75	0.2	0.6	17.2	334.4	26
61 x 0.75	0.2	0.6	20.9	493.8	26
5 x 1.0	0.2	0.6	7.2	63.5	19.5
6 x 1.0	0.2	0.6	8.0	72.3	19.5
7 x 1.0	0.2	0.6	8.6	83.6	19.5
8 x 1.0	0.2	0.6	9.4	99.9	19.5
10 x 1.0	0.2	0.6	10.4	122.3	19.5
12 x 1.0	0.2	0.6	10.7	129.4	19.5
14 x 1.0	0.2	0.6	11.3	144.3	19.5
16 x 1.0	0.2	0.6	12.0	162.8	19.5
18 x 1.0	0.2	0.6	12.7	182.3	19.5
20 x 1.0	0.2	0.6	13.5	206.0	19.5
24 x 1.0	0.2	0.6	14.7	244.3	19.5
27 x 1.0	0.2	0.6	15.8	282.2	19.5
37 x 1.0	0.2	0.6	18.4	382.7	19.5
61 x 1.0	0.2	0.6	22.2	557.1	19.5

Control Cable

PVC Insulated and Sheathed Flexible Control Cables



No. Of Cores X Cores Section	Max. Dia Of Conductor Strands	Thickness of Insulation Nominal	Finished Cable Dia Nominal	Approx. Net weight	Max. Electrical Resistance at 20°C
Sq mm	mm	mm	mm	kg/km	ohms/km
5 x 1.5	0.2	0.6	8.2	86.0	13.3
6 x 1.5	0.2	0.6	8.9	99.5	13.3
7 x 1.5	0.2	0.6	9.8	118.6	13.3
8 x 1.5	0.2	0.6	10.6	137.0	13.3
10 x 1.5	0.2	0.6	11.7	164.7	13.3
12 x 1.5	0.2	0.6	12.1	175.5	13.3
14 x 1.5	0.2	0.6	12.9	198.1	13.3
16 x 1.5	0.2	0.6	13.6	219.1	13.3
18 x 1.5	0.2	0.6	14.5	247.7	13.3
20 x 1.5	0.2	0.6	15.2	271.2	13.3
24 x 1.5	0.2	0.6	19.0	360.2	13.3
27 x 1.5	0.2	0.6	20.2	418.1	13.3
37 x 1.5	0.2	0.6	25.3	471.2	13.3
61 x 1.5	0.2	0.6	40.2	733.6	13.3
5 x 2.5	0.2	0.6	12.0	137.6	7.98
6 x 2.5	0.2	0.6	12.1	182.8	7.98
7 x 2.5	0.2	0.6	13.2	185.5	7.98
8 x 2.5	0.2	0.6	15.1	217.0	7.98
10 x 2.5	0.2	0.6	15.2	277.7	7.98
12 x 2.5	0.2	0.6	16.1	281.2	7.98
14 x 2.5	0.2	0.6	16.8	313.0	7.98
16 x 2.5	0.2	0.6	18.1	393.0	7.98
18 x 2.5	0.2	0.6	18.2	390.3	7.98
20 x 2.5	0.2	0.6	20.7	394.4	7.98
24 x 2.5	0.2	0.6	19.5	504.4	7.98
27 x 2.5	0.2	0.6	21.2	528.0	7.98
37 x 2.5	0.2	0.6	23.5	644.3	7.98
61 x 2.5	0.2	0.6	32.0	1177.5	7.98

Braided Cable



Multi Core Flexible Braided Cables

Specifications

- Core Colors : Up to 4 cores, Black with white numbering + yellow/green
- Sheath Colors : Gray, black and white
- Conductor : Annealed bare copper as per IS: 8130
- Insulating PVC : Type A conforming to IS: 5831
- Shielding : Aluminum mylar tape is wrapped on the laid up cores. Identification nos. are marked on the cores.
- Braiding : Annealed tinned copper wire braiding
- PVC Sheath : Type ST-1 conforming to IS: 5831
HR, FR and FRLS sheathing can be provided if required
- Rated Voltage : 300/500 V
- Test Voltage : AC 2000 V
- Min. Bending Radius : 6 times the overall diameter of cable
- Tensile Strength : 12,50 N per sq mm of PVC insulation and sheath
- Max. Working Temperature : 70°C; also available for 85°C and 105°C
- Max. Short Circuit Temperature : 160°C
- Usage : Suitable for interconnection of electrical measuring devices to instrumental panel or instrument. Also for measuring, monitoring and control in machine tool manufacturing in plant engineering, in places where interference field can distort a signal transmission or where interference pulses arising in the mains must be confined.

No. of Cores X Cross Section	Dia of Conductor Strands	Finished Cable Dia Nominal	Approx. Weight	Max. Electrical Resistance at 20° C
sq mm	mm	mm	kg/km	ohm/km
2 x 0.5	0.2	8.3	129.0	39
3 x 0.5	0.2	8.6	150.0	39
4 x 0.5	0.2	9.4	170.0	39
5 x 0.5	0.2	10.1	199.0	39
7 x 0.5	0.2	11.0	235.0	39
12 x 0.5	0.2	12.1	320.0	39
19 x 0.5	0.2	13.0	428.0	39
24 x 0.5	0.2	14.7	503.0	39
2 x 0.75	0.2	8.7	143.0	26
3 x 0.75	0.2	9.0	155.0	26
4 x 0.75	0.2	9.9	190.0	26
5 x 0.75	0.2	10.8	228.0	26
7 x 0.75	0.2	13.0	323.0	26
12 x 0.75	0.2	15.8	410.0	26
19 x 0.75	0.2	17.9	560.0	26
24 x 0.75	0.2	22.8	730.0	26
2 x 1.0	0.2	9.4	150.0	19.5
3 x 1.0	0.2	9.8	163.0	19.5
4 x 1.0	0.2	10.8	200.0	19.5
5 x 1.0	0.2	12.1	239.0	19.5
7 x 1.0	0.2	14.5	289.0	19.5
12 x 1.0	0.2	17.4	464.0	19.5
19 x 1.0	0.2	20.7	628.0	19.5

No. of Cores X Cross Section Strands	Dia of Conductor Nominal	Finished Cable Dia	Approx. Weight	Max. Electrical Resistance at 20° C
Sq mm	mm	mm	kg/km	ohms/km
2 x 1.5	0.2	10.2	162.0	13.3
3 x 1.5	0.2	10.9	187.0	13.3
4 x 1.5	0.2	12.20	240.0	13.3
5 x 1.5	0.2	13.30	289.0	13.3
7 x 1.5	0.2	16.00	383.0	13.3
12 x 1.5	0.2	19.60	592.0	13.3
19 x 1.5	0.2	23.40	806.0	13.3
2 x 2.5	0.2	11.5	272.0	7.98
3 x 2.5	0.2	12.2	298.0	7.98
4 x 2.5	0.2	13.4	345.0	7.98
5 x 2.5	0.2	14.9	427.0	7.98
7 x 2.5	0.2	17.9	561.0	7.98
12 x 2.5	0.2	21.9	857.0	7.98
19 x 2.5	0.2	26.1	1355.0	7.98

Instrumentation Cable

Shielded/Unarmoured/Armoured/Frls/Nonfrls

Specification : Generally to BS: 5308 Part 1 (PVC & polyethylene insulation)

Application : Cables designed for the local inter connection of ground, sea, and airborne instruments and electronic equipments, It has excellent characteristics to external noise pickups and heavy attenuation to it during transmission of very low level electrical signals. These cables can be manufactured in pair and multi pairs & triad with different size for conductors.

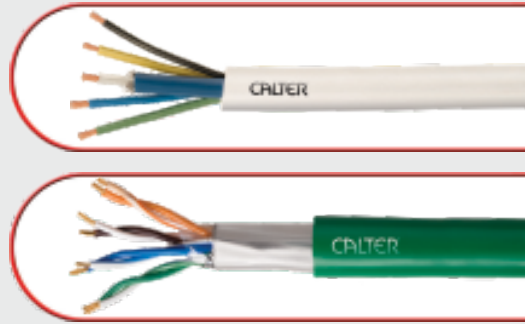


Construction		Technical Data	
Conductor	Plain annealed and tinned copper wire in accordance with BS:6360 & IS: 8130 sizes: 0.50 sq mm to 1.50 sq mm	Grade Temperature range Conductor resistance at 20°C	BS: 6360 -30°C to + 70°C As per IS: 8130
Insulation	The insulation PVC complies with BS & IS standards	Working voltage Insulation resistance Capacitance	300/500 V 36.7 M ohm -km min 250 nF/km max
Color Code	As per BS: 5308 Pt-2 & IS : 694	Color coding	as per IS & BS standards
Shielding	No. of cores laid up in concentric layers and shielded with aluminum screen and a tinned copper drain wire of size 0.5 mm	Capacitance core to screen L/R ratio (max)	450 nf /km max 25 micro Henry/ohms
Inner Coating	Extruded PVC as per IS: 1554 & BS: 7655	Min bending radius	12 x cable dia
Armour	Galvanized steel wires or strip as per IS:1554 & BS: 7655		
Printing	Cable size, standard no., type, year of manufacture, sequential marking and other details on request		

NOTE: Alteration from standards can be done as per customer requirement. The actual product may differ from the given picture in construction/color.

**Signal, Communication & Multipair
Light Current Control Cables**

Shielded/Un-shielded, Armoured, Frls/Non-frls



Specification : Generally to BS: 5308 Part 1 (PVC & polyethylene insulation)

Application : Cables designed for the local inter connection of ground, sea, and airborne instruments and electronic equipments. It has excellent characteristics to external noise pickups and heavy attenuation to it during transmission of very low level electrical signals. These cables can be manufactured in pair and multi pairs & triad with different size for conductors.

Construction		Technical Data	
Conductor	Plain annealed and tinned copper wire in accordance with BS:6360 & IS: 8130 sizes: 0.50 sq mm to 1.50 sq mm	Grade Temperature range Conductor resistance at 20°C	BS: 6360 -30°C to + 70°C As per IS: 8130
Insulation	The insulation PVC complies with BS & IS standards	Working voltage Insulation resistance Capacitance	300/500 V 36.7 M ohm -km min 250 nF/km max
Color Code	As per BS: 5308 Pt-2 & IS : 694	Color coding	as per IS & BS standards
Shielding	No. of cores laid up in concentric layers and shielded with aluminum screen and a tinned copper drain wire of size 0.5 mm	Capacitance core to screen L/R ratio (max)	450 nf /km max 25 micro Henry/ohms
Inner Coating	Extruded PVC as per IS: 1554 & BS: 7655	Min bending radius	12 x cable dia
Armor	Galvanized steel wires or strip as per IS:1554 & BS: 7655		
Printing	Cable size, standard no., type, year of manufacture, sequential marking and other details on request		

**Networking Data Cable:
CAT - 5E, CAT - 6**

Applications

This cable is used for inter-connection for the transmission and data processing of electronic equipment.



Colour Code

No of pairs	A - Wire	B - Wire
1	white	blue
2	white	orange
3	white	green
4	white	brown

Construction

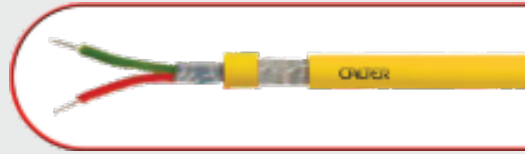
Conductor	Solid annealed plain copper wire
Insulation	PE/PP as per TIA/EIA - 568 B2, color code as given in table
Assembly	Cores twisted into pairs and pairs are stranded into a single unit to form a cable.
Sheath	Gray colored PVC as per IEC 189-2

Technical Data

Specification	IEC 189-2	
Temperature Range		
Stationary	-30°C to + 70°C	
Flexing	-5°C to +50°C	
Conductor Dia (mm)	0.4	0.5
Max Conductor Resistance at 20°C /km	153.0	97.38
Test Voltage kv (DC)/1 minute	1.5	
Mutual Capacitance at 1 kHz (nF/km)	Ind. max 120	
Capacitance unbalance between pair to pair at 1 kHz (PF/500 mtr)	Ind. max 400	

Note: Tinned copper conductor can be supplied on demand. The actual color of the product may differ from the given picture.

Thermocouple Extension Type Compensating Cable



Applications

Can be used for instrumentation/process control in chemical and petrochemical industries and are required to transfer reference junction to the control room.

Construction		Technical Data	
Conductor	Solid Type of J (Iron/Constantan) K (chromel/alumel) T (copper/ constantan) E (copper/constantan) Type S&R (copper/alloy #11) As per spec ANSI MC 96.1 IN 16 AWG (1.29 mm) for single pair & 20 AWG (0.81 mm) for multi pair cables	Temperature Range EX type JX type KX type TX type Conductor loop Resistance at 20°C	-18 to 204°C -18 to 204°C -18 to 204°C -59 to 93°C As per specifications ANSI MC 96.1
Insulation	PVC Type T11 as per BS: 7655 Thickness should be minimum 0,38 mm	Min insulation Resistance	100 Mega ohms/km
Color code	Ex type: chromel (+) purple & constantan (-) red JX type iron (+) white & constantan (-) red KX type: chromel (+) yellow & alumel (-) red TX type: copper(+) blue & constantan (-) red	Mutual capacitance Core to core Core to screen	250 nF/km max 450 nF/km max
Shielding	Each twisted pair screened with aluminum Mylar and a drain wire of size 0,5 sq mm for maximum electrostatic noise and cross talk rejection	Inductance (max) Thermal EMF test	0,9 Micro Henry/km as per ANSI MC 96.1
Inner coating	Extruded PVC type TMI of BS:7655 Armour galvanized steel round wire as per BS: 1442	Working voltage	300/500 volts
Sheath	Extruded PVC type TMI of BS:7655 The color of the sheath shall be purple, black, yellow & blue respectively for type EX, JX, KX, and TX.	RMS test voltage Core to core and core to screen	1000V RMS for 1 minute
Printing	Instrumentation cable shielded #PRX size Type of conductor 300/500 volts year of manufacture	Minimum bending Radius	12 x cable diameter

Note: Sheath material should be FR/FRLS/Zero Halogen as per requirement. The actual color of the product may differ in construction/color from the given picture.

Co-axial Cables: RG Series



Applications

Used for high frequency equipments and systems for transmission and reception.

Construction

Conductor	Solid/stranded, plain/tinned copper silver plated copper/copper covered steel wires
Insulation	Solid/foam Polyethylene/ETFE/PTFE/FEP
Screening	As per particular cable type plain/tinned/silver plated copper wire braiding, aluminum/bonded polyester with aluminum/aluminum wire braiding
Jacket	Specially formulated PVC/FR or FRLS PVC as per specification and customer requirement.

CO-AXIAL CABLES - 50 OHMS									
UR M TYPE	MIL-C- 17 F& RG SERIES	IEC	JIS	JSS WRA/ WRC	SHIELDING BRAID	OVERALL DIA. MM	MAX R.F. VOLTAGE KV PEAK	NOMINAL ATTENUA TION DB/100 M	NOMINAL CAPACITANCE pF/M
43	-	50-3-4	-	-	PC	5.0	2.6	19	100
67	213/U	50-7-2	8D-2V	05	PC	10.3	6.5	9	97
74	218/U	50-17-2	-	10	PC	22.1	15.0	5	97
76	58C/U	50-3-1	3D-2V	02	PC	5.0	2.6	22	100
116	174/U	-	1.5D-2V01		PC	2.8	1.2	43	97
911	-	50-7-3	-	-	2 x PC	11.0	6.5	10	100
112	214/U	50- 7 -6	8D-2W	06	2 x PC	10.8	6.5	11	97
115	-	-	-	-	PC + PC	7.2	2.6	19	100

COAXIAL CABLES -75 OHMS									
UR M TYPE	MIL-C- 17 F& RG SERIES	IEC	JIS	JSS WRA/ WRC	SHIELDING BRAID	OVERALL DIA. MM	MAX R.F. VOLTAGE KV PEAK	NOMINAL ATTENUA TION DB/100 M	NOMINAL CAPACITANCE pF/M
57	11A/U	75-7-5	7C-2V	15	PC	10.3	5.0	11	67
65	-	75-7-4	-	-	PC	10.3	5.0	9	67
70	-	-	-	-	PC	5.8	1.8	22	67
77	164/U	75-17-2	-	-	PC	22.0	12.5	5	67
90	59B/U	75-4-4	3C-2V	12	PC	6.0	2.6	16	69
117	-	-	-	-	PC	6.0	2.6	20	67
60	216/U	75-7-3	7C-2W	17	2 x SC	11.0	5.0	11	67

Note: The actual color of the product may differ from the color in the given picture.

HO7V-R Single Core Cables



450/750 V Insulated Single Core Cables with Copper Conductor

Standards

IEC: 60227-3
BS: 6004

Construction

Conductor : Stranded copper
Insulation : PVC

Application

In dry rooms, switch and distribution boards, for laying in conduit on and under plaster and on insulation supports above plaster.

Specifications

Max. Operating Temperature: 70°C
Short Circuit Temperature: 160°C

Colour code

Red, yellow, Blue, Black, Green/Yellow

Nominal Cross Section sq mm	Overall Diameter mm approx.	Weight kg/km approx.	Conductor DC Resistance at 20°C max. ohm/km	Current Carrying Capacity in	
				Ground (A)	Air (A)
1.5	3	20.6	12.1	16	25
2.5	3.6	31.5	7.41	21	34
4	4.12	46.6	4.61	27	45
6	4.75	66.3	3.08	35	57
10	6	109	1.83	48	78
16	7.1	166	1.15	65	104
25	8.4	264	0.727	88	137
35	9.6	354	0.524	110	168
50	11.2	475	0.387	140	210
70	12.6	682	0.268	175	260
95	15	931	0.193	210	310
120	17	1171	0.153	250	365

HO5VV-F Flexible Cords

300/500 V PVC Insulated Multi Core Cables with Flexible Conductor

Standards

IEC: 60227-5
BS: 6500

Construction

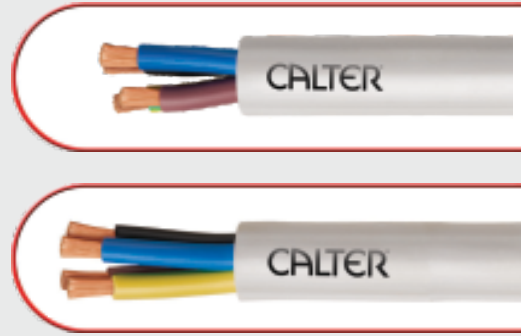
Conductor : Flexible Copper
Insulation : PVC
Outer Sheath : PVC

Application

For household appliances working under humid and medium mechanical stress.

Specifications

Max. Operating Temperature: 70°C
Short Circuit Temperature: 160°C



No. of Cores x sq mm	Overall Diameter mm approx.	Weight kg/km approx.	Conductor DC Resistance at 20 °C max ohms/km	Current Carrying Capacity in Air (A)
2 x 0.75	6	57	26	13
2 x 1	6.4	65	19.5	16
2 x 1.5	7.4	83	13.3	20
2 x 2.5	9	130	7.98	27
2 x 4	11.2	170	4.95	34
3 x 0.75	6.4	70	26	13
3 x 1	7	80	19.5	16
3 x 1.5	8.3	110	13.3	20
3 x 2.5	9.8	160	7.98	27
3 x 4	12.1	252	4.95	34
4 x-0.75	6.9	85	26	13
4 x 1	7.6	100	19.5	16
4 x 1.5	9	131	13.3	20
4 x 2.5	10.7	200	7.98	27
4 x 4	13.3	310	4.95	34
5 x 0.75	8.6	112	26	13
5 x 1	9.1	131	19.5	16
5 x 1.5	10.8	188	13.3	20
5 x 2.5	12.7	272	7.98	27
5 x 4	14.7	388	4.95	34

H05V-U H07V-U



450/750 V PVC Insulated Non-sheathed Single Core Cables with Solid Conductors

Standards

IEC: 60227-3
BS: 6004

Construction

Conductor : Solid copper
Insulation : PVC

Application

In dry rooms, switch and distribution boards, for laying in conduit on and under plaster and on insulating supports above plaster.

Specifications

Max. Operating Temperature: 70°C
Short Circuit Temperature: Cross section < 300 sq mm 160 °C

Nominal Cross Section sq mm	Overall Diameter mm approx.	Weight kg/km approx.	Conductor DC Resistance at 20°C max. ohm/km	Current Carrying Capacity in Ground (A) Air (A)	
H05V-U 300/500 V					
0.5	2	9	36	-	-
0.75	2.2	11	24.5	-	16
1	2.4	14	18.1	11	19
H07V-U 450/750 V					
1.5	2.8	20	12.1	16	25
2.5	3.4	31	7.41	21	34
4	3.8	45	4.61	27	45
6	4.4	66	3.08	35	57
10	5.5	106	1.83	48	78

Heat Resistant PVC Insulated Panel Wires



Application

These cables are intended for use in fixed installations such as power, lighting, appliances and switchgear & control panel wiring.

Harmonised Code

- 0,5 sq mm to 1.0 sq mm wire
 - 1,5 sq mm & 300 sq mm stranded conductor wire

H05V2-K
 H07V2-K

Construction

Reference: 2491 X HR
 Conductor: Flexible plain copper class 5 to BS: 6360
 (Tinned copper conductor available on request)
 Insulation: PVC Type II 3 to BS7655

Standard Colors

Color : Red, yellow, blue, black, green, yellow/green, grey, white, orange, brown, violet, pink, turquoise,
 other colors available on request

Technical Data

Max. Operating Temperature : 105°C
 Rated Voltage : 600/1000V
 Standards : BS: 6231

Nominal Cross-Sectional Area sq mm	Conductor			Radial Thickness of Insulation mm	Approx. Overall Diameter mm	Approx. Net Weight kg/km	Current Carrying Capacity A
	Number of Strands	Diameter of Strand	Resistance at 20°C ohms/km				
0.5	16	0.20	39.00	0.6	2.1	9	8
0.75	24	0.20	26.00	0.6	2.3	12	10
1.0	32	0.20	19.50	0.6	2.8	15	12
1.5	22	0.30	13.30	0.7	3.1	21	16
2.5	36	0.30	7.98	0.8	3.6	33	21
4.0	56	0.30	4.95	0.8	4.1	49	28
6.0	84	0.30	3.30	0.8	5.1	70	36
10.0	80	0.40	1.91	1.0	6.8	116	50
16.0	126	0.40	1.21	1.0	8.0	180	68
25.0	196	0.40	0.78	1.2	9.6	280	89
35.0	276	0.40	0.56	1.2	10.8	380	110
50.0	396	0.40	0.39	1.4	12.5	510	134
70.0	360	0.50	0.21	1.6	17.5	990	207
120.0	608	0.50	0.16	1.6	19.5	1190	239

**Heat Resistant Multi Core
PVC Insulated & Sheathed
Flexible Cables**



Multi Core Flexible Cables

Application

General purpose indoors or outdoors in dry or damp situations.
Portable tools, washing machines, vacuum cleaners, lawn mowers and light domestic applications.

Harmonised Code

H05Y2Y2-F

Construction

Reference : 0,5 sq mm to 4 sq mm - 309-Y
 Conductor : Flexible plain copper class 5 to BS: 6360
 Insulation : PVC Type TI 3 to BS: 7655
 Lay-up : Cores are twisted
 Sheath : PVC Type TM 3 to BS: 7655

Color Coding

Cores : 2 core - brown, blue
 3 core - brown, blue, green/yellow
 4 core - brown, blue, black, green/yellow
 5 core - brown, blue, black, Black, green/yellow

As per new Harmonised Code

2 core - brown, blue
 3 core - brown, blue, green/yellow
 4 core - brown, black, grey, green/yellow
 5 core - brown, black, grey, blue, green/yellow

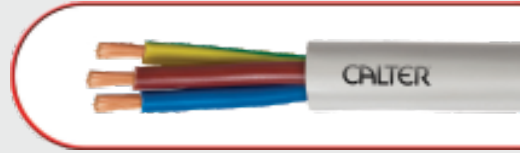
Sheath

White, black, grey
 other colors available on request

Technical Data

Max. Operating Temperature : 105°C
 Rated Voltage : 0,5 sq mm to 4 sq mm - 300/500V
 6,0 sq mm to 25 sq mm - 600/1000V
 Standards : BS: 6141

**Heat Resistant Multicore
PVC Insulated & Sheathed
Flexible Cables**



No. of Cores	Nominal Cross-Sectional Area sq mm	Number of Strands	Diameter of Strand	DC Resistance at 20°C ohms/km	Radial Thickness of Insulation mm	Thickness of Sheath mm	Max. Overall Diameter mm	Approx. Net Weight kg/km	Current Carrying Capacity A
2	0.5	16	0.20	39.00	0.6	0.8	6.8	52	6
2	0.75	24	0.20	26.00	0.6	0.8	7.2	63	9
2	1.0	32	0.20	19.50	0.6	0.8	8.0	73	14
2	1.5	48	0.20	13.30	0.7	0.8	8.6	95	18
2	2.5	80	0.20	7.98	0.8	1.0	10.6	145	24
2	4.0	56	0.30	4.95	0.8	1.1	11.8	190	32
2	6.0	84	0.30	3.30	0.8	1.2	13.1	256	42
2	10.0	80	0.40	1.91	1.0	1.4	16.1	397	55
3	0.5	16	0.20	39.00	0.6	0.8	7.2	62	6
3	0.75	24	0.20	26.00	0.6	0.8	7.5	74	9
3	1.0	32	0.20	19.50	0.6	0.8	8.4	86	14
3	1.5	48	0.20	13.30	0.7	0.9	9.4	120	18
3	2.5	80	0.20	7.98	0.8	1.1	11.4	180	24
3	4.0	56	0.30	4.95	0.8	1.2	12.6	236	32
3	6.0	84	0.30	3.30	0.8	1.4	14.2	344	42
3	10.0	80	0.40	1.91	1.0	1.4	17.1	489	55
4	0.5	16	0.20	39.00	0.6	0.8	7.9	72	6
4	0.75	24	0.20	26.00	0.6	0.8	8.3	83	9
4	1.0	32	0.20	19.50	0.6	0.9	9.0	101	14
4	1.5	48	0.20	13.30	0.7	1.0	10.5	141	18
4	2.5	80	0.20	7.98	0.8	1.1	12.5	214	24
4	4.0	56	0.30	4.95	0.8	1.4	14.0	286	32
4	6.0	84	0.30	3.30	0.8	1.4	15.5	411	42
4	10.0	80	0.40	1.91	1.0	1.4	18.6	637	55
5	0.5	16	0.20	39.00	0.6	0.9	8.6	89	6
5	0.75	24	0.20	26.00	0.6	0.9	9.2	113	9
5	1.0	32	0.20	19.50	0.6	0.9	9.6	130	14
5	1.5	48	0.20	13.30	0.7	1.0	11.2	171	18
5	2.5	80	0.20	7.98	0.8	1.2	13.4	265	24
5	4.0	56	0.30	4.95	0.8	1.4	15.4	353	32

Bare Copper & Yellow/green Earthing Conductor



Application

These cables are intended for use in electrical installations for earthing purpose

Construction

Conductor: Stranded plain copper class 2 to BS: 6360
Insulation: PVC Type II 1 to BS: 7655 for Yellow/Green earth wire only

Packaging

- All sizes can be supplied in non-returnable ply/wooden reels of 500 mtr and 1000 mtr
- Customised lengths available on request

Technical Data

Max. Operating Temperature : 70°C
Rated Voltage : 450/750V
Standards : BS: 6004

Bare Copper			
Conductor			
Nominal Cross-Sectional Area sq mm	Number of Strands	Diameter of Strand	Resistance at 20°C ohms/km
16.0	7	1.70	1.15
25.0	7	2.14	0.73
35.0	7	2.52	0.52
50.0	19	1.78	0.39
70.0	19	2.14	0.27
95.0	19	2.52	0.19
120.0	37	2.04	0.15

Yellow/green Earth Wire							
Conductor				Radial Thickness of Insulation mm	Approx. Overall Diameter mm	Approx. Net Weight kg/km	Current Carrying Capacity A
Nominal Cross-Sectional Area sq mm	Number of Strands	Diameter of Strand	Resistance at 20°C ohms/km				
10.0	7	1.35	1.83	1.0	6.1	113	50
16.0	7	1.70	1.15	1.0	7.1	171	68
25.0	7	2.14	0.73	1.2	8.9	268	89
35.0	7	2.52	0.52	1.2	10.0	363	110
50.0	19	1.78	0.39	1.4	11.7	484	134
70.0	19	2.14	0.27	1.4	13.5	685	171
95.0	19	2.52	0.19	1.6	15.8	945	207
120.0	37	2.04	0.15	1.6	17.5	1180	239

Power and Signaling Cables, XLPE Insulated, PVC Sheathed

0.6/1 KV XLPE Insulated Low Voltage Power Cables



Construction

Conductor : Solid or stranded copper
 Insulation : XLPE
 Filler : PVC
 Outer Sheath : PVC

Application

Where mechanical damage is unexpected in doors, underground, in cable ducts and industrial plants to be power cables.

Specifications

Max. Operating Temperature: 90°C
 Short Circuit Temperature: 200°C
 Min. Bending Radius: 15 x dia

Number of Conductors per Nominal Cross Section	Class of Conductor	Insulation Thickness Nominal	Sheath Thickness Nominal	Overall Diameter Nominal	Max Conductor Resistance at 20°C	Indicative Cable Weight
n x sq mm		mm	mm	mm	ohms/km	kg/km
1 x 1.5	1	0.7	1.4	5.9	12.1	50
1 x 2.5	1	0.7	1.4	6.2	7.41	60
1 x 4	1	0.7	1.4	6.7	4.61	75
1 x 6	2	0.7	1.4	7.6	3.08	100
1 x 10	2	0.7	1.4	8.6	1.83	150
1 x 16	2	0.7	1.4	9.2	1.15	210
1 x 25	2	0.9	1.4	10.8	0.727	300
1 x 35	2	0.9	1.4	11.7	0.524	400
1 x 50	2	1	1.4	13.1	0.367	525
1 x 70	2	1.1	1.4	15	0.268	735
1 x 95	2	1.1	1.5	17	0.193	990
2 x 1.5	1	0.7	1.8	10.1	12.1	130
2 x 2.5	1	0.7	1.8	10.9	7.41	160
2 x 4	1	0.7	1.8	11.8	4.61	210
2 x 6	2	0.7	1.8	13.5	3.08	290
2 x 10	2	0.7	1.8	14.7	1.63	420
2 x 16	2	0.7	1.8	16.6	1.15	575
2 x 25	2	0.9	1.8	19.8	0.727	850
2 x 35	2	0.9	1.8	21.6	0.524	1100
3 x 1.5	1	0.7	1.8	10.6	12.1	150
3 x 2.5	1	0.7	1.8	11.4	7.41	190
3 x 4.0	1	0.7	1.8	12.3	4.61	250
3 x 6.0	2	0.7	1.8	14.2	3.08	350
3 x 10.0	2	0.7	1.8	15.7	1.63	500
3 x 16.0	2	0.7	1.8	17.3	1.15	730
3 x 25.0	2	0.9	1.8	21.0	0.727	1050
3 x 35.0	2	0.9	1.8	22.9	0.524	1400
4 x 1.5	1	0.7	1.8	11.3	12.1	180
4 x 2.5	1	0.7	1.8	12.2	7.41	220
4 x 4.0	1	0.7	1.8	13.3	4.61	300
4 x 6.0	2	0.7	1.8	15.0	3.08	420
4 x 10.0	2	0.7	1.8	17.25	1.63	630
4 x 16.0	2	0.7	1.8	18.8	1.15	900
4 x 25.0	2	0.9	1.8	23.0	0.727	1350
4 x 35.0	2	0.9	1.8	25.1	0.524	1750

SOLAR CABLE



Application

CALTER PV Cables is used for photovoltaic systems, This cable links photovoltaic panels and inverters.

It is used for fixed installations outdoors & indoors, and equipment with high mechanical requirements and extreme weather conditions.

Construction

Conductor : Electrolytic Flexible Tinned Copper Class - 5 according to IEC 60228

Insulation : special polyolefin Elastomer-Cross Linked, Halogen Free

Sheath : special polyolefin Elastomer-Cross Linked, Halogen Free (Red/Black)

Technical Data

- Halogen free : IEC 60754-1
- Rated Voltage U₀/U (Um) : 0,6 / 1 kV
- Operating Temperature range : -40 C to +90 C
- Max. Conductor temperature in service : 120 C
- Short-circuit max. conductor temperature : 250 C
- Gases Corrosivity : IEC 60754-2
- Smoke density : IEC 61034-2
- Weather resistance : Excellent
- UV Resistant : Yes
- Flame retardent : IEC 60332 - 1

Nominal Cross Sectional Area SQ MM	No of Strands	Diameter of Strand mm	Resistance at 20°C ohms/km	Nominal insulation thickness mm	Nominal Sheath thickness mm	Nominal Overall Diameter mm	Current Carrying Capacity A
1.50	30	0.25	13.70	1.14	0.82	5.40	30
2.50	50	0.25	8.21	1.14	0.82	5.80	41
4.00	56	0.30	5.09	1.14	0.82	6.40	55
6.00	84	0.30	3.39	1.14	0.82	7.00	70
10.0	80	0.40	1.95	1.52	0.82	8.60	98
16.0	126	0.40	1.24	1.52	0.82	9.80	132
25.0	196	0.40	0.795	1.52	0.82	11.10	176
35.0	276	0.40	0.565	1.52	0.82	12.30	218

SURFACE WIRES LSZH



Application

CALTER' Surface Wires LSZH are used for fixed wiring and mains cable.
Used for mains connections under heavy current loads

Construction

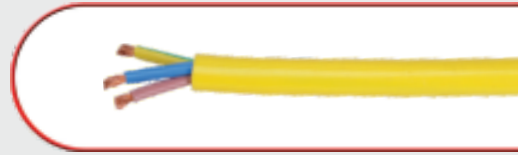
Conductor : Electrolytic Stranded plain Copper Class - 2 according to IEC 60228
 Insulation : XLPE
 Sheath : special polyolefin thermoplastic-Cross Linked, LSZH

Technical Data

Halogen free	:	IEC 60754-1
Rated Voltage U ₀ /U (Um)	:	0,6 / 1 kV
Operating Temperature range	:	-40 C to +90 C
Max. Conductor temperature in service	:	120 C
Short-circuit max. conductor temperature	:	250 C
Gases Corrosivity	:	IEC 60754-2
Smoke density	:	IEC 61034-2
Weather resistance	:	Excellent
UV Resistant	:	Yes
Flame retardent	:	IEC 60332 - 1

Nominal Cross Sectional Area	No of Strands	No of Strands	Resistance at 20°C	Nominal insulation thickness	Nominal Sheath thickness	Nominal Overall Diameter	Current Carrying Capacity A
sq mm		mm	ohms/km	mm	mm	mm	
1.50	30	0.25	13.70	1.14	0.82	5.40	30
2.50	50	0.25	8.21	1.14	0.82	5.80	41
4.00	56	0.30	5.09	1.14	0.82	6.40	55
6.00	84	0.30	3.39	1.14	0.82	7.00	70
10.0	80	0.40	1.95	1.52	0.82	8.60	98
16.0	126	0.40	1.24	1.52	0.82	9.80	132
25.0	196	0.40	0.795	1.52	0.82	11.10	176
35.0	276	0.40	0.565	1.52	0.82	12.30	218

HO7BQ-F CABLE



Application

CALTER' TPU Cables is a extreme mechanical, abrasion, tear, notch and wear resistant cable. Applicable where high wear, friction resistance & extreme bending is required. The cable is particularly suitable for food & wine industry as the polyurethane is microbe & hydrolysis resistant. Also used in Wind mills, Marine & submersible pumps

Construction

Conductor : Electrolytic Flexible plain Copper Class - 5 according to IEC 60228
Insulation : Special EPR
Sheath : PUR Halogen free Polyurethane compound type ether grade

Colour Coding

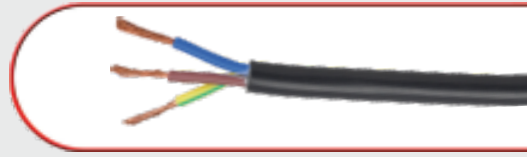
2 core - brown, blue
3 core - brown, blue, green/yellow
4 core - brown, blue, black, green/yellow
5 core - brown, blue, black, Black, green/yellow
Sheath Colour : Yellow/Orange

Technical Data

Halogen free	:	IEC 60754-1
Rated Voltage U _o /U (Um)	:	0.6 / 1 kV
Operating Temperature range	:	-40 C to +90 C
Max. Conductor temperature in service	:	90 C
Short-circuit max. conductor temperature	:	250 C
Gases Corrosivity	:	IEC 60754-2
Smoke density	:	IEC 61034-2
Weather resistance	:	Excellent
UV Resistant	:	Yes
Flame retardent	:	IEC 60332 - 1
Mechanical, Abrasion, tear, notch, pressure resistant	:	Excellent
Oil & chemical resistant	:	Excellent

Nominal Cross Sectional Area	No of Cores	No of Strands	Diameter of Strand	Resistance at 20°C	Nominal insulation thickness	Nominal Sheath thickness	Nominal Overall Diameter
sq MM			mm	ohms/km	mm	mm	mm
1.50	3	30	0.25	13.30	0.70	0.90	9.50
1.50	4	30	0.25	13.30	0.70	1.00	10.50
1.50	5	30	0.25	13.30	0.70	1.00	11.50
2.50	3	50	0.25	7.98	0.80	1.00	11.00
2.50	4	50	0.25	7.98	0.80	1.10	12.50
2.50	5	50	0.25	7.98	0.80	1.20	13.50
4.00	3	56	0.30	4.95	0.80	1.20	13.00
4.00	4	56	0.30	4.95	0.80	1.40	14.00
4.00	5	56	0.30	4.95	0.80	1.40	16.00

HO7RN-F CABLE



Application

CALTER' RUBBER Cables is a extreme weather, Oil & Grease, water resistant cable. Applicable for industrial and outdoor hanging and & extreme flexibility is required. The cable is particularly suitable for heavy industry, Oil & chemical industries as the rubber is Oil & Grease resistant, Fire resistant, Halogen free also used in turbines, Marine & submersible pumps

Construction

Conductor : Electrolytic Flexible plain Copper Class - 5 according to IEC 60228
Insulation : special formulated thermoplastic rubber
Sheath : Special formulated thermoplastic rubber compound

Colour Coding

2 core - brown, blue
3 core - brown, blue, green/yellow
4 core - brown, blue, black, green/yellow
5 core - brown, blue, black, Black,
green/yellow
Sheath Colour: Black

Technical Data

Halogen free : IEC 60754-1
Rated Voltage Uo/U (Um) : 450 / 750 V
Operating Temperature range : -40 C to +90 C
Max. Conductor temperature in service : 90 C
Short-circuit max. conductor temperature : 200 C
Gases Corrosivity : IEC 60754-2
Weather resistance : Excellent
UV Resistant : Yes
Flame retardant : IEC 60332 - 1
Mechanical, Abrasion, tear, notch, pressure resistant : Excellent
Oil & chemical resistant : Excellent

Nominal Cross Sectional Area SQ MM	No of Cores	No of Strands	Diameter of Strand mm	Resistance at 20°C ohms/km	Nominal insulation thickness mm	Nominal Sheath thickness mm	Nominal Overall Diameter mm
1.50	2	30	0.25	13.30	0.80	1.20	9.10
1.50	3	30	0.25	13.30	0.80	1.30	9.80
1.50	4	30	0.25	13.30	0.80	1.40	10.85
1.50	5	30	0.25	13.30	0.80	1.50	11.90
2.50	3	50	0.25	7.98	0.90	1.35	10.85
2.50	4	50	0.25	7.98	0.90	1.40	11.65
2.50	5	50	0.25	7.98	0.90	1.50	12.80
4.00	3	56	0.30	4.95	1.00	1.35	12.55
4.00	4	56	0.30	4.95	1.00	1.40	13.45
4.00	5	56	0.30	4.95	1.00	1.50	16.50
6.00	3	84	0.30	3.30	1.10	1.40	13.50
6.00	4	84	0.30	3.30	1.10	1.45	16.00
6.00	5	84	0.30	3.30	1.10	1.60	18.00
10.00	4	140	0.30	1.91	1.20	2.00	21.30
16.00	4	226	0.30	1.21	1.40	2.20	24.20
25.00	4	354	0.30	0.780	1.60	2.40	28.00
35.00	4	494	0.30	0.554	1.80	2.60	33.00
50.00	4	396	0.40	0.386	1.80	3.20	38.00

HO7RN-F CABLE



Application

CALTER' RUBBER Cables is a extreme weather, Oil & Grease, water resistant cable. Applicable for industrial and outdoor hanging and & extreme flexibility is required. The cable is particularly suitable for heavy industry, Oil & chemical industries as the rubber is Oil & Grease resistant, Fire resistant, Halogen free also used in turbines, Marine & submersible pumps

Construction

Conductor : Electrolytic Flexible Copper Class - 5 according to IEC 60228 (BARE & TINNED)
 Insulation : Special formulated thermoplastic rubber
 Sheath : Special formulated thermoplastic rubber compound

Colour Coding

RED, YELLOW, BLUE, BLACK, GREEN, GREY, BROWN, SPECIAL COLOURS AND DUAL COLOURS WITH LINING AVAILABLE

Technical Data

Halogen free	:	IEC 60754-1
Rated Voltage U ₀ /U (Um)	:	600 / 1000 V
Operating Temperature range	:	-20 C to +90 C
Max. Conductor temperature in service	:	90 C
Short-circuit max. conductor temperature	:	200 C
Gases Corrosivity	:	IEC 60754-2
Weather resistance	:	Excellent
UV Resistant	:	Yes
Flame retardent	:	IEC 60332 - 1
Mechanical, Abrasion, tear, notch, pressure resistant	:	Excellent
Oil & chemical resistant	:	Excellent

Nominal Cross Sectional Area SQ MM	No of Strands	Diameter of Strand mm	Bare copper Resistance at 20°C ohms/km	Tinned copper Resistance at 20°C ohms/km	Nominal Overall Diameter mm	Nominal Weight (Kg/Km)
1.00	32	0.20	19.50	20.00	4.50	35.00
1.50	30	0.25	13.30	13.70	4.80	40.70
2.50	50	0.25	7.98	8.21	5.00	52.90
4.00	56	0.30	4.95	5.09	6.90	72.70
6.00	84	0.30	3.30	3.39	7.10	104.00
10.0	80	0.40	1.91	1.95	8.10	152.00
16.0	126	0.40	1.21	1.24	9.20	217.00
25.0	196	0.40	0.780	0.795	10.90	322.00
35.0	276	0.40	0.554	0.565	12.30	430.00
50.0	396	0.40	0.386	0.393	14.30	596.00
70.0	360	0.50	0.272	0.277	16.60	807.00
95.0	476	0.50	0.206	0.210	19.10	1054.00
120.0	608	0.50	0.161	0.164	21.20	1345.00
150.0	756	0.50	0.129	0.132	23.40	1648.00
185.0	925	0.50	0.106	0.108	25.60	1992.00
240.0	1221	0.50	0.0801	0.0817	28.60	2567.00

PVC & XLPE Insulated Low Voltage Control Cable



Control and Auxiliary Cables
600/1000 V as BS: 5467, BS: 6346, IEC: 60502(1)
Manufacturing & Construction Details

Conductors

The conductors are bunched with seven wire strands, made from high conductivity plain annealed copper wires, aluminum wires and meet the requirements of BS: 6370 specification for conductors in insulated cables and cords, IEC: 228 specification and IS: 8130.

Insulation

According its particular standard specification, a cable will be insulated with either, XLPE (cross -linked polyethylene) or PVC (polyvinyl chloride) PVC is suitable for a maximum continuous operating temperature of 70° C & XLPE - 90° C.

Armour

The armour is single layer of galvanised steel wires. The direction lay of the armour is left hand and size of the armour - wire is specified in the cable standard specification.

Core Identification

Core identification is as follows unless otherwise specified

No. of cores	Core Identification
Two core	: Red & Black
Three core	: Red Yellow & Blue
Four core	: Red Yellow Blue & Black

Auxiliary Cables

Five and more white cores with number printing in black.

Fillers

Wherever necessary, non-hygroscopic polypropylene fillers are applied in the interstices of multi core cables in PVC insulated unarmored control and auxiliary cables, below the outer sheath, during laying up. A PVC inner covering is included

Bedding

The bedding normally consist of a layer extruded PVC.

Finish

The standard finish of all cables consists of an extruded black PVC over-sheath, the external surface of which is embossed with the appropriate legend. The over sheath PVC grade is usually Type TM 1 or Type 9 or BS: 7655; although other grades, e.g. Type 85C Hard grade S12 for cable conforming to IEC: 60502 standard PVC can be supplied when specified.

PVC is intrinsically flame retardant and all cables described in this catalogue conform to IEC: 332 Part 1. On special request, electric cables can be tested under fire conditions. PVC with high oxygen index, specially formulated for enhanced fire performance can be supplied if required.

PVC Insulated Power & Copper Control Cable



Application

The power cables are used for underground as well as over head transmission of power in power plants, industries, projects and all other electrical installations.

Features

Manufactured from bright annealed 99,97% pure bare copper and aluminum conductors. Insulated with PVC compound Taped/extruded inner sheath Round steel wire/flat galvanised steel strip armored. Inner and outer sheaths can be PVC, HR PVC, FRLS, HR-FRLS or FR depending upon the application and requirement of customers.

Specifications

Working Voltage	: Up to 1100 V.
Temperature Range	: -15° C to + 70° C or +85° C in HR PVC.
Power Cable Sizes	: 1,50 sq mm to 400,00 sq mm in 2, 3, 31/2&4 core
Copper Control Cable Sizes	: 1,50, 2,50 sq mm up to 24 cores.
Color Code	
2 core - red & black	
3 core - red, yellow, blue	
3 1/2 core - red, yellow, blue, & black (for neutral)	
4 core - red, yellow, blue & black	
5 core - red, yellow, blue, black & gray	
6 core & above - adjacent cores are blue for references and yellow for direction in each lay black outer sheath.	
Specification	: IS: 1554 (Part 1)
Packing	: 500/1000 meters on drums

XLPE INSULATED POWER & COPPER CONTROL CABLE

Application

The XLPE (Cross Link Poly Ethylene) power cables are used for underground as well as overhead transmission of power in power plants, industries, projects and all other electrical installations. temperature 90° C Short circuit temperature 250° C

Features

Manufactured from bright annealed 99,97% pure bare copper & aluminum conductors. Insulated with XLPE compound. Taped extruded inner sheath. Round steel wire/flat galvanised steel strip armored. Outer sheaths can be PVC, HR PVC, FRLS or FR depending upon the application and requirement of customers.

Technical advantages of XLPE Insulation

Higher current rating Higher short circuit rating (approx. 1,2 times that of PVC) Thermosetting in nature Higher insulation resistance - 1000 times more than PVC cables Higher resistance to moisture Better resistance to surge currents Low dielectric losses Better resistance to chemicals and corrosion Longer service life Comparatively higher cable operating

Specifications

Working Voltage	: Up to 1100 V.
Temperature Range	: -15° C to +90° C
Power Cable Sizes	: 1,50 sq mm to 400,00 sq mm in 2, 3, 3 1/2 & 4 core
Copper Control Cable Sizes	: 1,50, 2,50 sq mm up to 24 cores.
Color Code	
2 core - red & black	
3 core - red, yellow, blue	
3 1/2 core - red, yellow, blue, & black (for neutral)	
4 core - red, yellow, blue & black	
5 core - red, yellow, blue, black & grey	
6 core & above - Adjacent cores are blue for reference and yellow for direction in each lay black outer sheath.	
Specification	: IS: 7098 (Part 1)
Packing	: 500/1000 meters on drums