

0.6/1kV Fire Resistant Cables with MICA/Glass tapes (Non-armoured & Armoured Type)

(0.6/1kV TFR-8, FRT-CVAWAV, FRT-CVWAV)

SCOPE

This cable is mainly used in wiring of fireplug system up to and 0.6/1kV grade.

APPLICATION STANDARDS

- IEC 60502-1 Power cables with extruded insulation and their accessories for rated voltages from 1 kV (Um = 1,2 kV) up to 30 kV (Um = 36 kV) - Part 1: Cables for rated voltages of 1 kV (Um = 1,2 kV) and 3 kV (Um = 3.6 kV)
- IEC 60331-11 Apparatus - Fire alone at a flame temperature of at least 750°C
- IEC 60332-3-24 Tests on electric cables under fire conditions - Part 3-24 : Test for vertical flame spread of vertically-mounted bunched wires or cables - Category C

MATERIALS & CONSTRUCTION

Conductor	Annealed copper wires Class 2 (Circular stranded or Compacted circular stranded type)
Fire Proof Layer	MICA/Glass tape(s)
Insulation	XLPE (Max. operating conductor temperature, 90°C)
Inner Covering	Extruded PVC (for armoured cables only)
Armour	Hard-drawn aluminum round wires for single core or galvanized steel round wires for multi-cores (for armoured cables only)
Oversheath	Flame retardant black PVC (FR-PVC/ST2)

CORE IDENTIFICATION

2cores	Brown and Black
3cores	Brown, Black and Gray
3cores + N	Brown, Black, Gray + Blue
3cores + PE	Brown, Black, Gray + Green/Yellow

OPTION

Different color of core identification and oversheath

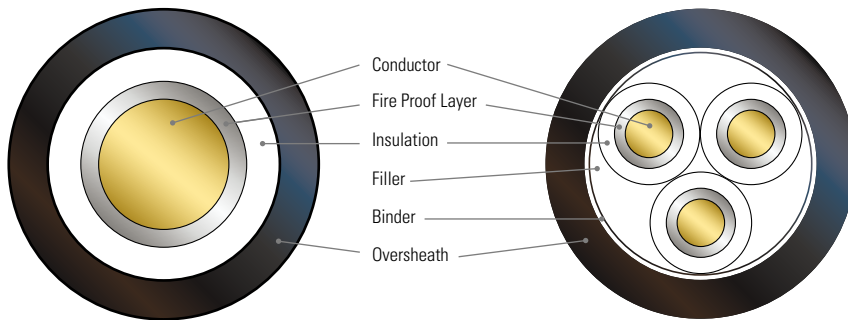
Material of oversheath : Halogen free flame retardant polyolefin (ST8)

Fire Resistance : 830°C/120min. in accordance with IEC 60331-1,2
950°C/180min. (Cat. C) in accordance with BS 6387

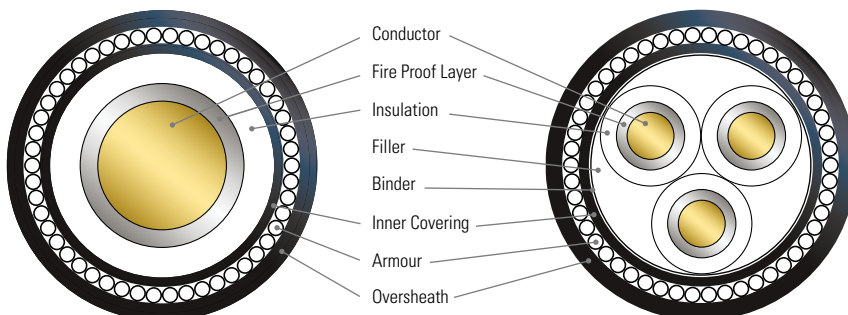
Flame Retardant : Cat. A or Cat. B in accordance with IEC 60332-3-22, -23

Oil Resistance, Anti-termite, Anti-rodent, Ozone resistance

Non-armoured Type



Armoured Type



**Non-armoured Type (0.6/1kV CU/MICA/XLPE/PVC)
(0.6/1kV TFR-8)**

Nos. of Core	Conductor			Thick. of Insulation (nom.)	Thick. of Oversheath (nom.)	Overall Diameter (approx.)	Max. DC Conductor Resistance at 20°C	A.C Voltage Test	Net weight (approx.)
	Size	Construction	Outer Dia. (approx.)						
	mm ²	Nos./mm	mm						
1	1.5	7/0.53	1.59	0.7	1.4	8	12.1	3500	65
	2.5	7/0.67	2.01	0.7	1.4	8	7.41	3500	78
	4	7/0.85	2.55	0.7	1.4	9	4.61	3500	99
	6	7/1.04	3.12	0.7	1.4	10	3.08	3500	124
	10	7/1.35	4.05	0.7	1.4	11	1.83	3500	173
	16	C.C	4.7	0.7	1.4	11	1.15	3500	230
	25	C.C	5.9	0.9	1.4	13	0.727	3500	336
	35	C.C	6.9	0.9	1.4	14	0.524	3500	437
	50	C.C	8.1	1.0	1.4	16	0.387	3500	568
	70	C.C	9.8	1.1	1.4	18	0.268	3500	787
	95	C.C	11.4	1.1	1.5	20	0.193	3500	1063
	120	C.C	12.9	1.2	1.5	22	0.153	3500	1319
	150	C.C	14.4	1.4	1.6	24	0.124	3500	1625
	185	C.C	15.9	1.6	1.6	26	0.0991	3500	2003
	240	C.C	18.3	1.7	1.7	29	0.0754	3500	2595
	300	C.C	20.5	1.8	1.8	32	0.0601	3500	3233
	400	C.C	23.2	2.0	1.9	36	0.0470	3500	410
500	C.C	26.4	2.2	2.0	40	0.0366	3500	5205	
630	C.C	30.2	2.4	2.2	45	0.0283	3500	6700	
2	1.5	7/0.53	1.59	0.7	1.8	14	12.1	3500	162
	2.5	7/0.67	2.01	0.7	1.8	14	7.41	3500	193
	4	7/0.85	2.55	0.7	1.8	16	4.61	3500	240
	6	7/1.04	3.12	0.7	1.8	17	3.08	3500	299
	10	7/1.35	4.05	0.7	1.8	19	1.83	3500	412
	16	C.C	4.7	0.7	1.8	20	1.15	3500	540
	25	C.C	5.9	0.9	1.8	24	0.727	3500	779
	35	C.C	6.9	0.9	1.8	26	0.524	3500	999
	50	C.C	8.1	1.0	1.8	29	0.387	3500	1295
	70	C.C	9.8	1.1	1.8	33	0.268	3500	1793
	95	C.C	11.4	1.1	1.9	37	0.193	3500	2381
	120	C.C	12.9	1.2	2.0	41	0.153	3500	2959
	150	C.C	14.4	1.4	2.2	46	0.124	3500	3661
185	C.C	15.9	1.6	2.3	50	0.0991	3500	4510	
240	C.C	18.3	1.7	2.5	56	0.0754	3500	5852	
300	C.C	20.5	1.8	2.6	62	0.0601	3500	7231	

Nos. of Core	Conductor			Thick. of Insulation (nom.)	Thick. of Oversheath (nom.)	Overall Diameter (approx.)	Max. DC Conductor Resistance at 20°C	A.C Voltage Test	Net weight (approx.)
	Size	Construction	Outer Dia. (approx.)						
	mm ²	Nos./mm	mm						
3	1.5	7/0.53	1.59	0.7	1.8	14	12.1	3500	190
	2.5	7/0.67	2.01	0.7	1.8	15	7.41	3500	236
	4	7/0.85	2.55	0.7	1.8	16	4.61	3500	296
	6	7/1.04	3.12	0.7	1.8	18	3.08	3500	380
	10	7/1.35	4.05	0.7	1.8	20	1.83	3500	542
	16	C.C	4.7	0.7	1.8	22	1.15	3500	715
	25	C.C	5.9	0.9	1.8	25	0.727	3500	1046
	35	C.C	6.9	0.9	1.8	28	0.524	3500	1376
	50	C.C	8.1	1.0	1.8	31	0.387	3500	1793
	70	C.C	9.8	1.1	1.9	36	0.268	3500	2494
	95	C.C	11.4	1.1	2.0	40	0.193	3500	3316
	120	C.C	12.9	1.2	2.1	44	0.153	3500	4143
	150	C.C	14.4	1.4	2.3	49	0.124	3500	506
	185	C.C	15.9	1.6	2.4	54	0.0991	3500	6356
	240	C.C	18.3	1.7	2.6	61	0.0754	3500	8212
300	C.C	20.5	1.8	2.7	66	0.0601	3500	10253	
4	1.5	7/0.53	1.59	0.7	1.8	15	12.1	3500	230
	2.5	7/0.67	2.01	0.7	1.8	16	7.41	3500	283
	4	7/0.85	2.55	0.7	1.8	18	4.61	3500	363
	6	7/1.04	3.12	0.7	1.8	19	3.08	3500	473
	10	7/1.35	4.05	0.7	1.8	22	1.83	3500	678
	16	C.C	4.7	0.7	1.8	24	1.15	3500	915
	25	C.C	5.9	0.9	1.8	28	0.727	3500	1343
	35	C.C	6.9	0.9	1.8	30	0.524	3500	1755
	50	C.C	8.1	1.0	1.9	34	0.387	3500	2307
	70	C.C	9.8	1.1	2.0	40	0.268	3500	3239
	95	C.C	11.4	1.1	2.1	44	0.193	3500	4354
	120	C.C	12.9	1.2	2.3	49	0.153	3500	5455
	150	C.C	14.4	1.4	2.4	55	0.124	3500	6713
	185	C.C	15.9	1.6	2.6	60	0.0991	3500	8324
	240	C.C	18.3	1.7	2.8	67	0.0754	3500	10825
300	C.C	20.5	1.8	3.0	74	0.0601	3500	13496	

Note) C.C : Compacted circular stranded type

**Armoured Type (0.6/1kV CU/MICA/XLPE/PVC/AWA/PVC, CU/MICA/XLPE/PVC/SWA/PVC)
(0.6/1kV FRT-CVAWAV, FRT-CVWAV)**

Nos. of Core	Conductor			Thickness		Dia. of Wire (nom.)	Thick. of Oversight (nom.)	Overall Diameter (approx.)	Max. DC Conductor Resistance at 20°C	Net weight (approx.)
	Conductor Size	Construction	Outer Dia. (approx.)	Insulation (nom.)	Inner Covering (approx.)					
	mm ²	Nos./mm	mm	mm	mm					
1	50	C.C	8.1	1.0	1.0	1.6	1.8	23	0.387	859
	70	C.C	9.8	1.1	1.0	1.6	1.8	25	0.268	1114
	95	C.C	11.4	1.1	1.0	1.6	1.8	27	0.193	1406
	120	C.C	12.9	1.2	1.0	1.6	1.8	29	0.153	1701
	150	C.C	14.4	1.4	1.0	1.6	1.8	31	0.124	2024
	185	C.C	15.9	1.6	1.0	1.6	1.8	33	0.0991	2436
	240	C.C	18.3	1.7	1.0	1.6	1.9	36	0.0754	3076
	300	C.C	20.5	1.8	1.0	1.6	2.0	39	0.0601	3761
	400	C.C	23.2	2.0	1.2	2.0	2.1	44	0.0470	4811
	500	C.C	26.4	2.2	1.2	2.0	2.2	50	0.0366	6148
	630	C.C	30.2	2.4	1.2	2.0	2.3	55	0.0283	7729
2	1.5	7/0.53	1.59	0.7	1.0	0.8	1.8	18	12.1	411
	2.5	7/0.67	2.01	0.7	1.0	0.8	1.8	19	7.41	463
	4	7/0.85	2.55	0.7	1.0	0.8	1.8	21	4.61	533
	6	7/1.04	3.12	0.7	1.0	0.8	1.8	23	3.08	749
	10	7/1.35	4.05	0.7	1.0	0.8	1.8	25	1.83	923
	16	C.C	4.7	0.7	1.0	1.6	1.8	27	1.15	1214
	25	C.C	5.9	0.9	1.0	1.6	1.8	31	0.727	1572
	35	C.C	6.9	0.9	1.0	1.6	1.8	33	0.524	1870
	50	C.C	8.1	1.0	1.0	1.6	1.8	36	0.387	2299
	70	C.C	9.8	1.1	1.0	1.6	2.0	42	0.268	3255
3	95	C.C	11.4	1.1	1.2	2.0	2.1	46	0.193	4023
	120	C.C	12.9	1.2	1.2	2.0	2.2	52	0.153	5141
	150	C.C	14.4	1.4	1.2	2.0	2.3	56	0.124	6064
	185	C.C	15.9	1.6	1.4	2.5	2.5	63	0.0991	7831
	240	C.C	18.3	1.7	1.4	2.5	2.7	70	0.0754	9681
	300	C.C	20.5	1.8	1.6	2.5	2.8	76	0.0601	11500
	1.5	7/0.53	1.59	0.7	1.0	0.8	1.8	19	12.1	455
	2.5	7/0.67	2.01	0.7	1.0	0.8	1.8	20	7.41	520
	4	7/0.85	2.55	0.7	1.0	0.8	1.8	21	4.61	606
	6	7/1.04	3.12	0.7	1.0	0.8	1.8	24	3.08	855
10	7/1.35	4.05	0.7	1.0	0.8	1.8	26	1.83	1079	
16	C.C	4.7	0.7	1.0	1.6	1.8	30	1.15	1568	
25	C.C	5.9	0.9	1.0	1.6	1.8	32	0.727	1897	
35	C.C	6.9	0.9	1.0	1.6	1.8	35	0.524	2306	
50	C.C	8.1	1.0	1.0	1.6	1.9	39	0.387	3087	
70	C.C	9.8	1.1	1.0	2.0	2.0	45	0.268	4034	
95	C.C	11.4	1.1	1.2	2.0	2.2	50	0.193	5383	
120	C.C	12.9	1.2	1.2	2.0	2.3	55	0.153	6473	
150	C.C	14.4	1.4	1.4	2.5	2.5	62	0.124	8387	
185	C.C	15.9	1.6	1.4	2.5	2.6	67	0.0991	9910	
240	C.C	18.3	1.7	1.4	2.5	2.8	74	0.0754	12310	
300	C.C	20.5	1.8	1.6	2.5	3.0	80	0.0601	14733	

Nos. of Core	Conductor			Thickness		Dia. of Wire (nom.)	Thick. of Oversheath (nom.)	Overall Diameter (approx.)	Max. DC Conductor Resistance at 20°C	Net weight (approx.)
	Conductor Size	Construction	Outer Dia.(approx.)	Insulation (nom.)	Inner Covering (approx.)					
	mm ²	Nos./mm	mm	mm	mm					
4	1.5	7/0.53	1.59	0.7	1.0	0.8	1.8	20	12.1	518
	2.5	7/0.67	2.01	0.7	1.0	0.8	1.8	21	7.41	592
	4	7/0.85	2.55	0.7	1.0	0.8	1.8	23	4.61	835
	6	7/1.04	3.12	0.7	1.0	0.8	1.8	25	3.08	994
	10	7/1.35	4.05	0.7	1.0	0.8	1.8	28	1.83	1262
	16	C.C	4.7	0.7	1.0	1.6	1.8	30	1.15	1703
	25	C.C	5.9	0.9	1.0	1.6	1.8	35	0.727	2285
	35	C.C	6.9	0.9	1.0	1.6	1.9	38	0.524	2815
	50	C.C	8.1	1.0	1.0	1.6	2.0	43	0.387	3805
	70	C.C	9.8	1.1	1.2	2.0	2.2	50	0.268	5327
	95	C.C	11.4	1.1	1.2	2.0	2.3	55	0.193	6767
	120	C.C	12.9	1.2	1.4	2.5	2.5	62	0.153	8706
	150	C.C	14.4	1.4	1.4	2.5	2.6	68	0.124	10368
	185	C.C	15.9	1.6	1.4	2.5	2.8	74	0.0991	12418
	240	C.C	18.3	1.7	1.6	2.5	3.0	81	0.0754	15388
300	C.C	20.5	1.8	1.6	2.5	3.2	89	0.0601	18594	

Note) C.C : Compacted circular stranded type