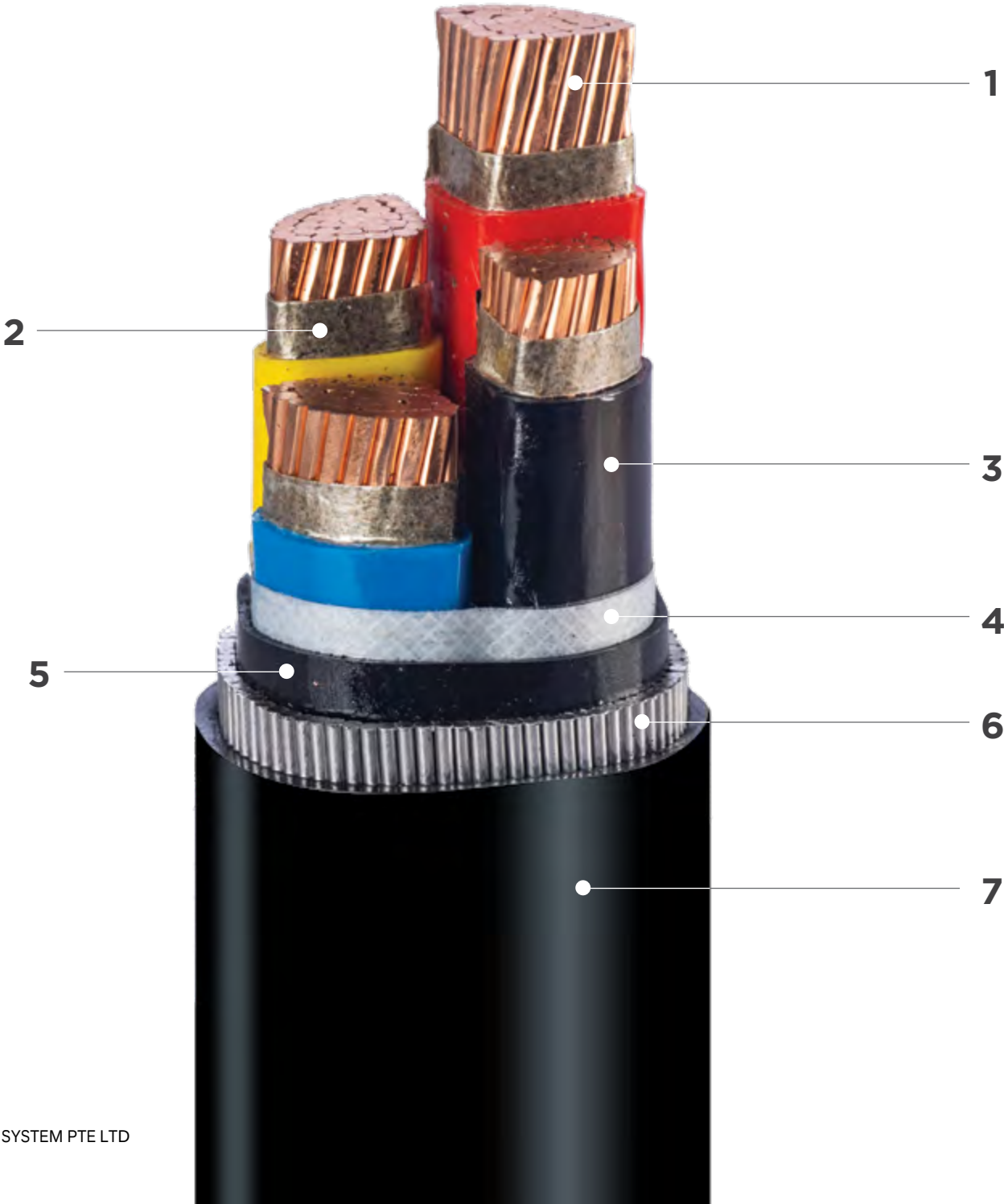


FIRE
RESISTANT
CABLES



CONSTRUCTION DETAILS:

- 1. The Conductor:**
In most fire rated cables, the conductor is made of annealed plain **Copper**, which provides high conductivity. This conductor is the main component that supplies power for fire rated cables. **Copper** has a melting point of 1084 degrees Celsius, making it a good cable conductor and fire-resistant cable material.
- 2. The Heat Barrier:**
Just over the conductor is the heat barrier. The heat barrier is the first line of defense in fire-rated cables and is usually made from high-temperature sustaining tape like Mica Tape (Only applicable for fire resistant cables).
- 3. The Insulation:**
It is made of halogen free cross-linked compound in fire-rated cables (XLPE).
- 4. LSHF Binder Tape**
- 5. The Inner Sheath:**
The internal sheath component is important for reducing smoke emissions during fire breakouts. In fire rated cables, the inner sheath is made of a zero halogen and low smoke compound (LSHF) for little to no gas emissions.
- 6. The Armour:**
It is created with **Galvanized Steel Wires**.
- 7. The Outer Sheath:**
Similar to the inner sheath, the outer sheath of a fireproof cable also contains a halogen and low smoke compound (LSHF).

• **Applicable Standards:**
IEC 60331, IEC 60332, IEC 61034-2,
IEC 60754-1, BS 6387, BS 7846

FIRE
RESISTANT
CABLES

Unarmored Cables up to 0.6/1 (1.2) kV



NON-SHEATHED CABLE
CU/MICA/LSHF

Nominal Cross Sectional Area	Max Conductor Resistance		Current Carrying Capacity		Overall Diameter (approx.)	Overall Weight (approx.)
	DC at 20 °C	AC at 90 °C	Free Air	In Pipe		
mm ²	Ω/km	Ω/km	A	A	mm	kg/km
1.5	12.1	15.42	27	24	3.0	20
2	9.05	11.53	32	29	3.5	30
2.5	7.41	9.44	36	32	3.7	35
3	6.03	7.68	41	36	3.9	40
4	4.61	5.87	49	42	4.2	50
6	3.08	3.92	62	54	4.7	70
10	1.83	2.33	86	74	6.1	115
16	1.15	1.46	114	97	7.0	170
25	0.727	0.927	154	129	8.8	270
35	0.524	0.668	190	157	9.8	365
50	0.387	0.494	231	189	11.3	495
70	0.268	0.342	297	239	13.4	700
95	0.193	0.247	367	293	15.5	965
120	0.153	0.196	422	334	16.5	1185
150	0.124	0.160	486	383	18.4	1485
185	0.099	0.128	563	441	20.6	1840
240	0.075	0.099	676	525	23.5	2400
300	0.060	0.080	784	606	26.3	3010



SINGLE CORE CABLE
CU/MICA/XLPE/LSHF

Nominal Cross Sectional Area	Max Conductor Resistance		Current Carrying Capacity				Overall Diameter (approx.)	Overall Weight (approx.)
	DC at 20 °C	AC at 90 °C	Ground		Air			
			Trefoil	Duct	Trefoil	Flat Spaced		
mm²	Ω/km	Ω/km	A	A	A	A	mm	kg/km
1.5	12.1	15.43	36	25	24	33	5.4	40
2	9.05	11.54	43	30	29	40	5.7	45
2.5	7.41	9.45	47	33	32	44	5.9	50
3	6.03	7.69	52	36	36	49	6.1	60
4	4.61	5.88	61	42	43	59	6.4	70
6	3.08	3.93	76	53	55	75	7.1	95
10	1.83	2.33	101	70	75	102	7.9	140
16	1.15	1.47	131	92	100	134	8.9	200
25	0.727	0.927	168	121	136	180	10.8	310
35	0.524	0.672	201	146	167	221	11.8	410
50	0.387	0.494	238	175	205	268	13.4	540
70	0.268	0.343	293	219	264	343	15.8	760
95	0.193	0.247	350	266	326	421	17.6	1025
120	0.153	0.196	396	304	375	484	18.7	1250
150	0.124	0.159	445	346	434	556	20.9	1565
185	0.0991	0.1270	503	396	504	644	23.1	1925
240	0.0754	0.0970	582	466	603	770	26.1	2495
300	0.0601	0.0777	656	532	698	890	28.7	3110

FIRE
RESISTANT
CABLES

Unarmored Cables up to 0.6/1 (1.2) kV

TWO CORE CABLE
CU/MICA/XLPE/LSHF

Nominal Cross Sectional Area	Max Conductor Resistance		Current Carrying Capacity			Overall Diameter (approx.)	Overall Weight (approx.)
	DC at 20 °C	AC at 90 °C	Ground	Duct	Air		
mm²	Ω/km	Ω/km	A	A	A	mm	kg/km
1.5 RM	12.1	14.60	41	31	28	9.0	115
2.5 RM	7.41	8.87	50	39	38	10.0	150
4 RM	4.61	5.54	68	49	52	11.2	190
6 RM	3.08	3.69	86	64	67	12.3	260
10 RM	1.83	2.19	112	85	89	14.4	375
16 RM	1.15	1.39	144	102	118	15.9	515
25 RM	0.727	0.927	188	133	154	19.4	790
35 RM	0.524	0.669	227	162	189	22.2	1060
50 RM	0.387	0.494	276	193	230	25.1	1380
70 RM	0.268	0.343	337	236	286	29.3	1435
95 RM	0.193	0.247	405	288	357	33.1	2610
120 RM	0.153	0.196	463	336	419	37.3	3290
150 RM	0.124	0.160	519	378	478	39.7	4015
185 RM	0.0991	0.1284	590	438	560	44.3	4970
240 RM	0.0754	0.0988	682	513	663	50.1	6465
300 RM	0.0601	0.0799	767	582	757	55.3	7970



THREE CORE CABLE
CU/MICA/XLPE/LSHF

Nominal Cross Sectional Area	Max Conductor Resistance		Current Carrying Capacity			Overall Diameter (approx.)	Overall Weight (approx.)
	DC at 20 °C	AC at 90 °C	Ground	Duct	Air		
mm²	Ω/km	Ω/km	A	A	A	mm	kg/km
1.5 RM	12.1	14.60	32	24	23	10.0	125
2.5 RM	7.41	8.87	42	31	31	10.4	165
4 RM	4.61	5.54	56	41	41	11.7	230
6 RM	3.08	3.69	70	51	53	12.8	305
10 RM	1.83	2.19	93	68	72	14.8	430
16 RM	1.15	1.39	120	88	95	17.1	625
25 RM	0.727	0.927	155	115	128	21.2	965
35 RM	0.524	0.669	186	132	158	23.5	1275
50 SM	0.387	0.494	222	159	190	24.4	1645
70 SM	0.268	0.343	275	197	246	28.1	2300
95 SM	0.193	0.247	324	238	289	31.5	3065
120 SM	0.153	0.196	367	274	336	35.1	3815
150 SM	0.124	0.160	413	312	387	39.3	4750
185 SM	0.0991	0.1284	468	355	448	43.5	5915
240 SM	0.0754	0.0988	543	416	534	48.8	7670
300 SM	0.0601	0.0799	615	474	617	53.7	9450



FIRE
RESISTANT
CABLES

Unarmored Cables up to 0.6/1 (1.2) kV



FOUR CORE CABLES WITH REDUCED NEUTRAL
CU/MICA/XLPE/LSHF

Nominal Cross Sectional Area	Max Conductor Resistance		Current Carrying Capacity			Overall Diameter (approx.)	Overall Weight (approx.)
	DC at 20 °C	AC at 90 °C	Ground	Duct	Air		
mm²	Ω/km	Ω/km	A	A	A	mm	kg/km
25 RM/16 RM	0.727/1.15	0.927/1.47	156	116	129	22.6	1125
35 RM/16 RM	0.524/1.15	0.669/1.47	187	133	159	24.4	1430
50 SM/25 RM	0.387/0.727	0.494/0.927	224	160	194	26.2	1845
70 SM/35 RM	0.268/0.524	0.343/0.669	277	198	249	30.1	2580
95 SM/50 SM	0.193/0.387	0.247/0.494	319	239	301	33.9	3495
120 SM/70 SM	0.153/0.268	0.196/0.343	373	275	351	37.9	4450
150 SM/70 SM	0.124/0.268	0.160/0.343	418	313	401	41.7	5365
185 SM/95 SM	0.0991/0.193	0.1284/0.247	475	356	466	46.7	6710
240 SM/120 SM	0.0754/0.153	0.0988/0.196	551	417	554	52.0	8700
300 SM/150 SM	0.0601/0.124	0.0799/0.160	625	475	640	57.4	10790



FOUR CORE CABLES
CU/MICA/XLPE/LSHF

Nominal Cross Sectional Area	Max Conductor Resistance		Current Carrying Capacity			Overall Diameter (approx.)	Overall Weight (approx.)
	DC at 20 °C	AC at 90 °C	Ground	Duct	Air		
mm²	Ω/km	Ω/km	A	A	A	mm	kg/km
1.5 RM	12.1	14.60	34	26	25	10.3	155
2.5 RM	7.41	8.87	44	33	33	11.3	205
4 RM	4.61	5.54	58	43	43	12.7	285
6 RM	3.08	3.69	72	53	55	14.3	385
10 RM	1.83	2.19	95	70	74	16.0	525
16 RM	1.15	1.39	122	90	97	18.3	770
25 RM	0.727	0.927	157	117	130	23.4	1225
35 RM	0.524	0.669	188	134	160	25.9	1625
50 SM	0.387	0.494	227	161	198	28.2	2140
70 SM	0.268	0.343	280	199	256	32.6	3010
95 SM	0.193	0.247	334	240	311	36.5	4030
120 SM	0.153	0.196	355	276	361	40.8	5035
150 SM	0.124	0.160	425	314	415	45.5	6260
185 SM	0.0991	0.1284	481	357	481	50.7	7795
240 SM	0.0754	0.0988	559	418	573	56.7	10145
300 SM	0.0601	0.0799	634	476	662	62.6	12535

FIRE
RESISTANT
CABLES

Armored Cables up to 0.6/1 (1.2) kV

SINGLE CORE CABLE
CU/MICA/XLPE/AWA/LSHF

Nominal Cross Sectional Area	Max Conductor Resistance		Current Carrying Capacity				Overall Diameter (approx.)	Overall Weight (approx.)
	DC at 20 °C	AC at 90 °C	Ground		Air			
			Trefoil	Duct	Trefoil	Flat Spaced		
mm²	Ω/km	Ω/km	A	A	A	A	mm	kg/km
50	0.387	0.494	240	185	224	281	18.6	750
70	0.268	0.342	295	229	284	355	20.9	995
95	0.193	0.247	353	276	348	433	22.8	1285
120	0.153	0.196	400	316	404	498	24.9	1595
150	0.124	0.156	449	358	462	568	26.8	1920
185	0.0991	0.1280	507	407	533	652	29.2	2330
240	0.0754	0.0983	587	476	633	770	32.1	2945
300	0.0601	0.0794	661	541	728	884	34.6	3580



TWO CORE CABLES
CU/MICA/XLPE/SWA/LSHF

Nominal Cross Sectional Area	Max Conductor Resistance		Current Carrying Capacity			Overall Diameter (approx.)	Overall Weight (approx.)
	DC at 20 °C	AC at 90 °C	Ground	Duct	Air		
mm²	Ω/km	Ω/km	A	A	A	mm	kg/km
6 RM	3.08	3.69	83	67	68	16.9	555
10 RM	1.83	2.19	108	88	89	20.0	875
16 RM	1.15	1.39	139	106	118	21.3	1050
25 RM	0.727	0.927	181	139	155	25.6	1570
35 RM	0.524	0.669	219	166	190	27.7	1910
50 RM	0.387	0.494	266	198	230	30.6	2335
70 RM	0.268	0.343	322	243	284	35.1	3090
95 RM	0.193	0.247	390	297	354	40.2	4190
120 RM	0.153	0.196	444	341	413	44.3	5090
150 RM	0.124	0.1597	497	385	468	47.5	6040
185 RM	0.0991	0.1284	563	444	546	54.5	7910
240 RM	0.0754	0.0988	647	515	639	58.3	9540
300 RM	0.0601	0.0799	724	580	726	65.3	11585



FIRE RESISTANT CABLES

Armored Cables up to 0.6/1 (1.2) kV



THREE CORE CABLE CU/MICA/XLPE/SWA/LSHF

Nominal Cross Sectional Area	Max Conductor Resistance		Current Carrying Capacity			Overall Diameter (approx.)	Overall Weight (approx.)
	DC at 20 °C	AC at 90 °C	Ground	Duct	Air		
mm ²	Ω/km	Ω/km	A	A	A	mm	kg/km
6 RM	3.08	3.69	69	52	55	16.8	605
10 RM	1.83	2.19	93	69	76	19.5	885
16 RM	1.15	1.39	109	81	92	21.7	1145
25 RM	0.727	0.927	156	119	135	26.7	1750
35 RM	0.524	0.669	187	143	165	28.9	2140
50 SM	0.387	0.494	225	170	201	30.1	2565
70 SM	0.268	0.343	276	211	254	35.0	3620
95 SM	0.193	0.247	331	255	311	38.6	4550
120 SM	0.153	0.196	377	292	360	42.1	5445
150 SM	0.124	0.160	422	331	413	47.8	7030
185 SM	0.0991	0.1284	548	376	471	52.0	8415
240 SM	0.0754	0.0988	547	437	557	57.7	10520
300 SM	0.0601	0.0799	614	494	636	62.8	12590



FOUR CORE CABLES WITH REDUCED NEUTRAL CU/MICA/XLPE/SWA/LSHF

Nominal Cross Sectional Area	Max Conductor Resistance		Current Carrying Capacity			Overall Diameter (approx.)	Overall Weight (approx.)
	DC at 20 °C	AC at 90 °C	Ground	Duct	Air		
mm ²	Ω/km	Ω/km	A	A	A	mm	kg/km
25 RM/16 RM	0.727/1.15	0.927/1.47	157	120	136	27.8	1925
35 RM/16 RM	0.524/1.15	0.669/1.47	188	144	166	29.9	2310
50 SM/25 RM	0.387/0.727	0.494/0.927	226	171	202	31.8	2810
70 SM/35 RM	0.268/0.524	0.343/0.669	277	212	255	37.1	3990
95 SM/50 SM	0.193/0.387	0.247/0.494	332	256	312	40.8	5040
120 SM/70 SM	0.153/0.268	0.196/0.343	378	293	361	45.3	6230
150 SM/70 SM	0.124/0.268	0.160/0.343	423	332	414	50.5	7770
185 SM/95 SM	0.0991/0.193	0.1284/0.247	549	377	472	55.3	9365
240 SM/120 SM	0.0754/0.153	0.0988/0.196	548	438	558	61.1	11720
300 SM/150 SM	0.0601/0.124	0.0799/0.160	615	495	637	66.3	14065

FIRE
RESISTANT
CABLES

Armored Cables up to 0.6/1 (1.2) kV

FOUR CORE CABLES
CU/MICA/XLPE/SWA/LSHF

Nominal Cross Sectional Area	Max Conductor Resistance		Current Carrying Capacity			Overall Diameter (approx.)	Overall Weight (approx.)
	DC at 20 °C	AC at 90 °C	Ground	Duct	Air		
mm²	Ω/km	Ω/km	A	A	A	mm	kg/km
6 RM	3.08	3.69	71	54	57	18.9	820
10 RM	1.83	2.19	95	71	78	20.9	1025
16 RM	1.15	1.39	111	83	94	24.1	1485
25 RM	0.727	0.927	158	121	137	28.8	2075
35 RM	0.524	0.669	189	145	167	31.5	2580
50 SM	0.387	0.494	227	172	203	34.0	3190
70 SM	0.268	0.343	278	213	256	39.7	4525
95 SM	0.193	0.247	333	257	313	43.6	5710
120 SM	0.153	0.196	379	294	362	49.3	7370
150 SM	0.124	0.160	424	333	415	54.0	8845
185 SM	0.0991	0.1284	550	378	473	59.2	10645
240 SM	0.0754	0.0988	549	439	559	65.7	13383
300 SM	0.0601	0.0799	616	496	638	71.5	16080

