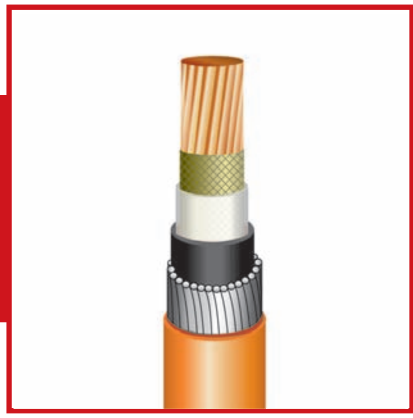
FR-H, FR-XH, FR-XAH

FR-H single core

FR-XH single core

FR-XAH single core



	FR-H single core	FR-XH single core	FR-XAH single core
Conductor :	Plain Annealed Copper	Plain Annealed Copper	Plain Annealed Copper
Fire Barrier :	Mica Tape	Mica Tape	Mica Tape
Insulation :	(a) XL-LSZH Compound or (b) XLEVA Compound	(a) XLPE Compound or (b) XLEVA Compound	(a) XLPE Compound or (b) XLEVA Compound
Bedding :			LSZH Compound
Armouring :			Aluminium Wire
Sheath :		LSZH Compound	LSZH Compound
Colour :	Insulation: Various	Insulation: Natural Sheath - Orange	Insulation: Natural Sheath - Orange
Reference Standard :	BS 7211 / In-House	IEC 60502	IEC 60502 / BS 7846
Test Standard :	IEC 60331 BS 6387 (C, W, Z), SS 299 (C) IEC 60332-3, BS 4066-3, BS EN 50266-2-2 IEC 60754-1, BS 6425-1, BS EN 50267-2-1 IEC 60754-2, BS 6425-2, BS EN 50267-2-2 IEC 61034-2, BS 7622-2, BS EN 61034-2	IEC 60331 BS 6387 (C, W, Z), SS 299 (C) IEC 60332-3, BS 4066-3, BS EN 50266-2-2 IEC 60754-1, BS 6425-1, BS EN 50267-2-1 IEC 60754-2, BS 6425-2, BS EN 50267-2-2 IEC 61034-2, BS 7622-2, BS EN 61034-2	IEC 60331 BS 6387 (C, W, Z), SS 299 (C,W,Z) IEC 60332-3, BS 4066-3, BS EN 50266-2-2 IEC 60754-1, BS 6425-1, BS EN 50267-2-1 IEC 60754-2, BS 6425-2, BS EN 50267-2-2 IEC 61034-2, BS 7622-2, BS EN 61034-2
Voltage Uo/U :	450 / 750V, 600 / 1000V	600 / 1000V	600 / 1000V
Conductor Stranding :	Class 2	Class 2	Class 2
Operating Temperature :	(a) Max 90°C for XL-LSZH Compound (b) Max 110°C for XLEVA	(a) Max 90°C for XLPE (b) Max 110°C for XLEVA	(a) Max 90°C for XLPE (b) Max 110°C for XLEVA
Minimum Bending Radius :	8D for unarmoured cable	8D for unarmoured cable	10D for armoured cable

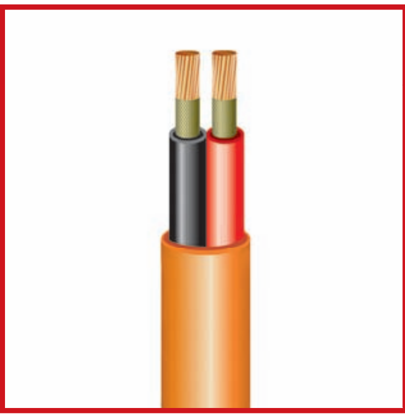
Fire Resistant Cables FR-H, FR-XH, FR-XAH

Table 1

SIZE		FR-H			FR-XH			FR-XAH			
			Insulated, Non-Sheathed			Unarmoured		Armoured			
Nominal Conductor Area (mm²)	No. and Diameter of Wires (no./mm)	Radial Thickness of Insulation (mm)	Cable Overall Diameter (mm)	Approx. Weight (kg/km)	Radial Thickness of Insulation (mm)	Cable Overall Diameter (mm)	Approx. Weight (kg/km)	Diameter Under Armour (mm)	Armour Wire Diameter (mm)	Cable Overall Diameter (mm)	Approx. Weight (kg/km)
1 x 1.5	7 / 0.53	0.7	4.1	30	0.7	6.4	54	-	-	-	-
1 x 2.5	7 / 0.67	0.8	4.5	41	0.7	6.8	67	-	-	-	-
1 x 4	7 / 0.85	0.8	5.0	58	0.7	7.4	86	-	-	-	-
1 x 6	7 / 1.04	0.8	5.6	79	0.7	7.9	109	-	-	-	-
1 x 10	7 / 1.35	1.0	6.9	127	0.7	8.9	155	-	-	-	-
1 x 16	7 / 1.70	1.0	8.0	187	0.7	9.9	219	-	-	-	-
1 x 25	7 / 2.14	1.2	9.6	289	0.9	11.6	324	-	-	-	-
1 x 35	7 / 2.52	1.2	10.8	387	0.9	12.8	424	-	-	-	-
1 x 50	19 / 1.78	1.4	12.7	520	1.0	14.3	554	13.6	1.25	19.7	800
1 x 70	19 / 2.14	1.4	14.4	726	1.1	16.3	770	15.6	1.25	21.7	1045
1 x 95	19 / 2.52	1.6	16.7	996	1.1	18.4	1038	17.5	1.25	23.6	1336
1 x 120	37 / 2.03	1.6	18.2	1237	1.2	20.2	1292	18.6	1.6	25.4	1618
1 x 150	37 / 2.25	1.8	20.1	1517	1.4	22.4	1582	21.3	1.6	28.1	1984
1 x 185	37 / 2.52	2.0	22.4	1896	1.6	24.7	1961	23.6	1.6	30.4	2404
1 x 240	61 / 2.25	2.2	25.4	2472	1.7	27.7	2543	26.4	1.6	33.4	3033
1 x 300	61 / 2.52	2.4	28.0	3086	1.8	30.5	3160	29.2	1.6	36.6	3732
1 x 400	61 / 2.85	2.6	31.3	3921	2.0	34.1	4011	32.6	2.0	41.0	4745
1 x 500	61 / 3.20	2.8	34.8	4915	2.2	37.8	5021	36.2	2.0	44.7	5826
1 x 630	127 / 2.52	2.8	38.6	6266	2.4	42.6	6447	41.0	2.0	49.7	7378
1 x 800	127 / 2.85	-	-	-	2.6	47.5	8179	45.7	2.5	55.8	9406
1 x 1000	127 / 3.20	-	-	-	2.8	52.6	10239	51.0	2.5	61.5	11682

Note: For FR-H cables, Cross-Linked LSZH Compound will be used as the insulation material.

FR-XH 2-4 cores & multi-core



FR-XSH 2-4 cores & multi-core

	FR-XH & FR-XSH 2-4 cores	FR-XH & FR-XSH multi-core
Conductor :	Plain Annealed Copper	Plain Annealed Copper
Fire Barrier :	Mica Tape	Mica Tape
Insulation :	(a) XLPE Compound or (b) XLEVA Compound	(a) XLPE Compound or (b) XLEVA Compound
Bedding :	LSZH Compound	LSZH Compound
Armouring :	Galvanized Steel Wire	Galvanized Steel Wire
Sheath :	LSZH Compound	LSZH Compound
Colour :	Insulation: 2 Cores - Red & Black or Brown & Blue 3 Cores - Red, Yellow & Blue or Brown, Black & Grey 4 Cores - Red, Yellow, Blue & Black or Brown, Black, Grey & Blue	Insulation: White with Black numberings Sheath - Orange
Reference Standard :	IEC 60502 / BS 7846	IEC 60502 / BS 7846
Test Standard :	IEC 60331 BS 6387 (C, W, Z), SS 299 (C, W, Z) IEC 60332-3, BS 4066-3, BS EN 50266-2-2 IEC 60754-1, BS 6425-1, BS EN 50267-2-1 IEC 60754-2, BS 6425-2, BS EN 50267-2-2 IEC 61034-2, BS 7622-2, BS EN 61034-2	IEC 60331 BS 6387 (C, W, Z), SS 299 (C, W, Z) IEC 60332-3, BS 4066-3, BS EN 50266-2-2 IEC 60754-1, BS 6425-1, BS EN 50267-2-1 IEC 60754-2, BS 6425-2, BS EN 50267-2-2 IEC 61034-2, BS 7622-2, BS EN 61034-2
Voltage Uo/U :	600 / 1000V	600 / 1000V
Conductor Stranding :	Class 2	Class 2
Operating Temperature :	(a) Max 90°C for XLPE (b) Max 110°C for XLEVA	(a) Max 90°C for XLPE (b) Max 110°C for XLEVA
Minimum Bending Radius :	8D for unarmoured cable 10D for armoured cable	8D for unarmoured cable 10D for armoured cable

FR-XH, FR-XSH

Fire Resistant Cables FR-XH, FR-XSH

Table 2

SIZE			FR-XH		FR-XSH				
			Unarmoured		Armoured				
Nominal Conductor Area (mm²)	No. and Diameter of Wires (no./mm)	Radial Thickness of Insulation (mm)	Cable Overall Diameter (mm)	Approx. Weight (kg/km)	Diameter Under Armour (mm)	Armour Wire Diameter (mm)	Cable Overall Diameter (mm)	Approx. Weight (kg/km)	
2 X 1.5	7 / 0.53	0.7	11.8	150	9.3	0.9	14.7	398	2 Cores
2 X 2.5	7 / 0.67	0.7	12.2	184	10.2	0.9	15.6	451	
2 X 4	7 / 0.85	0.7	13.0	234	11.2	0.9	16.6	522	
2 X 6	7 / 1.04	0.7	13.8	295	12.4	0.9	17.8	610	
2 X 10	7 / 1.35	0.7	15.6	414	14.2	1.25	20.3	880	
2 X 16	7 / 1.70	0.7	17.7	575	16.3	1.25	22.4	1102	
2 X 25	7 / 2.14	0.9	21.2	849	19.1	1.6	25.9	1483	
2 X 35	7 / 2.52	0.9	23.5	1100	22.1	1.6	28.9	1971	
3 X 1.5	7 / 0.53	0.7	12.5	172	9.9	0.9	15.3	434	3 Cores
3 X 2.5	7 / 0.67	0.7	13.2	215	10.8	0.9	16.2	502	
3 X 4	7 / 0.85	0.7	13.9	280	12.0	0.9	17.4	588	
3 X 6	7 / 1.04	0.7	15.6	359	13.2	1.25	19.3	802	
3 X 10	7 / 1.35	0.7	16.6	515	15.2	1.25	21.3	1018	
3 X 16	7 / 1.70	0.7	18.9	729	17.5	1.25	23.6	1293	
3 X 25	7 / 2.14	0.9	22.6	1090	21.2	1.6	28.0	1926	
3 X 35	7 / 2.52	0.9	25.0	1427	23.8	1.6	30.6	2371	
3 X 50	19 / 1.78	1.0	28.4	1876	27.2	1.6	34.2	2968	
3 X 50 (S)	19 / 1.78	1.0	27.2	1638	24.8	1.6	33.0	2756	
3 X 70	19 / 2.14	1.1	32.9	2623	30.9	2.0	38.9	3892	
3 X 70 (S)	19 / 2.14	1.1	30.9	2286	28.6	2.0	37.9	3817	
3 X 95	19 / 2.52	1.1	37.2	3519	35.6	2.0	44.0	5240	
3 X 95 (S)	19 / 2.52	1.1	34.3	3078	31.7	2.0	41.5	4865	
3 X 120	37 / 2.03	1.2	41.3	4402	39.7	2.0	48.3	6351	
3 X 120 (S)	37 / 2.03	1.2	37.6	3836	34.7	2.0	44.8	5849	
3 X 150	37 / 2.25	1.4	45.9	5412	43.7	2.5	53.7	7964	
3 X 150 (S)	37 / 2.25	1.4	41.7	4677	38.8	2.5	50.3	7311	
3 X 185	37 / 2.52	1.6	51.0	6739	48.8	2.5	59.0	9590	
3 X 185 (S)	37 / 2.52	1.6	46.1	6172	42.8	2.5	54.8	9104	
3 X 240	61 / 2.25	1.7	57.5	8734	54.9	2.5	65.5	11948	
3 X 240 (S)	61 / 2.25	1.7	51.4	7567	47.5	2.5	59.8	10922	
3 X 300	61 / 2.52	1.8	63.4	10817	60.6	2.5	71.6	14382	
3 X 300 (S)	61 / 2.52	1.8	55.3	9383	51.5	2.5	64.4	13151	
3 X 400 (S)	61 / 2.85	2.0	70.6	13744	68.0	2.5	79.5	17810	
3 X 500 (S)	61 / 3.20	2.2	78.5	17194	75.9	3.15	89.3	22822	

Note: (s) - Sectoral Stranded Conductors.

Fire Resistant Cables FR-XH, FR-XSH

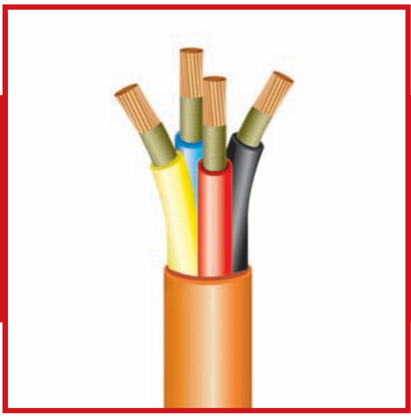
Table 3

SIZE			FR-XH		FR-XSH				
			Unarmoured		Armoured				
Nominal Conductor Area (mm²)	No. and Diameter of Wires (no./mm)	Radial Thickness of Insulation (mm)	Cable Overall Diameter (mm)	Approx. Weight (kg/km)	Diameter Under Armour (mm)	Armour Wire Diameter (mm)	Cable Overall Diameter (mm)	Approx. Weight (kg/km)	
4 x 1.5	7 / 0.53	0.7	13.4	202	10.8	0.9	16.2	490	4 Cores
4 x 2.5	7 / 0.67	0.7	14.4	255	11.8	0.9	17.2	571	
4 x 4	7 / 0.85	0.7	15.7	336	13.8	0.9	19.2	780	
4 x 6	7 / 1.04	0.7	17.1	437	14.5	1.25	20.6	930	
4 x 10	7 / 1.35	0.7	18.1	635	16.7	1.25	22.8	1193	
4 x 16	7 / 1.70	0.7	20.7	908	19.3	1.6	26.1	1693	
4 x 25	7 / 2.14	0.9	24.9	1365	23.5	1.6	30.3	2332	
4 x 35	7 / 2.52	0.9	27.6	1797	26.2	1.6	33.2	2885	
4 x 50	19 / 1.78	1.0	31.3	2369	29.9	1.6	37.1	3624	
4 x 50 (S)	19 / 1.78	1.0	31.0	2173	28.2	1.6	36.7	3427	
4 x 70	19 / 2.14	1.1	36.6	3341	34.8	2.0	43.2	5100	
4 x 70 (S)	19 / 2.14	1.1	34.8	3032	32.2	2.0	42.0	4788	
4 x 95	19 / 2.52	1.1	41.4	4492	39.4	2.0	48.0	6510	
4 x 95 (S)	19 / 2.52	1.1	38.9	4105	35.8	2.0	45.9	6117	
4 x 120	37 / 2.03	1.2	46.2	5647	43.8	2.5	53.8	8357	
4 x 120 (S)	37 / 2.03	1.2	42.4	5110	39.4	2.5	51.1	7784	
4 x 150	37 / 2.25	1.4	51.0	6911	48.4	2.5	58.6	9880	
4 x 150 (S)	37 / 2.25	1.4	47.2	6209	43.8	2.5	55.8	9262	
4 x 185	37 / 2.52	1.6	57.0	8637	54.0	2.5	64.6	11965	
4 x 185 (S)	37 / 2.52	1.6	52.1	8223	48.2	2.5	60.8	11522	
4 x 240	61 / 2.25	1.7	64.2	11199	60.8	2.5	71.8	14990	
4 x 240 (S)	61 / 2.25	1.7	58.0	10076	53.9	2.5	67.1	14018	
4 x 300	61 / 2.52	1.8	71.0	13914	67.2	2.5	78.6	18124	
4 x 300 (S)	61 / 2.52	1.8	63.2	12522	58.8	2.5	72.3	16865	
4 x 400 (S)	61 / 2.85	2.0	79.0	17680	76.3	3.15	90.0	23368	
4 x 500 (S)	61 / 3.20	2.2	87.8	22119	84.7	3.15	99.0	28436	
5 x 1.5	7 / 0.53	0.7	13.2	218	11.8	0.9	16.4	500	Multi- Core
7 x 1.5	7 / 0.53	0.7	14.3	265	12.9	0.9	17.5	576	
10 x 1.5	7 / 0.53	0.7	18.3	404	16.5	1.25	22.0	901	
12 x 1.5	7 / 0.53	0.7	18.9	459	17.1	1.25	22.6	977	
19 x 1.5	7 / 0.53	0.7	22.3	649	19.5	1.6	25.9	1249	
27 x 1.5	7 / 0.53	0.7	27.0	870	24.5	1.6	31.3	1808	
37 x 1.5	7 / 0.53	0.7	30.3	1183	27.6	1.6	34.6	2224	
48 x 1.5	7 / 0.53	0.7	34.8	1500	31.7	1.6	38.8	2706	
5 x 2.5	7 / 0.67	0.7	14.5	297	12.8	0.9	17.6	588	
7 x 2.5	7 / 0.67	0.7	15.8	378	14.0	0.9	18.8	691	
10 x 2.5	7 / 0.67	0.7	20.2	547	18.2	1.25	23.9	1080	
12 x 2.5	7 / 0.67	0.7	20.8	625	18.9	1.25	24.6	1178	
19 x 2.5	7 / 0.67	0.7	24.6	896	22.7	1.6	29.3	1734	
27 x 2.5	7 / 0.67	0.7	29.6	1236	27.1	1.6	34.1	2235	
37 x 2.5	7 / 0.67	0.7	33.3	1645	30.5	1.6	37.7	2745	
48 x 2.5	7 / 0.67	0.7	38.2	2089	37.7	2.0	46.0	3903	
5 x 4	7 / 0.85	0.7	16.0	394	14.2	1.25	19.9	830	
7 x 4	7 / 0.85	0.7	17.4	508	15.6	1.25	21.3	977	
10 x 4	7 / 0.85	0.7	22.3	736	20.6	1.25	26.5	1360	
12 x 4	7 / 0.85	0.7	23.1	848	21.3	1.6	27.9	1654	
19 x 4	7 / 0.85	0.7	27.3	1230	25.2	1.6	32.0	2163	
27 x 4	7 / 0.85	0.7	32.9	1706	30.4	1.6	37.6	2834	
37 x 4	7 / 0.85	0.7	37.1	2283	34.7	2.0	42.9	3797	
48 x 4	7 / 0.85	0.7	42.6	2910	42.1	2.0	50.6	4952	

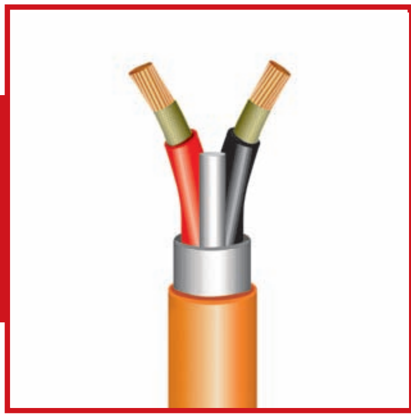
Note: Other conductor sizes & core configurations are available upon request.
: Braided Armoured Cables are available upon request.
: (S) - Sectoral Stranded Conductors.

FR-XL, FRA-XOL

FR-XL 1-4 cores



FRA-XOL 2-4 cores



	FR-XL 1-4 cores	FRA-XOL 2-4 cores
Conductor :	Plain Annealed Copper	Plain Annealed Copper
Fire Barrier :	Mica Tape	Mica Tape
Insulation :	(a) XLPE Compound or (b) XLEVA Compound	(a) XLPE Compound or (b) XLEVA Compound
Overall Screen :		Aluminium / Polyester Tape with full size tinned annealed copper circuit protective conductor
Bedding :		
Armouring :		
Sheath :	LSZH Compound	LSZH Compound
Colour :	Insulation: 1 Core - Natural 2 Cores - Red & Black / Brown & Blue 3 Cores - Red, Yellow & Blue / Brown, Black & Grey 4 Cores - Red, Yellow, Blue & Black / Brown, Black, Grey & Blue Sheath - Orange	Insulation: 2 Cores - Red & Black / Brown & Blue 3 Cores - Red, Yellow & Blue / Brown, Black & Grey 4 Cores - Red, Yellow, Blue & Black / Brown, Black, Grey & Blue Sheath - Orange
Reference Standard :	BS 6004 / In-house	BS7629-1 / In-house
Test Standard :	IEC 60331 BS 6387 (C, W, Z), SS 299 (C, W, Z) IEC 60332-3, BS 4066-3, BS EN 50266-2-2 IEC 60754-1, BS 6425-1, BS EN 50267-2-1 IEC 60754-2, BS 6425-2, BS EN 50267-2-2 IEC 61034-2, BS 7622-2, BS EN 61034-2	IEC 60331 BS 6387 (C, W, Z), SS 299 (C, W, Z) IEC 60332-3, BS 4066-3, BS EN 50266-2-2 IEC 60754-1, BS 6425-1, BS EN 50267-2-1 IEC 60754-2, BS 6425-2, BS EN 50267-2-2 IEC 61034-2, BS 7622-2, BS EN 61034-2
Voltage Uo/U :	300 / 500V	300 / 500V
Conductor Stranding :	Class 2	Class 1 or Class 2
Operating Temperature :	(a) Max 90°C for XLPE (b) Max 110°C for XLEVA	(a) Max 90º C for XLPE (b) Max 110º C for XLEVA
Minimum Bending Radius :	6D for unarmoured cable	6D for unarmoured cable

Fire Resistant Cables FR-XL, FRA-XOL

Table 4

SIZE	FR-XL				FRA-XOL				
			Unarmoured				Unarmoured		
Nominal Conductor Area (mm²)	No. and Diameter of Wires (no./mm)	Radial Thickness of Insulation (mm)	Cable Overall Diameter (mm)	Approx. Weight (kg/km)	No. and Diameter of Wires (no./mm)	Radial Thickness of Insulation (mm)	Cable Overall Diameter (mm)	Approx. Weight (kg/km)	
1 x 1.5	7 / 0.53	0.6	5.4	41	-	-	-	-	1 Core
1 x 2.5	7 / 0.67	0.7	5.9	54	-	-	-	-	
1 x 4	7 / 0.85	0.7	6.6	75	-	-	-	-	
2 x 1.0	-	-	-	-	1 / 1.13	0.6	8.7	82	2 Cores
2 x 1.5	7 / 0.53	0.6	9.7	87	1 / 1.38	0.7	9.5	103	
2 x 2.5	7 / 0.67	0.7	10.9	120	1 / 1.78	0.8	10.9	146	
2 x 4	7 / 0.85	0.7	12.0	157	7 / 0.85	0.8	12.7	208	
3x 1.0	-	-	-	-	1 / 1.13	0.6	9.2	101	3 Cores
3 x 1.5	7 / 0.53	0.6	10.3	113	1 / 1.38	0.7	10.2	129	
3 x 2.5	7 / 0.67	0.7	11.6	158	1 / 1.78	0.8	11.6	184	
3 x 4	7 / 0.85	0.7	12.8	210	7 / 0.85	0.8	13.5	264	
4 x 1.0	-	-	-	-	1 / 1.13	0.6	10.3	126	4 Cores
4 x 1.5	7 / 0.53	0.6	11.3	141	1 / 1.38	0.7	11.3	162	
4 x 2.5	7 / 0.67	0.7	12.8	198	1 / 1.78	0.8	13.0	231	
4 x 4	7 / 0.85	0.7	14.3	273	7 / 0.85	0.8	15.1	330	

Note: Other conductor sizes & core configurations are available upon request.
: Braided Armoured Cables are available upon request.