

# FRHF-CXOSA 0.6/1kV

Halogen free low smoke fire resistant power cable,  
with copper wire braiding



## Type Approval Certificates

- American Bureau of Shipping
- Bureau Veritas
- China Classification Society
- Det Norske Veritas
- Germanischer Lloyd
- Korean Register
- Lloyd's Register
- Nippon Kaiji Kyokai
- Registro Italiano Navale

## Application

Fire resistant cables for fixed installations in all areas and open deck



## Conductors

- acc. to IEC 60228 - Class 2 circular stranded copper for size 10mm<sup>2</sup> and below
- Class 5 flexible conductor for size 16mm<sup>2</sup> and above

## Fire Resistant Layer

mica tape

## Insulation

cross-linked polyethylene HF XLPE-90°C acc. to IEC 60092-351

## Filler

polypropylene yarn

## Inner Covering

polyester tape

## Screen/Armour

copper wire braiding as armour and shielding to achieve better EMI (Electro Magnetic Interference) performance

## Outer Sheath

thermoplastic polyolefine halogen-free compound type SHF1 acc. to IEC 60092-351

## Color of Outer Sheath

orange

## Core Identification

- 1-core : not specified
- 2-core : brown, blue
- 3-core : black, brown, grey
- 4-core : black, blue, brown, grey
- 5-core : grey, black<sub>1</sub>, blue, brown, black<sub>2</sub>
- 6-core : white with black numbering
- and more

Maximum conductor operating temperature	: +90°C
Lowest ambient temperature for fixed installation	: -40°C
Lowest installation temperature	: -15°C
Maximum short-circuit conductor temperature	: +250°C
Minimum bending radius	: 6D (D is the overall diameter of the cable)

## Test Performances

Fire resistant	: IEC 60331-1 (D >20mm <sup>2</sup> ), IEC 60331-2 or IEC 60331-21 (D ≤20mm <sup>2</sup> )
Flame retardant	: IEC 60332-3-22 Category A
Smoke emission	: IEC 61034-2: transmittance values >60%
Gases evolved during combustion	: IEC 60754-1: <0,5% acid gas IEC 60754-2: pH ≥4,3; conductivity ≤10 μSmm <sup>-1</sup>

## Standards

Construction and Design	: IEC 60228, IEC 60092-350, IEC 60092-353
Materials	: IEC 60092-351, IEC 60092-359



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No. of Cores	Conductor Size	Nominal Outer Diameter	Maximum Conductor Resistance	Voltage Test (A.C)	Minimum Insulation Resistance	Approx. Cable Weight
No.s	mm <sup>2</sup>	mm	Ω/km-20°C	kV/5min	MΩ·km-20 °C	kg/km
1	1	7.3	18.1	3.5	1380	65
1	1.5	7.6	12.1	3.5	850	90
1	2.5	8.0	7.41	3.5	700	105
1	4	8.6	4.61	3.5	600	130
1	6	9.3	3.08	3.5	500	140
1	10	10.3	1.83	3.5	400	190
1	16	12.0	1.21	3.5	340	280
1	25	14.5	0.780	3.5	290	420
1	35	15.7	0.554	3.5	270	525
1	50	17.7	0.386	3.5	250	695
1	70	20.1	0.272	3.5	220	940
1	95	21.8	0.206	3.5	210	1210
1	120	23.8	0.161	3.5	210	1500
1	150	26.0	0.129	3.5	210	1820
1	185	28.7	0.1060	3.5	210	2250
1	240	31.8	0.0801	3.5	210	2920
1	300	34.7	0.0641	3.5	200	3580
1	400	39.2	0.0486	3.5	200	4550
2	1	11.1	18.1	3.5	1380	125
2	1.5	11.8	12.1	3.5	850	145
2	2.5	12.7	7.41	3.5	700	180
2	4	14.6	4.61	3.5	600	225
2	6	15.6	3.08	3.5	500	310
2	10	17.6	1.83	3.5	400	410
2	16	20.6	1.21	3.5	340	655
2	25	24.4	0.780	3.5	290	920
2	35	27.0	0.554	3.5	270	1160
2	50	31.0	0.386	3.5	250	1560
2	70	35.9	0.272	3.5	220	2130
2	95	40.0	0.206	3.5	210	2770
2	120	44.0	0.161	3.5	210	3350
2	150	48.2	0.129	3.5	210	4050
2	185	53.0	0.1060	3.5	210	5040
2	240	60.4	0.0801	3.5	210	6400
2	300	65.7	0.0641	3.5	200	7840
3	1	11.9	18.1	3.5	1380	140
3	1.5	12.4	12.1	3.5	850	175
3	2.5	13.4	7.41	3.5	700	215
3	4	15.2	4.61	3.5	600	275
3	6	16.4	3.08	3.5	500	375
3	10	18.6	1.83	3.5	400	530
3	16	21.8	1.21	3.5	340	830
3	25	26.0	0.780	3.5	290	1190
3	35	28.8	0.554	3.5	270	1520
3	50	33.1	0.386	3.5	250	2060
3	70	38.2	0.272	3.5	220	2940
3	95	41.1	0.206	3.5	210	3700
3	120	46.4	0.161	3.5	210	4595





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No.s	mm <sup>2</sup>	mm	Ω/km-20°C	kV/5min	MΩkm-20°C	kg/km
3	150	51.5	0.129	3.5	210	5560
3	185	57.3	0.1060	3.5	210	6840
3	240	64.0	0.0801	3.5	210	8690
4	1	12.8	18.1	3.5	1380	175
4	1.5	13.4	12.1	3.5	850	205
4	2.5	15.3	7.41	3.5	700	255
4	4	16.6	4.61	3.5	600	360
4	6	18.2	3.08	3.5	500	460
4	10	20.7	1.83	3.5	400	660
4	16	23.5	1.21	3.5	340	1045
4	25	27.9	0.780	3.5	290	1500
4	35	31.0	0.554	3.5	270	1930
4	50	36.4	0.386	3.5	250	2710
4	70	42.1	0.272	3.5	210	3730
4	95	46.6	0.206	3.5	210	4990
4	120	51.8	0.161	3.5	210	5780
4	150	57.0	0.129	3.5	210	7060
4	185	63.5	0.1060	3.5	210	8820
5	1	13.3	18.1	3.5	1380	220
5	1.5	15.2	12.1	3.5	850	250
5	2.5	16.4	7.41	3.5	700	320
5	4	17.6	4.61	3.5	600	450
5	6	19.1	3.08	3.5	500	600
5	10	21.9	1.83	3.5	400	850
5	16	25.5	1.21	3.5	340	1270
5	25	30.7	0.780	3.5	290	1830
5	35	34.3	0.554	3.5	270	2390
5	50	40.0	0.386	3.5	250	3310
5	70	46.6	0.272	3.5	210	4590
6	1	14.4	18.1	3.5	1380	240
6	1.5	16.4	12.1	3.5	850	290
6	2.5	17.9	7.41	3.5	700	370
7	1	15.6	18.1	3.5	1380	270
7	1.5	16.4	12.1	3.5	850	305
7	2.5	17.9	7.41	3.5	700	400
8	1	15.6	18.1	3.5	1380	310
8	1.5	17.8	12.1	3.5	850	370
8	2.5	19.3	7.41	3.5	700	480
9	1	16.9	18.1	3.5	1380	345
9	1.5	19.0	12.1	3.5	850	425
9	2.5	20.8	7.41	3.5	700	540
10	1	18.0	18.1	3.5	1380	390
10	1.5	20.7	12.1	3.5	850	510
10	2.5	22.8	7.41	3.5	700	650
12	1	19.7	18.1	3.5	1380	470
12	1.5	21.4	12.1	3.5	850	560
12	2.5	23.4	7.41	3.5	700	730



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No.s	mm <sup>2</sup>	mm	Ω/km-20°C	kV/5min	MΩ·km-20 °C	kg/km
14	1	20.2	18.1	3.5	1380	520
14	1.5	22.6	12.1	3.5	850	630
14	2.5	24.6	7.41	3.5	700	830
16	1	21.2	18.1	3.5	1380	580
16	1.5	23.7	12.1	3.5	850	710
16	2.5	26.1	7.41	3.5	700	895
18	1	22.4	18.1	3.5	1380	640
18	1.5	25.1	12.1	3.5	850	770
18	2.5	27.4	7.41	3.5	700	980
19	1	23.6	18.1	3.5	1380	670
19	1.5	25.1	12.1	3.5	850	790
19	2.5	27.4	7.41	3.5	700	1030
20	1	23.6	18.1	3.5	1380	695
20	1.5	25.8	12.1	3.5	850	850
20	2.5	28.4	7.41	3.5	700	1100
23	1	24.2	18.1	3.5	1380	790
23	1.5	27.8	12.1	3.5	850	970
23	2.5	30.5	7.41	3.5	700	1260
24	1	26.0	18.1	3.5	1380	820
24	1.5	29.3	12.1	3.5	850	1010
24	2.5	32.3	7.41	3.5	700	1320
27	1	27.4	18.1	3.5	1380	890
27	1.5	29.9	12.1	3.5	850	1095
27	2.5	33.2	7.41	3.5	700	1430
28	1	28.2	18.1	3.5	1380	920
28	1.5	29.9	12.1	3.5	850	1130
28	2.5	33.2	7.41	3.5	700	1470
30	1	28.2	18.1	3.5	1380	960
30	1.5	31.2	12.1	3.5	850	1190
30	2.5	34.3	7.41	3.5	700	1560
32	1	29.2	18.1	3.5	1380	1010
32	1.5	31.8	12.1	3.5	850	1260
32	2.5	34.9	7.41	3.5	700	1650
33	1	29.7	18.1	3.5	1380	1040
33	1.5	32.4	12.1	3.5	850	1290
33	2.5	35.6	7.41	3.5	700	1700
34	1	30.4	18.1	3.5	1380	1070
34	1.5	32.6	12.1	3.5	850	1340
34	2.5	36.5	7.41	3.5	700	1750
37	1	30.7	18.1	3.5	1380	1150
37	1.5	33.8	12.10	3.5	850	1430
37	2.5	37.5	7.4	3.5	700	1870
44	1.5	38.3	12.1	3.5	850	1650
44	2.5	42.4	7.41	3.5	700	2320