

# FRNC power cable (N)HXH FE180/E90



**Application:** For installation in dry and wet rooms, also for direct bedding in concrete, but not for direct burial in the ground and not for use in water. The cable has improved properties in case of fire and may be used in public buildings with high safety requirements. The cable is halogen-free, has a low smoke density and is fire-resistant according to VDE 0472 part 814 /IEC 60331-11 for 180 minutes. Furthermore the cable passed the test of 90 min. circuit integrity according to DIN 4102 part 12 (E 90) for all so-called standard installation systems (ladder, tray and ceiling). A special test certificate about the circuit integrity is issued by -The Civil Engineering Materials Testing Institute-. For calculation of electrical systems with circuit integrity has to be considered that electrical resistance of copper conductors at 1000 °C is approximately 4,5 times higher than at 20 °C and the current carrying capacity has to be reduced respectively.

## Construction and technical data:

<b>Standard:</b>	VDE 0266
<b>Conductor material:</b>	copper, bare
<b>Conductor construction:</b>	class 1, from 25 sqmm class 2
<b>Insulation:</b>	FRNC-compound HI1
<b>Sheathing material:</b>	FRNC-compound HM1
<b>Colour of outer sheath:</b>	orange
<b>Flame-retardant:</b>	VDE 0482-266-2-4/IEC 60332-3-24 (Cat. C)
<b>Smoke density:</b>	DIN EN 61034/IEC 61034
<b>Halogen-free:</b>	DIN EN 50267/IEC 60754
<b>Fire-resistant:</b>	VDE 0472-814/IEC 60331-11 (FE 180)
<b>Circuit integrity:</b>	E90
<b>Max. temperature at conductor, °C:</b>	90 °C
<b>Permitted outer cable temperature, fixed, °C:</b>	-30 - +90 °C
<b>Permitted outer cable temperature, moved, °C:</b>	-5 °C
<b>Bending radius, fixed installation, multicore:</b>	12 x Ø
<b>Bending radius, fixed installation, singlecore:</b>	15 x Ø



*The products and information presented here are for technical calculation only. They are subject to technical progress and in no way represent the ability of shipment. Outer diameters are approximately.*

**(N)HXH-O E90**

<b>Nominal voltage U<sub>o</sub>:</b>	0.6 kV
<b>Nominal voltage U:</b>	1 kV
<b>Maximum permitted operating voltage in three-phase systems:</b>	1.2 kV
<b>Test voltage:</b>	4 kV
<b>Protective conductor:</b>	no
<b>Core identification:</b>	colours acc. to HD 308; more than 5 cores: numbers

part no.	part name		RI [Ohm/km]	I <sub>bl</sub> [A]	R <sub>bv</sub> [mm]	Ø [mm]	Cu	G [kg]
015730	01X16	RM	1.15	102	182	12.1	154	310
012020	01X16	RE	1.15	102	158	10.5	154	230
012021	01X25	RM	0.727	138	188	12.5	240	340
012022	01X35	RM	0.524	170	203	13.5	336	440
011757	01X50	RM	0.387	207	209	13.9	480	600
011843	01X70	RM	0.268	263	248	16.5	672	800
011756	01X95	RM	0.193	325	284	18.9	912	1100
011744	01X120	RM	0.153	380	308	20.5	1152	1350
011177	01X150	RM	0.124	437	338	22.5	1440	1650
011755	01X185	RM	0.0991	507	374	24.9	1776	2000
011754	01X240	RM	0.0754	604	419	27.9	2304	2600
011178	01X300	RM	0.0601	697	464	30.9	2880	3200
012221	01X400	RM	0.047	811	524	34.9	3840	4200
012011	02X1.5	RE	12.1	24	167	13.9	29	210
013885	02X2.5	RE	7.41	32	165	13.7	49	222
013223	02X4	RE	4.61	42	177	13.3	77	294
013224	02X6	RE	3.08	53	189	15.7	115	400
013225	02X10	RE	1.83	74	207	17.2	192	525
013226	02X16	RE	1.15	98	228	19	307	693
013912	04X95	RM	0.193	308	543	45.2	3648	5200
013913	04X120	RM	0.153	359	587	48.9	4608	6300

**(N)HXH-J E90**

<b>Nominal voltage U<sub>o</sub>:</b>	0.6 kV
<b>Nominal voltage U:</b>	1 kV
<b>Maximum permitted operating voltage in three-phase systems:</b>	1.2 kV
<b>Test voltage:</b>	4 kV
<b>Protective conductor:</b>	yes
<b>Core identification:</b>	colours acc. to VDE 0293 (HD 308); more than 5 cores: gn-ye + numbers

part no.	part name		RI [Ohm/km]	I <sub>bl</sub> [A]	R <sub>bv</sub> [mm]	Ø [mm]	Cu	G [kg]
010951	03X1.5	RE	12.1	24	179	14.9	43	210
010952	03X2.5	RE	7.41	32	191	15.9	72	243
010953	03X4	RE	4.61	42	201	16.7	115	302
010954	03X6	RE	3.08	53	214	17.8	173	399
010955	03X10	RE	1.83	74	233	19.4	288	546
010956	03X16	RE	1.15	98	268	22.3	461	765
014073	03X25	RM	0.727	133	292	24.3	720	1296
014074	03X35	RM	0.524	162	327	27.2	1008	1653

part no.	part name		RI [Ohm/km]	Ibl [A]	Rbv [mm]	Ø [mm]	Cu	G [kg]
014075	03X50	RM	0.387	197	370	30.8	1440	2172
014076	03X70	RM	0.268	250	419	34.9	2016	2984
010957	04X1.5	RE	12.1	24	194	16.1	58	245
010958	04X2.5	RE	7.41	32	203	16.9	96	299
010959	04X4	RE	4.61	42	215	17.9	154	376
010960	04X6	RE	3.08	53	231	19.2	230	474
010961	04X10	RE	1.83	74	254	21.1	384	657
010962	04X16	RE	1.15	98	292	24.3	614	973
010963	04X25	RM	0.727	133	338	28.1	960	1422
010964	04X35	RM	0.524	162	371	30.9	1344	1858
011950	04X50	RM	0.387	197	422	35.1	1920	2900
011955	04X70	RM	0.268	250	479	39.9	2688	3900
011949	04X95	RM	0.193	308	543	45.2	3648	5200
011956	04X120	RM	0.153	359	587	48.9	4608	6300
011869	04X150	RM	0.124	412	611	50.9	5760	6800
013666	04X185	RM	0.0991		746	62.1	7104	8698
011963	04X240	RM	0.0754	564	779	64.6	9216	12270
010965	05X1.5	RE	12.1	24	209	17.4	72	290
010966	05X2.5	RE	7.41	32	221	18.4	120	359
010967	05X4	RE	4.61	42	234	19.5	192	457
010968	05X6	RE	3.08	53	251	20.9	288	577
010969	05X10	RE	1.83	74	275	22.9	480	807
010970	05X16	RE	1.15	98	320	26.6	768	1145
010971	05X25	RM	0.727	133	371	30.9	1200	1765
013667	05X35	RM	0.524	162	400	33.3	1680	2462
012042	05X50	RM	0.387	197	512	42.7	2400	3700
013668	05X70	RM	0.268	250	518	43.1	3360	4559
013669	05X95	RM	0.193	308	592	49.3	4560	6150
014077	05X120	RM	0.153	359	641	53.4	5760	7495
013670	05X150	RM	0.124	412	713	57.7	7200	9400
013671	05X185	RM	0.0991		816	68	8880	10836
010989	07X1.5	RE	12.1	24	224	18.6	101	350
013128	10X1.5	RE	12.1	24	240	20	144	538
011020	12X1.5	RE	12.1	24	282	23.5	173	545
011982	12X2.5	RE	7.41	32	303	25.2	288	780
011162	24X1.5	RE	12.1	24	323	26.9	346	735
011124	07X2.5	RE	7.41	32	238	19.8	168	443
013293	07X4	RE	4.61	42	209	17.4	269	565
012928	07X6	RE	3.08	53	227	18.9	403.2	718

RI	Conductor resistance
Ibl	Ampacity in air (30 °C)
Rbv	Bending radius, fixed installation
Ø	outer diameter approx.
Cu	Copper weight (GER)
G	net weight per 1000