



DIN VDE 0250-602 / 606 short-circuit-proof single-core wires

NSHXAFÖ 1.8/3 kV

Halogen-Free Short-Circuit-Proof Single-Core Wire

DIN VDE 0250-606 LSZH / FRNC single-core wire (3GI3 EPR + HM3) for rail & switchgear



1.8/3 kV & 3.6/6 kV

Halogen-Free LSZH (HM3)

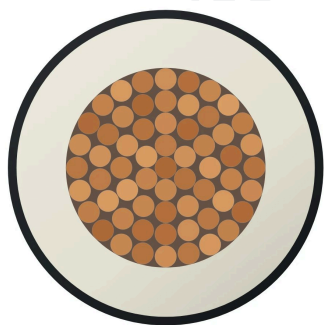
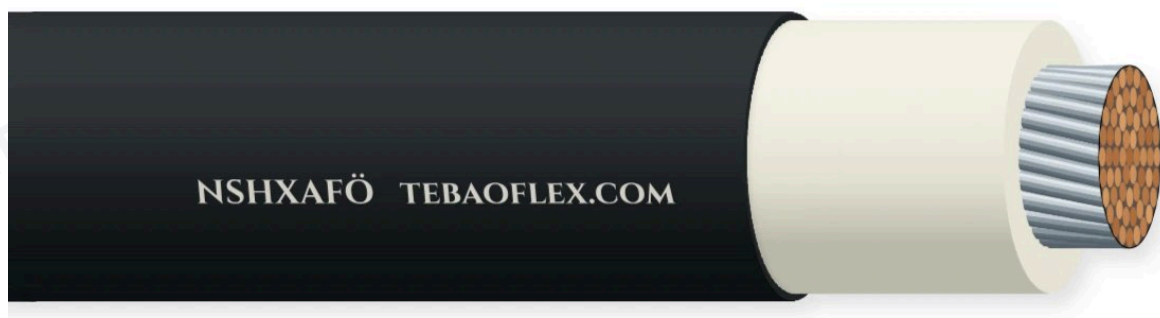
DIN VDE 0250-606

Application

Halogen-free, low-smoke 1.8/3 kV (and 3.6/6 kV) single-core rubber wire (NSHXAFÖ) to DIN VDE 0250-606 with Class 5 tinned copper core, 3GI3 EPR insulation and HM3 FRNC sheath — short-circuit and earth-fault proof in switchgear and rail up to 1,000 V.

Typical uses: Passenger trains, metro & underground coaches, Electric buses, trams & traction converters, Halogen-free LV/MV switchgear & busbar risers, Subway stations, tunnels & public buildings, Marine, offshore & data-centre UPS switchboards, Short-circuit-proof rectifier & inverter links

Construction



Cross-section, not to scale

- 1 Conductor
- 2 Core insulation (3GI3)
- 3 Outer sheath (HM3)

Technical data

Typical values

Rated voltage U ₀ /U (max DC)	1.8/3 kV AC standard (max. 2.7/5.4 kV DC) · 3.6/6 kV AC series also available	Routine test voltage & short-circuit proof	6.0 kV AC test (1.8/3 kV) · Inherently short-circuit & earth-fault proof up to 1,000 V
Ambient temperature — moved / fixed	-25 to +70 °C moved · -40 to +70 °C fixed (conductor up to +90 °C)	Max. short-circuit temperature	+250 °C (1 s adiabatic short-circuit rating 0.21 kA on 1.5 mm ² to 71.5 kA on 500 mm ²)
Min. bending radius	6 × D fixed installation · 10 × D moving application (4 × D / 5 × D in dry cabinet wiring)	Permissible tensile load	15 N/mm ² of copper cross-section (21 N on 1.5 mm ² up to 7,500 N on 500 mm ²)
Standards	DIN VDE 0250-606 (halogen-free NSHXAFÖ) & DIN VDE 0250-602 · DIN EN IEC 60228 (VDE 0295) Class 5	Standard packing	Coils or wooden drums; available in 1.8/3 kV, 3.6/6 kV and screened NSHXAFCMÖ

Sizes

18 standard constructions

Tick the sizes you need and send this page to info@tebaoflex.com or WhatsApp +86 185 9591 3361.

Order designation	Cross-section mm ²	OD min mm	OD approx mm	OD max mm	Cu weight kg/km	Total weight ≈ kg/km	Max. pull N	Ampacity (air) A
1.5 – 16 mm ² 6 sizes								
☐ NSHXAFÖ 1 × 1.5	1 × 1.5	5.7	6.0	7.0	14	50	21	30
☐ NSHXAFÖ 1 × 2.5	1 × 2.5	6.0	6.5	7.5	24	60	41	41
☐ NSHXAFÖ 1 × 4	1 × 4	6.8	7.0	9.0	38	80	60	55
☐ NSHXAFÖ 1 × 6	1 × 6	7.3	7.5	9.5	58	100	90	70
☐ NSHXAFÖ 1 × 10	1 × 10	8.7	9.0	11.0	96	160	150	98
☐ NSHXAFÖ 1 × 16	1 × 16	10.0	10.5	13.0	154	230	240	132
25 – 120 mm ² 6 sizes								
☐ NSHXAFÖ 1 × 25	1 × 25	12.4	12.5	15.0	240	340	375	176
☐ NSHXAFÖ 1 × 35	1 × 35	13.4	13.5	16.5	336	430	525	219
☐ NSHXAFÖ 1 × 50	1 × 50	14.9	15.5	18.0	480	580	750	276
☐ NSHXAFÖ 1 × 70	1 × 70	16.6	17.5	20.5	672	780	1,050	347
☐ NSHXAFÖ 1 × 95	1 × 95	19.3	20.5	24.0	912	1,030	1,425	416
☐ NSHXAFÖ 1 × 120	1 × 120	20.8	21.5	26.0	1,152	1,270	1,800	488
150 – 500 mm ² 6 sizes								
☐ NSHXAFÖ 1 × 150	1 × 150	23.0	23.5	28.0	1,440	1,570	2,250	566
☐ NSHXAFÖ 1 × 185	1 × 185	25.2	25.5	31.0	1,776	1,900	2,775	644
☐ NSHXAFÖ 1 × 240	1 × 240	28.1	28.0	34.5	2,304	2,500	3,600	775
☐ NSHXAFÖ 1 × 300	1 × 300	30.8	31.5	38.0	2,890	3,000	4,500	898
☐ NSHXAFÖ 1 × 400	1 × 400	34.6	37.3	40.0	3,840	4,000	6,000	1,060
☐ NSHXAFÖ 1 × 500	1 × 500	39.0	43.5	45.0	4,800	5,860	7,500	1,250

– 1×400 mm² min/max OD corrected from transposed 40.0/34.6 mm in the PDF table to 34.6–40.0 mm.

Resistance & 1 s short-circuit current

18 sizes

Cross-section mm ²	Max. DC resistance at 20 °C Ω/km	Current in air (30 °C) A	1 s short-circuit current I _{lk} kA	Max. pulling force N
1 × 1.5	13.700	30	0.21	21
1 × 2.5	8.210	41	0.35	41
1 × 4	5.090	55	0.57	60
1 × 6	3.390	70	0.85	90

Cross-section mm ²	Max. DC resistance at 20 °C Ω/km	Current in air (30 °C) A	1 s short-circuit current I _k kA	Max. pulling force N
1 × 10	1.950	98	1.43	150
1 × 16	1.240	132	2.28	240
1 × 25	0.795	176	3.57	375
1 × 35	0.565	219	5.00	525
1 × 50	0.393	276	7.15	750
1 × 70	0.277	347	10.01	1,050
1 × 95	0.210	416	13.58	1,425
1 × 120	0.164	488	17.16	1,800
1 × 150	0.132	566	21.45	2,250
1 × 185	0.108	644	26.45	2,775
1 × 240	0.082	775	34.32	3,600
1 × 300	0.065	898	42.90	4,500
1 × 400	0.049	1,060	57.20	6,000
1 × 500	0.039	1,250	71.50	7,500

– Adiabatic 1 s short-circuit current I_k is calculated for 90 °C initial to 250 °C final conductor temperature.

3.6/6 kV series dimensions

14 sizes

Cross-section 3.6/6 kV	OD min mm	OD max mm	Nominal weight ≈ kg/km
1 × 1.5 (3.6/6 kV)	8.3	9.5	135
1 × 2.5 (3.6/6 kV)	8.6	10.5	150
1 × 4 (3.6/6 kV)	9.4	12.0	170
1 × 6 (3.6/6 kV)	9.9	13.0	200
1 × 10 (3.6/6 kV)	10.9	14.5	250
1 × 16 (3.6/6 kV)	12.6	15.5	350
1 × 25 (3.6/6 kV)	14.5	17.5	480
1 × 35 (3.6/6 kV)	15.6	19.0	600
1 × 50 (3.6/6 kV)	17.1	21.0	760
1 × 70 (3.6/6 kV)	18.8	23.0	960
1 × 95 (3.6/6 kV)	21.3	26.5	1,240
1 × 120 (3.6/6 kV)	23.2	28.5	1,530
1 × 150 (3.6/6 kV)	25.0	30.5	1,790
1 × 185 (3.6/6 kV)	26.8	33.0	2,130

– 3.6/6 kV sizes include an inner semi-conductive conductor screen; screened NSHXAFCMÖ 1×185 mm² (3.6/6 kV) has 38.5 mm nominal OD and 3,060 kg/km weight.

Standards and approvals

Certifications



Management systems: ISO 9001, ISO 14001, ISO 45001

Request a quotation

Send the size, length and destination. An application engineer replies within 2 business hours.

WhatsApp / phone

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Email

info@tebaoflex.com

Web

tebaoflex.com/cables/nshxafoe-cable



Typical values for this cable type, based on DIN VDE 0250-606 / VDE 0250-602. Values for your order are confirmed in the quotation. Subject to change without notice.
Jiangsu Tebaoflex Special Cable Co., Ltd., Taicang, Jiangsu, China.