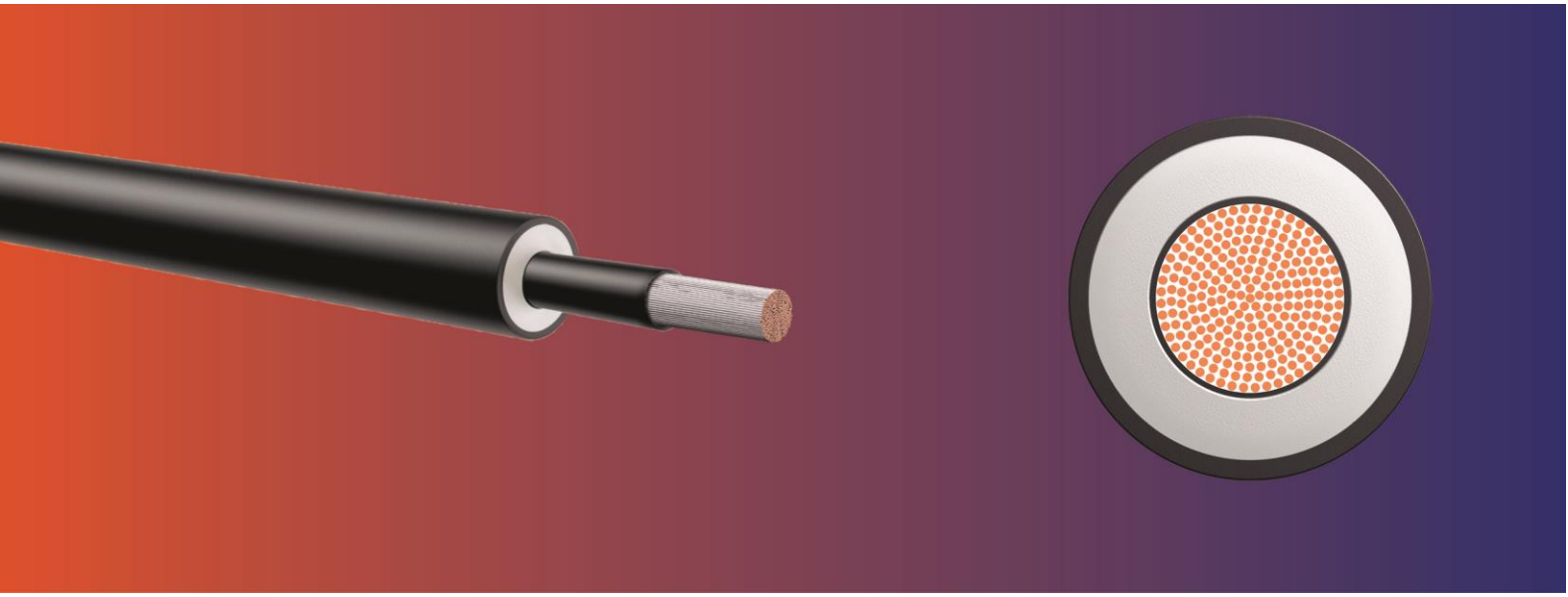
ROLLING STOCK – AUXILIARY - AND MAINPOWER CABLE

BETAtrans® 9 GKW-ENX EN 50264-3-1 3600 V MM

Single core wire according to EN 50264-1



Application

This single core wire is used for fixed and protected installations inside and outside of rail vehicles and other vehicles. It is suitable for the wiring of electric engines, switch and auxiliary boards, converters and distribution boxes. For installation the guidelines of EN 50355 and EN 50343 must be considered.

Construction

Conductor	Tinned fine copper strand acc. to VDE 0295 / IEC 60228, class 5
Semi-conductor	Comp 157
Insulation	Polyolefin Copolymer, Comp 752, electronbeam cross-linked
Colour	White
Sheath	Polyolefin Copolymer, Comp 752, electronbeam cross-linked
Colour	Black, further colours upon request

Advantages

- Halogen free
- Electron-beam cross-linked
- Very long lifetime
- High dielectric strength
- Good media resistance
- Short circuit and fault proof
- High level cold resistance

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Electrical properties

Rated value	U0/U	3.6 / 6 kV AC
Maximum voltage	U0m	4.32 kV AC
Maximum voltage	Um	7.2 kV AC
Maximum voltage	V0	5.4 kV DC
Maximum voltage	Vm	10.8 kV DC
Test voltage		11 kV, 50 Hz / 5 min.

Thermal properties

Max. operating temperature	fixed installation	+120°C
Min. ambient temperature	fixed installation	-40°C
Max. short circuit temperature		+280°C (max. 5s)

Mechanical properties

Bending radius	fixed installation	Ø < 10 mm: > 3 x Ø (-40°C)
Bending radius	fixed installation	Ø ≥ 10 mm: > 4 x Ø (-40°C)

Material properties / Standards

Material properties	EN 50264-3-1 hazard level M
Resistance to ozone	EN 60811-403
High resistance to cold	EN 60811-504
High resistance to oil	EN 60811-404
High resistance to fuel	EN 60811-404

Material properties / Standards

Resistance to acid	EN 60811-404
Resistance to alkaline	EN 60811-404
Low fire load	DIN 51900
Limiting oxygen index (LOI)	ISO 4589-2 ASTM D 2863
Resistance to UV	EN 50618
Fire performance for rolling stock	EN 45545-2 HL1 - HL3
Fire performance for rolling stock	EN 50264-1
Vertical flame propagation for a single insulated wire or cable	EN 60332-1-2
Vertical flame spread of bunched wires or cables ≥ 12 mm	EN 60332-3-24
Vertical flame spread of bunched wires or cables > 6 < 12 mm	EN 60332-3-25
Vertical flame spread of bunched wires or cables ≤ 6 mm	EN 50305
Smoke density	EN 61034-2
Toxicity of gases	EN 50305
Absence of halogens	EN 60754-1 EN 60684-2
Corrosivity of gases	EN 60754-2
Corrosivity of gases	EN 60754-2

Approvals

Swiss Federal Railways

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Construction Cross-sec. [mm2]	Conductor construction [n x mm]	Conductor-Ø [mm]	R_{20} [mΩ/m]	Outer-Ø [mm]	Weight [kg/km]	Fire load [kWh/m]	Part no.
2.5	45 x 0.25	2.05	8.21	9.65 ± 0.20	125	0.425	313668
4	52 x 0.30	2.55	5.09	10.15 ± 0.30	146	0.464	313669
6	78 x 0.30	3.10	3.39	10.70 ± 0.30	172	0.506	313670
10	74 x 0.40	4.10	1.95	11.70 ± 0.30	223	0.584	313671
16	119 x 0.40	5.00	1.24	12.60 ± 0.30	287	0.653	313672
25	181 x 0.40	6.20	0.80	15.00 ± 0.30	421	0.916	313673
35	257 x 0.40	7.70	0.57	16.50 ± 0.30	544	1.101	313674
50	371 x 0.40	9.70	0.39	18.50 ± 0.30	718	1.348	313675
70	336 x 0.50	11.20	0.28	20.00 ± 0.30	926	1.456	313676
95	444 x 0.50	12.80	0.21	21.80 ± 0.40	1159	1.693	313677
120	570 x 0.50	14.60	0.16	23.80 ± 0.40	1419	1.904	313678
150	708 x 0.50	16.40	0.13	25.60 ± 0.40	1718	2.238	313679
185	864 x 0.50	17.90	0.11	27.90 ± 0.50	2062	2.470	313680
240	1147 x 0.50	20.70	0.08	31.90 ± 0.50	2717	3.117	313681

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