

Theft defending grounding cables



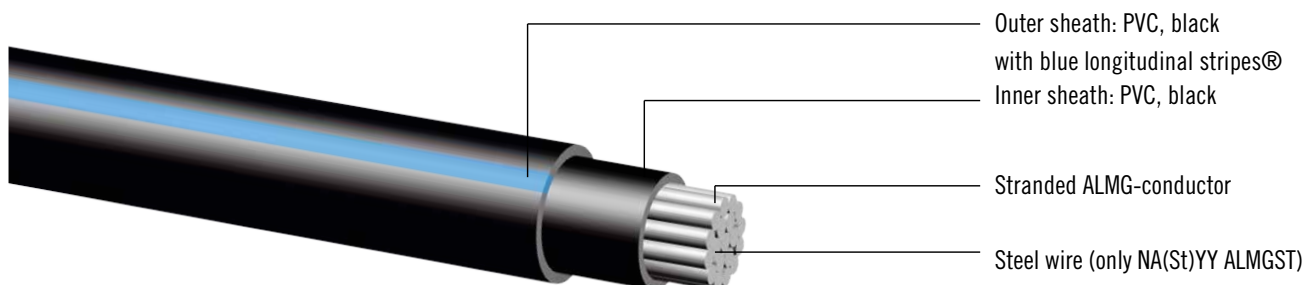
BayEnergy® - grounding cables

- for use at the rail, mast and
some other applications at railway systems

BayEnergy® - grounding cable

(N)AYY / (N)A(St)YY / (N)A(St)2XH - 1-core

according to Bayka standard BayEnergy 01, resp. 02



Optional:



Standards

Bayka company standard BayEnergy 02.

The cables are in compliance with EU LVD (Low Voltage Directive 2014/35/EU) and RoHS Directive EU 2002/65/EC - RoHS 2.0 and Regulation No. 1907/2006 (REACH).

The design with improved behaviour in the event of fire is halogen-free according to DIN EN 50267-2-2, flame retardant according to DIN EN 60332-1-2.

- For more Information, please use the QR-Code or www.bayka.de:



Technical Data

Rated voltage U_0/U kV	0,6/1		
Nominal cross section mm ²	75	100	110
Conductor resistance Ω/km	$\leq 0,468 \leq 0,365 \leq 0,32$		
max. current carrying capacity *) A	214	270	290

*) max. current carrying capacity in air based on DIN VDE 0276-603, table 15.
Short-circuit current according to Deutsche Bahn standard 997.0205A01 (1.3.2003) paragraph 2 „current carrying capability“

Vibration resistance according to Dlk 1.013.168y (sinusoidal oscillation load type 1)

Permissible temperature range °C	
during laying, installing and similar	-10 bis +60
before and after laying	-30 bis +60

Product		Bayka Order.-No.	Outer Ø	Net weight approx.	Rated short- time current	Tensile force	Bending radius one-off / repeated
			ca. mm	kg/km	kA	daN	min. mm
(N)A(St)YY-O 75 RM 0,6/1kV	ALMGST37	4019370	19	495	24,00	470	90 180
(N)A(St)2XH-O 75 RM 0,6/1kV	ALMGST37	4019389	19	420	24,00	470	90 180
(N)A(St)YY-O 100 RM 0,6/1kV	ALMGST37	4019320	20	570	40,00	630	100 200
(N)A(St)2XH-O 100 RM 0,6/1kV	ALMGST37	4019390	20	500	40,00	630	100 200
(N)AYY-O 110 RM 0,6/1kV	ALMG	4019310	21	620	40,00	660	105 210
(N)A(St)YY-O 110 RM 0,6/1kV	ALMGST37	4019330	21	630	40,00	690	105 210
(N)A(St)2XH-O 110 RM 0,6/1kV	ALMGST37	4019388	21	570	40,00	690	105 210

DB released pin-and connecting component



 Cembre

Product		for (N)A(St)YY-O (N)A(St)2XH-O 75 RM	for (N)AYY-O (N)A(St)YY-O (N)A(St)2XH-O 100 und 110 RM	Bayka Order-No.
Aluminium Terminals	AA75.20-M16-ST tinned	✓		9835012
Aluminium Terminals	AA75.20-M12-ST tinned	✓		9835009
Aluminium Terminals	ASED110.22-M12-ST tinned		✓	9835007
Aluminium Terminals	ASED110.22-M16-ST tinned		✓	9835008
Aluminium Terminals	AA75-M12-ST tinned	✓		9835013
Aluminium Terminals	AA75-M16-ST tinned	✓		9835016
Aluminium Terminals	AA120-M12-ST tinned		✓	9835020
Aluminium Terminals	AA120-M16-ST tinned		✓	9835026
Aluminium Connector	LAD75	✓		9835101
Aluminium Connector	LAD75.20	✓		9835100
Aluminium Connector	LAD110.22		✓	9835200
Aluminium Connector	MTMA95-50-GC-D	✓		9835102
Aluminium Connector	MTMA120		✓	9835202
Aluminium Connector	MTMA120-70-GC		✓	9835201
Aluminium Connector	MTMA150-120-GC		✓	9835203
C-clamp for branch	C110A-C110AS	✓	✓	9835300
Pressing insert	MDB110-50	✓	✓	9835002
Pressing insert	MDB110-60 incl. clip	✓	✓	9835021
Pressing insert	MDB110-C	✓	✓	9835022
Pressing insert	MDBC1-50	✓	✓	9835023
Pressing insert	MDBC1-60 incl. clip	✓	✓	9835024
Pressing insert	MDBC1-3D-P	✓	✓	9835025
Bending tool		✓	✓	9835006

DB released grounding cable from Bayka

Product	CPR-class	VDE-release	EBA-release	DB-approval
(N)A(St)YY-O 75 RM 0,6/1kV ALMGST37	-	✓	✓	✓
(N)A(St)2XH-O 75 RM 0,6/1kV ALMGST37	E _{ca}	✓	✓	✓
(N)A(St)YY-O 100 RM 0,6/1kV ALMGST37	-	✓	✓	✓
(N)A(St)2XH-O 100 RM 0,6/1kV ALMGST37	E _{ca}	✓	✓	✓
(N)AYY-O 110 RM 0,6/1kV ALMG	-	✓	✓	✓
(N)A(St)YY-O 110 RM 0,6/1kV ALMGST37	-	✓	✓	✓
(N)A(St)2XH-O 110 RM 0,6/1kV ALMGST37	E _{ca}	✓	✓	✓

Technical Documentation (DB AG)	Titel
3 Ebs 15.03.17-3	grounding connector (Aluminium core)
3 Ebs 15.01.46 Bl.2	grounding at platform
3 Ebs 15.03.22	Terminal for Aluminium-grounding connector, using according to Ebs 15.03.17-3
4 Ebs 15.03.26	C-clamp for Aluminium-grounding cable
TM 2011-134 I.NVT 4 zu RIL 954.02	Implementation from grounding cables and return conductor
3 Ebs 15.03.38	Connector for Aluminium-grounding connector

CABEL THEFT - PREVENTION IS BETTER THAN SEARCHING

With a railway network of about 33,000 km the DB AG has a hardly solvable job to protect all theft-threatened parts. Road

ground lines, traditionally of copper made, are desired with thieves, because here the highest proceeds are achievable.

Press reports:

In May an international summit took place because of the copper thefts in Vienna. At that time the damage potential was estimated as „huge“, because according to ÖBB „a stolen ground cable with a value of five to six euros causes a damage which goes to the thousands“. The ÖBB saw 5,000 kilometres of cable as potential stolen goods in completely Austria (Austria: ORF, 23. February 2014)

More than one and a half hours had to change ÖBB traveller in Vienna on Tuesday on the underground. Between the railway stations Vienna village Hüttel and Vienna Meidling a cable theft was noted about 10. 20 o'clock because. For safety reasons trains on the rapid-transit railway distance could not drive S60 afterwards any more. As a result five trains fell out. (Austria: Kurier, 05. August 2014)

Zeiningen AG: Again grounding cable stolen once more have

audacious copper thieves in a railway line with Zeiningen on longer distance the grounding cable separated. The damage to property is substantial. The affected road segment is in the free field between Mumpf and Möhlin on municipal area Zeiningen. In unknown manner the thieves cut the grounding cable on a length of nearly two kilometres and took away the cable pieces. The value of the copper amounts to about 10'000 fr. The damage to property must be numbered at about 20'000 fr. (Switzerland Police, 24. October 2013)

Haßloch; Böhl; Schifferstadt; Neustadt; Ludwigshafen; (ots) - federal policemen arrested on Saturday morning about 8. 15 o'clock three cable thieves at the age of 48, 52, and 57 years in the section between Haßloch and Böhl red-handed. Three male culprits loaded Just brightly - and scrap metal, to the value of 8,500 euros, from a building site of the



EXAMPLE

Grounding cable from overhead line mast to rail

Copper cable: 10 m

Content: 5 kg Copper

Profit: approx. 20,- Euro

German railways in the Böhler street in hatred hole when a patrol of the federal police arrived. On inquiry the men provided implausible information. Other inquiries proved that the culprits had already appeared several times because of theft.

Now a penal procedure expects three men because of especially heavy theft. Moreover, you had to unload approx. a half a tonne of metal again. (German Federal police, 18. August 2014)

The Bayka-solution

By artificial DNA or invisible marks make easier the search for the thief, nevertheless, the theft cannot be prevented basically. Effective means against the Kabelklau have already turned out BayEnergy® road ground lines.

Your benefit

- for thieves unattractive
- Proprietary tip by coat print
- coloured longitudinal strips for the avoidance of Torsion and as an additional theft protection
- an easy transfer and assembly
- Processing with standard tools

BayEnergy® - grounding cables

BayEnergy® aluminium grounding cables serve of the short circuit stream parties ground connection and to the potential balance. The developed and improved grounding cables are marked with two blue Bayka-cable identity stripes® on the outer sheath to show the origin Bayka quality „made in Germany“.

The print „**Property of German Railways**“, or „**property of transport services**“ represents the proprietary of the cable and support the protection against thefts. BayEnergy® aluminium grounding cables can be easily distinguished from copper ground lines and thereby deter potential thieves. Further properties of the grounding cables are:

- resistant against blow charges, oscillation charges and push charges
- UV-resistant
- torsion free laying simple controlling
- easy laying, mounting and handling with standard tools

The grounding cables and watertight Aluminium Terminals can be directly connected with the rail foot (EBA-approved). Cables with cross section 75 mm² are released for short-circuit current ≤ 25 kA and the cross sections 100 and 110 mm² for > 25 kA. The Design with improved behaviour in the case of fire are preferred for laying in tunnel areas.



THANK YOU VERY MUCH

THAT YOU ARE CONSIDERING US!

"Satisfied customers are the standard of our work!"

With this motto the management team runs the company. Over 130 years of experience in the cable production means a maximum of technical competence in development, design and production.

We use this know-how entirely for the success of our customers. We also offer highest flexibility in planning, product information and service and can also produce customer-specific special designs in short delivery times. Convince yourself of our sophisticated logistics system.

Thomas Schrimpf

Speaker of the Management Board

CONTACT

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Bayka
since 1885