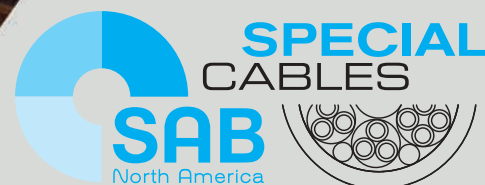


# CABLES & ACCESSORIES FOR RAILWAY TECHNOLOGY



[www.sabcable.com](http://www.sabcable.com)  
866-722-2974 ■ [info@sabcable.com](mailto:info@sabcable.com)



# SAB North America

## About Us

SAB North America is a focused supplier for the automation, aerospace, medical, high temperature, and robotics industries, providing cable solutions that meet, exceed, and set new standards in the flexible cable market. In addition to flexible cable products, we offer an extensive inventory of high-quality cable accessories, including cord grips, grounding glands and other accessories that complement our flexible control and automation cables.

Whatever the need may be, look to SAB North America for Special Cables that can, for example, help minimize maintenance costs and increase productivity, reduce downtime, and solve specific problems. Here is a small sample of some of the challenges that Special Cables from SAB North America can help address:

- Hybrid designs for multiple functions
- Harsh environments
- Difficult applications
- Industry-specific requirements

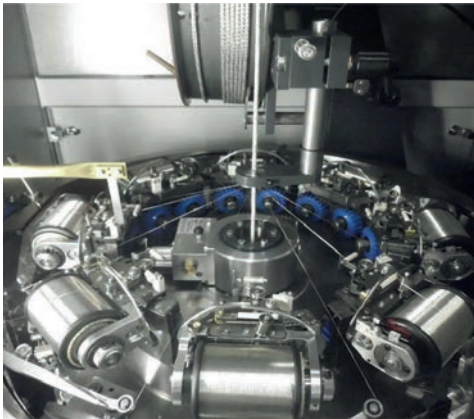


L0903-9091	Aufbau
	Hybridleit.
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112x0,25 mm <sup>2</sup> -7x5x0,25 mm <sup>2</sup> -14	

Safe train operation and passenger comfort would not be possible without various electronic systems supported by high-performance power, data and control cables. These cables must be halogen-free, flame retardant and self-extinguishing to meet strict European Union standards aimed at protecting train passengers and personnel from smoke and fumes that can spread during an onboard fire. We manufacture cables with the proper insulation and jacketing materials to meet these regulations.

Whether you're a valued distribution partner, an automation house, an integrator, or a contractor to the railway industry, rest assured that our cables are reliable to maximize production efficiencies. SAB brings world class performance & 75 years of ingenuity to the table.

SAB's level of speed and service as a supplier is unmatched.

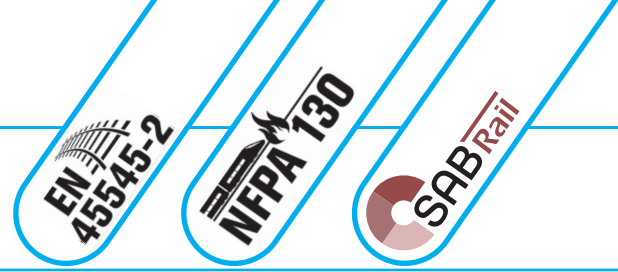


## SAB Advantage...We make it Easy

- Engineering & technical assistance
- Cut to length with no cut charges
- Prepaid freight within US for orders over \$2,500
- Specialty cable designs (1500 ft minimum)
- No minimum on orders from stock
- Free drop shipments (no surcharges)
- 24-hour shipments from stock
- Cord Grips for securing and grounding cables

# Cables for Railway

## Applications



SAB has more than a 30-year history of collaboration with railway customers. SABIX® Rail cables are available as a control or data cable, these flexible halogen-free cable carry HL 1-3 flame protection — the highest level according to EN 45545-2. They withstand harsh weather and also exhibit exceptional oil and fuel resistance, making them well-suited for mechanically dynamic applications like railway construction, or it can be used in the bogie, as jumper cable or as sensor cable at the wheel set. Several SAB Data cables meet NFPA 130. This standard specifies fire protection and life safety requirements for underground, surface, and elevated fixed guideway transit and passenger rail systems. Railway cables in this product range offer many features and safety characteristics such as:

- Halogen-free
- No flame propagation
- Flame retardant and self-extinguishing
- Very good stripping
- Good EMC characteristics
- Tested according to the ASTM standard
- Good transmission rates and crosstalk attenuation

### ■ Application of halogen-free SABIX® data cables

Data cables are used for the transmission of signals, measuring values and control signals in electronic control appliances, data processing systems, railway technologies, weighing installations, or wherever smallest cross sections, bending radius, shielding, or high flexibility is demanded. These flexible halogen-free cables are available in a variety of designs which include oil resistance, low temperature flexibility, heat resistance, and weather resistance.

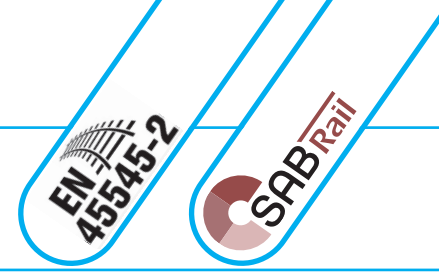
- Communication links
- Infotainment
- Seat wiring
- Driver's control panel wiring
- Train radar
- Coiled radio cables
- Drive systems
- Motor connection cable
- Train safety systems
- Switch cabinet and control panel wiring
- Brake systems
- HVAC
- Sensor and component connections
- Door and footboard controls
- Electric railcar jumper



# Cables for Railway

## Applications

### EN 45545-2 Approved Cables



#### ■ Application of halogen-free SABIX® Control, Connection, and Ethernet CATLine cables

These halogen-free cables fulfill fire protection requirements R15 (EL1A) HL 1-3 flame protection — the highest level according to EN 45545-2. These cables are particularly suitable for control panels in rail technologies. Our halogen-free SABIX® cables are available in a variety of designs with characteristics which include oil resistance, low temperature flexibility, heat resistance, hot-air resistance, and weather resistance.

- Door and footboard controls
- Pantograph
- 3rd rail current selectors
- Switchboard wiring
- Communication links
- Infotainment
- Seat wiring
- Driver's control panel wiring
- Train radar
- Coiled radio cables
- Drive systems
- Motor connection cable
- Train safety systems
- Switch cabinet and control panel wiring
- Brake systems
- HVAC
- Sensor and component connections
- Electric railcar jumper



# Cables for Railway

## FLEXIBLE POWER & CONTROL CABLES

**Applications Include:** Door and Footboard Controls, Switchboard Wiring, Driver's Control Panel Wiring, Drive Systems, Motor Connection Cable, Switch Cabinet and Control Panel Wiring, Brake Systems, and HVAC

D-VIERSEN · SABIX® A 146 FRNC 300/500 V 0.5 mm<sup>2</sup> CE

AWM Style 21089 75°C 600V CSA AWM I/II

EN 45545-2 UN / ECE R118



### Features:

- Flexible for easy installation
- Flame retardant and self-extinguishing
- Halogen-free
- Good oil and chemical resistance
- Abrasion and notch resistant
- Fulfills fire protection requirements R15 (EL1A) acc. to EN 45545-2 for hazard levels HL1-3

### Suggested Cables:

- SABIX® A 146 FRNC/ SABIX® A 156 FRNC (CE) - Wiring cable with Improved Fire Performance, 300/500 V and 450/750 V
- SABIX® R 600 FRNC/ SABIX® R 638 FRNC (CE) - Flexible, Unshielded & Braid Shielded, Numbered Control Cable
- SABIX® A 280 FRNC/ SABIX® A 285 FRNC X (CE) - Flexible, Unshielded & Braid Shielded, Cross linked Control Cable
- SABIX® CC 625 FRNC M/ SABIX® CC 625 S FRNC M/(UL/CSA/CE) - Flexible, Unshielded & Braid Shielded, Numbered Control Cable

## CONTINUOUS FLEX CABLES

**Applications Include:** Door and Footboard Controls, Communication Links, Seat Wiring, Drive Systems, Train Safety Systems, Brake Systems, and Electric Railcar Jumper

D-VIERSEN · SABIX® R flex 5G0.75 mm<sup>2</sup> CE

D-VIERSEN · RailLine 560 5x0.75mm<sup>2</sup> C 6560

EN 45545-2



### Features:

- Applications requiring alternate bending or continuous motion
- Long service life- millions of bending cycles
- Flame retardant and self-extinguishing
- Halogen-free
- Good oil and chemical resistance
- Abrasion and notch resistant
- Fulfills fire protection requirements R15 (EL1A) acc. to EN 45545-2 for hazard levels HL1-3

### Suggested Cables:

- SABIX® R flex (CE) - Unshielded & Braid Shielded, 300/500 V Wiring Cable, Multi-Conductors or Twisted Pairs
- SAB RailLine 560 (CE) TPE/PUR - 450/750V Wiring Cable with Improved Fire Performance

## TORSIONAL CABLES

**Applications Include:** Door and Footboard Controls, Train Safety Systems, and Electric Railcar Jumper

BRÖCKSKES · D-VIERSEN · SABIX® A 833 Ö 4 x 2.5 mm<sup>2</sup>



### Features:

- Designed for torsional movement
- Rugged PUR jacket
- Halogen-free
- Weather, UV, and ozone resistant
- Flame retardant and self-extinguishing according to IEC 60332-1-2 + EN 60332-1-2
- Good oil and weather resistance

### Suggested Cables:

- SABIX® A 833 Ö- TPE/PUR Torsional and Continuous Flex Cable for ±15°, Unshielded
- Coupling Cable T 790 - TPE/PUR Torsional Connecting Cable

# Cables for Railway

## DATA & SENSOR CABLES

**Applications Include:** Communication links, Infotainment, Seat Wiring, Driver's Control Panel Wiring, Train Radar, Coiled Radio Cables, Train Safety Systems, Brake Systems, HVAC, Sensor and Component Connections

SABIX® R 605 FRNC 32 x 0.5 mm<sup>2</sup> CE



SABIX® R 615 FRNC 5 x 0.5 mm<sup>2</sup> CE



### Features:

- Halogen-free
- No flame propagation
- Flame retardant and self-extinguishing
- Very good stripping
- Flexible for easier routing
- Tested acc. to American ASTM standard
- Good transmission rates and crosstalk attenuation

### Suggested Cables:

- SABIX® R 605 FRNC (CE) - Unshielded Data Cable with Special SABIX® Jacket, acc. to EN 45545-2, NFPA130 Approved
- SABIX® R 615 FRNC (CE) - Shielded Data Cable with Special SABIX® Jacket, acc. to EN 45545-2, NFPA130 approved
- SABIX® R 645 FRNC TP (CE) - Shielded Paired Data Cable with Special SABIX® Jacket, acc. to EN 45545-2, NFPA130 Approved

## FLEXIBLE INDUSTRIAL BUS & ETHERNET CABLES

**Applications Include:** Communication Links, Infotainment, Seat Wiring, Train Safety Systems, Sensor and Component Connections, Ticketing, Security and Entry Systems

Cat. 7A R 4x2x24AWG 1767-4621 CE



Cat. 7A R flex 4x2x24AWG 1769-4431 CE



### Features:

- Halogen-free
- No flame propagation
- Flame retardant and self-extinguishing
- Very good stripping
- Flexible for easier routing
- Tested acc. to American ASTM standard
- Good transmission rates and crosstalk attenuation

### Suggested Cables:

- CATLine CAT 5e R/ 6A R/ 7A R (CE) - Flexible Halogen-Free Industrial Ethernet Cables for Railway acc. to EN45545-2
- CATLine CAT 5e R flex/ 6A R flex/ 7A R flex (CE) - Continuous Flex Halogen-Free Industrial Ethernet Cables for Railway acc. to EN45545-2
- SABIX® USB 2.0 R flex - Halogen-free Continuous Flex SABIX® USB 2.0 Rail Cable acc. to EN45545-2

## FLEXIBLE HIGH TEMPERATURE CABLE

**Applications Include:** Pantographs, 3rd Rail Current selectors, Drive Systems, Brake Systems, and Electric Railcar Jumper

R 107 1.8/3 kV 25.0mm<sup>2</sup> 6107-0890



-VIERSEN · B 108 U<sub>0</sub>/U 1.8/3 kV 10.0mm<sup>2</sup>



### Features:

- Halogen-free
- Flame retardant and self-extinguishing
- Flexible at low temperatures
- Weather resistant
- Heat resistant

### Suggested Cables:

- R 107 - Silicone Insulated Copper Rope, 3000V
- B 107- Silicone Insulated Specially Stranded Copper Rope, 3000V
- B 108- Shielded Silicone Insulated Specially Stranded Copper Rope With Copper Braid, 3000V

# Cables & Accessories for Railway

## SPECIALTY CABLES

Engineered solutions to your exact requirements

### Conductor Materials:

- Bare copper
- Tinned copper
- Silver plated copper
- Nickel plated copper
- Nickel
- Nickel pure
- Compensating cable alloys

### Conductor Sizes:

- 0.14 mm<sup>2</sup> - 300 mm<sup>2</sup> (26 AWG to 500 MCM)
- variety of stranding styles

### Insulation and Jacketing Materials:

- PVC (many varieties)
- Polyethylene
- Polypropylene
- TPE
- Fiberglass
- Besilen®/Silicone
- Pi foil
- FEP, ETFE, PFA, PTFE
- SABIX® zero halogen
- Polyurethane

### Conductor Count Ranges:

- unshielded - up to 125 conductors
- shielded - up to 100 conductors

### Temperature Ranges: (based on material)

- Thermoplastic Elastomers -50°C up to +145°C
- Besilen®/Silicone -40°C up to +220°C
- FEP, ETFE, PFA, PTFE -90°C up to +260°C
- Halogen-free -50°C up to +220°C
- Fiberglass up to +600°C

### Shielding and Braiding Materials:

- Bare copper
- Tinned copper
- Galvanized steel
- Stainless steel
- Aluminum foil
- Fiberglass
- Aramid



### Approvals:

- UL, CSA, CE, EAC, VDE, HAR, IEC, EN, ISO, DNV-GL, LR, ABS, RINA, RMRS, BSI

## CORD GRIPS

Secure & Protect Your Cable

### CG 100 POLYAMIDE CORD GRIPS

Dome cap, black or gray available in NPT, PG, or Metric thread

Liquid tight seal, fast and easy installation, wide clamping range, multi-purpose applications, easy handling.



### CG 200 POLYAMIDE CORD GRIPS

Flex cap, black or gray available in NPT, PG, or Metric thread

Strain relief gland offers maximum protection against conductor fatigue caused by flexing cables.



### CG 300 NICKEL PLATED BRASS CORD GRIPS

Available in NPT, PG, or Metric thread

Impact resistant, suitable for industrial applications, water tight, and corrosion resistant.



### CG 350 STAINLESS STEEL CORD GRIPS

Available in NPT, PG, or Metric thread and SS 303 or SS 316

Impact resistant, suitable for industrial applications, water tight, and corrosion resistant.



### EMC-2 GROUNDING CORD GRIPS

Nickel plated brass EMC cable gland available in NPT, PG, or Metric thread

Optimal grounding of shielded cable with integral grounding springs, easy installation, water tight, and impact resistant



### EMC-4 GROUNDING CORD GRIPS

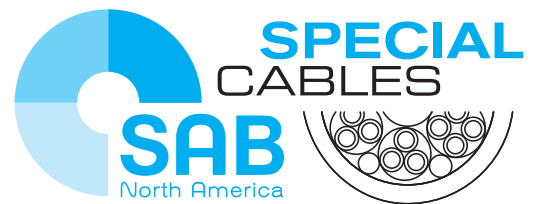
Nickel plated brass, EMC cable gland, vibration proof, available in NPT, PG, or Metric thread

Optimal grounding of shielded cable with integral grounding springs. Bidirectional cable installation allows the cable to move without damage to the shield.



## Accessories & Fittings

Enlargers	Reducers	Hole Plugs	Multi-Hole Bushing	
Vent Gland & Plugs			Locknuts	



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