Faiveley Stemmann-Technik
A Wabtec Company

frost®

Ground Contacts

TRANSIT APPLICATIONS

STEMMANN-TECHNIK

QUALITY MADE IN GERMANY

frost® Ground Contacts

In terms of the function principle, a ground contact is the same as a bridging circuit, consisting of the ground contact housing, the grounding cable, brush holder with contact brush and the slip assembly.

They are normally fitted on the axle box bearing housing of the pivoted bogie (axial system). Clear current paths are generated by the insulated mounting of the ground contacts.

The grounding cable carries the reverse current from the coach body pivoted bogie via a sliding contact to the wheel set shaft, from where it can flow into the rail via the wheel. The critical point in the reverse current flow – the roller bearing or the wheel set roller bearing – is bypassed in a controlled manner.

frost® ground contacts are generally individualised solutions and as such, matched exactly to the application, the axle box bearing design, space conditions, electrical parameters and technical customer specifications.

Heavy rail
ICE traction units, passenger coaches, trailer vehicles etc.

Local traffic
Regional trains, metro, trams etc.

Special solutions
Low-floor vehicles, high-speed trains and special vehicles

Construction and earthing systems

The mechanical structure of our frost® ground contacts fulfils the applicable national and international standards and directives. The material pairings are continually optimized.

CONSTRUCTION
Robust mechanical construction
Resistant to high impact stress

MATERIAL PAIRING
Low contact resistance (to the order of milliohms)
Low wear values (1-2 mm per 100.000 km)
High operational performance
High, tested short-circuit values

SEALING FOR WHEEL SET BEARING
No entry of grease in the earth contact
No carbon dust entry in the roller bearing

In the construction or in the direction of working of the carbon brushes, a distinction is made between axial and radial operation contact systems.

Axial contact system

Axial action frost® ground contacts are used for inner-bearing and outer bearing wheel sets. They steer the reverse current flow via the end face of the axis into the wheel set shaft, so that it flows via the wheels into the rail.

Axial frost® ground contact systems are fastened to the bearing housing or directly to the wheel, which requires a special construction with a suitable bearing and torque support.

The advantages of axial systems are the good accessibility and the associated maintenance-friendliness, as well as the simple encapsulation by the earthing contact housing.

Our earthing contacts offer good protection against environmental influences and impress by low wear, due to small dimensions of the contact materials. (contact diameter).

Radial contact system

Radial action frost® ground contacts are used when the clearance outline is limited, or when pivoted bogie special constructions make this unavoidable, or when customer specification requires it.

They feed the reverse current directly into the wheel set shaft, from where it can flow via the wheels into the rail.

If the space conditions allow, we recommend radial ground contact systems as a fully encapsulated version.

Since the 1930s, we have successfully been involved in the planning, design and manufacture of high-quality ground contacts.

Our systems are in use all over the world in the most varied vehicles.

Standard applications

In the area of standard applications, the traditional round-brush constructions have been replaced by multi-brush constructions. The reasons for this are the higher possible current transmission and the somewhat simpler construction of the contacts.

We further developed the successful principle of the multi-brush contacts and derived the successful frost® pressure system from it.

Faiveley Stemmann-Technik
A Wabtec Company

Corporate headquarters and manufacturing facility
Schüttorf, Germany

We are one of the world's leading manufacturers of energy and data transfer components and systems in industrial and transport technology.

Drawing on our 100 years of engineering and practical research, we manufacture high quality products required all over the world, and create special, innovative, customised solutions.

A fundamental key to our success is our understanding of the importance of high quality in all areas of the company, ranging from customeroriented advice to long-term service.

We guarantee high quality by upholding international standards and guidelines.

Since 2014 we belong to the Wabtec Corporation, a global provider of technologies, products and services in the field of railway and industrial engineering.

Through the integration of Faiveley Transport to the Wabtec Corporation in 2016 we are an important part of one of the largest public rail equipment companies in the world with more than 20,000 employees around the globe.

With know-how, product diversity and forward-looking innovations we are your excellent choice in the field of industrial and transit technology.

STEMMANN-TECHNIK
DIN EN ISO 9001:2008

TRANSIT APPLICATIONS

ROOF-MOUNTED PANTOGRAPHS

3rd RAIL CURRENT COLLECTORS

frost® GROUND CONTACTS

STINGER SYSTEMS

INDUSTRY APPLICATIONS

CABLE REELS

SLIP RING ASSEMBLIES

FESTOON SYSTEMS

CONDUCTOR LINES

CHARGING SOLUTIONS

ChargingPANTO

ChargingREEL

ChargingSTINGER

FerryCHARGER

ONSHORE POWER SUPPLY

FOR CRUISE SHIPS

FOR CONTAINER VESSELS

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