Applications

Applications of Besilen® single conductors

Our Besilen® ignition cables and Besilen® high-voltage ignition cables are suitable for applications with high or very unsteady ambient temperatures of up to +180°C. Besilen® insulated wires and Besilen® insulated conductors are suitable for use at high temperatures especially for the internal wiring of lamps and appliances as well as for the wiring of switchboard plants and distributors, at low mechanical loads.

Exemplary applications:

SC 113	Flexible applications for internal wiring of lamps, heating appliances, switchboard plants and distributors in industries such as smelteries, steelworks and hot-rolling mills, industrial oven and textile machine construction, illumination and electric industries, wood working and paper processing industries
B 118 **B 119** **B 120**	These insulated strands with 0.6/1kV, 1.8/3 kV resp. 3.6/6 kV are for example used in switchboards and distributors, in industrial furnaces and textile machine construction as well as in railway technology. Equally they are applied as connection of battery system or energy storage.
B 110 C	Shielded highly flexible single conductor for the connection of E-mobility converters, test benches or power wiring

Applications of Besilen® single conductors with fiberglass braiding

These Besilen® cables with fiberglass braiding are for use at high ambient temperatures for internal wiring e.g. of lamps, heating appliances and electric machines as well as for wiring of switchboard plants and distributors. The fiberglass braiding offers protection against mechanical damage and at the same time offers excellent heat resistance.

Exemplary applications:

SC 123	Application at ambient temperatures higher than +55°C, for internal wiring of e.g. lamps and illuminations, heating appliances, household, kitchen and laboratory appliances, electric machines, switchboard plants and distributors, medical appliances

Application of Besilen® jacketed cables

Our Besilen® jacketed cables are suitable for applications at high ambient temperatures in dry, damp and wet areas as well as for outdoor use; as flexible connection cable with low mechanical load. The mechanical load capacity can be enhanced by using a steel wire armoring, a fiberglass braiding or an inner jacket. The EMC characteristics can be improved with an overall tinned copper screen. If these cables are used for fixed installation, they are only to be installed in ventilated tube systems or conduits.

Exemplary applications:

BiHF-J **BiHF(K)-J** **SC 600 HDTR** **SC 700 HDTR**	Application in plastics processing, packaging machine construction, smelteries, steelworks and hot-rolling mills, safety technology, measuring and control technologies, cement, glass and ceramic industries, refrigeration, heat and air-conditioning technologies, power plants, sauna construction
BiHFP-J **SC 600 HDTRS**	Application in plastics processing, packaging and textile machine engineering, smelteries, steelworks and hot-rolling mills, cement, glass and ceramic industries sauna construction, refrigeration, heat and air-conditioning technologies, paper industry, foundries
BiHF/Cu/Bi-J **BiHF/Cu/Bi(K)-J** **SC 600 C HDTR** **SC 700 C HDTR**	Application in packaging and textile machine construction, refrigeration, heat and airconditioning, plastics processing, smelteries, steelworks and hot-rolling mills, cement, glass and ceramic industries, plastic processing machine construction

Note: If hermetically sealed and used at temperatures higher than 90°C the mechanical characteristics of Silicone rubber will be reduced.

You will find further information about the safe application of cables in chapter O

Besilen® is a specially developed silicone rubber-based material with good electrical characteristics and it is a registered trademark of SAB BRÖCKSKES GmbH & Co. KG.

Applications

Applications of cable track cables with Besilen® outer jacket

SAB cable track cables with Besilen® outer jacket are for continuous flex use in high temperature areas as for example in cable tracks as control cable with medium mechanical stress.

Exemplary applications:

S 180 HT **S 180 C HT**	Conveyor systems in steel production and steel processing industries, at feeding lines for blast furnaces

Application of silicone insulated round single conductors for railway technology

The conductors can be laid easily in narrow spaces due to its extremely flexible construction. The translucent insulation enables an easy inspection of the state of conductor. An additional copper support braiding under the insulation provides a supplementary reinforcement for applications with high mechanical stress.

Exemplary applications:

R 107	Highly flexible single conductor for current or ground connection in railway technology
B 107	Highly flexible single core for switchboard wiring and the use in energy storage systems, test benches or power wiring
B 108	Current or ground connection in railway technology

Note: If hermetically sealed and used at temperatures higher than 90°C the mechanical characteristics of Silicone rubber will be reduced.

Selection Table

	Cable Type	I/6 SC 600 HDTR	I/7 SC 600 C HDTR	I/8 SC 600 HDTRS	I/9 SC 700 HDTR	I/10 SC 700 C HDTR	I/11 SC 113	I/12 SC 123	I/13 B 118	I/14 B 119	I/15 B 110 C	I/16 B 120	I/17 I/18 BiHF-J/BiHF(K)-J	I/19 BiHFP-J	I/20 I/21 BihF/Cu/Bi-J / BiHF/Cu/Bi(K)-J	I/22 Besilen ESD	I/23 S 180 HT	I/24 S 180 C HT	I/25 R 107	I/26 B 107	I/27 B 108
Basic construction	Single conductor						●	●	●	●		●									
	Multi-conductor	●	●	●	●	●							●	●	●	●	●	●			
	Copper rope										●								●	●	●
	Shielding		●			●					●				●			●			●
	Steel wire braiding			●										●							
Temperature range fixed laying*	+250°C	●	●	●	●	●	●	●			●		●	●					●	●	●
	+200°C																●	●			
	+180°C																				
	+105°C																				
	+ 90°C																				
	- 25°C																				
	- 40°C																				
	- 50°C																				
Voltage	Nominal voltage Uo/U 300/500 V	●	●	●	●	●	●	●					●	●	●	●					
	Nominal voltage Uo/U 0.6/1 kV								●								●	●			
	Nominal voltage Uo/U 1.5/1.5 kV										●1									●1	●1
	Nominal voltage Uo/U 1.8/3 kV									●	●2								●	●2	●2
	Nominal voltage Uo/U 3.6/6 kV											●									
	Voltage UL/CSA resp. UL/cUL 600 V	●	●	●	●	●															
	Testing voltage 1500 V																				
	Testing voltage 2000 V	●	●	●	●	●	●	●					●	●	●	●					
	Testing voltage 4000 V								●											●1	●1
	Testing voltage 6000 V									●	●1									●2	●2
	Testing voltage 6500 V										●2								●		
	Testing voltage 11 k V											●									
Standards and approvals	Halogen-free acc. to IEC 60754-1+ VDE 0482-754-1	●	●	●	●	●	●	●	●	●	●	●	●	●	●					●	●
	Halogen-free acc. to EN 50306-1 + EN 50264-1																		●		
	Fire performance: Flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2	●	●	●	●	●	●	●	●	●	●	●	●	●	●		●	●		●	●
	Fire performance: No flame propagation acc. to IEC 60332-3-24 + VDE 0482-332-3-24 resp. IEC 60332-3-25 + VDE 0482-332-3-25 and EN 50305 + VDE 0260-305 section 9.1.2																		●		
	Fire performance: CSA FT1, FT2	●	●	●																	
	Fire performance: cUL FT1, FT2				●	●															
	Corrosiveness of conflagration gases: IEC 60754-2 + VDE 0482-754-2 - no development of corrosive conflagration gases	●	●	●	●	●	●	●	●	●	●	●	●	●	●					●	●
	Toxicity acc. to EN 50305 + VDE 0260-305																		●		
	Smoke density acc. to IEC 61034 + VDE 0482-1034																		●		
	Tested acc. to EN 45545-2																		●		
	UL + cUL recognized resp. CSA approved	●	●	●	●	●															
Special features	Antistatic outer jacket															●					
	very good weather resistance						●		●	●	●	●	●	●	●				●	●	●
	Ozone resistance acc. to EN 50382-2 + VDE 0260-382-2																		●		
	Good oil resistance																		●		
	Highly flexible																	●	●	●	●
	Flexible	●	●	●	●	●			●	●	●	●	●	●	●	●	●				
	Protection against mechanical damage			●										●							

from to ● short-time use

[1] to 10 AWG · [2] from 8 AWG

*The temperature range for flexible application is mentioned on the corresponding catalog page