

Safety by standardized and controlled production

# HALOGEN-FREE CABLES

EN 50306-2



## SABIX® A 170 TW Flexible "Thin-wall" single conductor - space and weight saving



BRÖCKSKES · D-VIERSEN · SABIX® A170 TWÖ EN 50306-2 300 V 1 x 0,5 mm² K CE 

Marking for SABIX® A170 TWS 68700105:  
SAB BRÖCKSKES · D-VIERSEN · SABIX® A170 TWÖ  
EN 50306-2 300 V 1 x 0,5 mm² K CE

SABIX® A 170 TW is a halogen free single conductor for use in control cabinets, appliances and communication technologies, household appliances, generators and transformers, machine construction, railway technologies and other specific technologies. This cable is particularly suitable for use where human life and valuable property are exposed to a extremely high risk of fire.

### Construction:

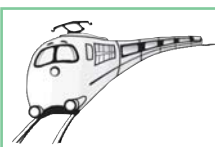
<b>Conductor:</b>	tinned copper strands, fine wires acc. to EN 50306-2
<b>Insulation:</b>	SABIX® 960, thermoplastic high-tech Polymer
<b>Color code:</b>	white

### Outstanding features:

- halogen-free
- flame retardant
- low smoke emission
- smallest outer-diameter
- space-saving installation
- light
- abrasion resistant surface
- standardized safety
- accomplishes the fire protection levels 1 - 4 acc. to DIN 5510

item no.	AWG	min. nominal outer-ø inch	min. nominal outer-ø mm	max. nominal outer-ø inch	max. nominal outer-ø mm	cable weight ≈ lbs/mft	ohmic-resistance at 20 °C max. Ω/km
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▶ 68700105	20/1c	0.045	1.15	0.057	1.45	4	40.10
▶ 68700107	19/1c	0.053	1.35	0.065	1.65	5	26.70
▶ 68700110	18/1c	0.057	1.45	0.071	1.80	7	20.00
▶ 68700115	16/1c	0.077	1.95	0.091	2.30	10	13.70
▶ 68700125	14/1c	0.098	2.50	0.112	2.85	16	8.21



Especially for use in rail vehicles

### Technical data:

<b>Nominal voltage U<sub>0</sub>:</b>	300 V	
<b>Testing voltage:</b>	4 kV	
<b>Temperature range:</b>	+105 °C, with short circuit of 5 sec., +160 °C	
<b>Absence of harmful substances:</b>	acc. to RoHS directive of the European Union see page N/28	
<b>Test EN 50306-2</b>	<b>Requirements</b>	<b>SAB results</b>
<b>Voltage test</b>	2000 Va.c., 5 min. 4800 Vd.c., 5 min.	passed ✓
<b>Dielectric strength</b>	4000 V a.c.	passed ✓
<b>D.c.-voltage strength</b>	300 Vd.c., 10 d / 85°C current increase ≤ 10%	passed ✓
<b>Insulation resistance at 20°C</b>	0,5 mm² - 600 MΩ*km	passed ✓
<b>Insulation resistance at 90°C</b>	0,5 mm² - 0,3 MΩ*km	passed ✓
<b>Stripping of insulation</b>	easy	passed ✓
<b>Oil resistance IRM 902 at 100°C / 24h</b>	no tears voltage test at 1,5 kV a.c.	passed ✓
<b>Fuel resistance IRM 903 at 70°C / 168h</b>	no tears voltage test at 1,5 kV a.c.	passed ✓
<b>Resistance against acids N-oxalic acid solution at 23°C / 168h</b>	no tears voltage test at 1,5 kV a.c.	passed ✓
<b>Alkaline resistance N-oxalic acid solution at 23°C / 168h</b>	no tears voltage test at 1,5 kV a.c.	passed ✓
<b>Hot pressure resistance at 125°C / 4h</b>	impression depth ≤ 50%, voltage test at 1,5 kV a.c.	impression depth 0% passed ✓
<b>Dynamic penetration test</b>	0,5 mm² - load 70 N	passed ✓
<b>Resistance to tear propagation</b>	at -15°C / 3h at +23°C / 3h at +85°C / 3h voltage test at 150 V a.c.	passed ✓
<b>Shrinking at 150°C</b>	< 1,5 mm	passed ✓
<b>Blocking of conductors</b>	at 150°C / 6h no adhesion	passed ✓
<b>Cold bend test</b>	at -40°C	passed ✓
<b>Abrasion resistance</b>	0,5 mm² - load 7 N	passed ✓
<b>Elasticity</b>		passed ✓
<b>Ozone resistance</b>	method B no tears voltage test at 1,5 kV a.c.	passed ✓
<b>Stress cracking resistance</b>	168 h at 180°C no tears voltage test at 1,5 kV a.c.	passed ✓
<b>Flame propagation at conductor</b>	flame effect 60 sec. fire trace: < 425 mm	passed fire trace: 70 mm no afterflame period ✓
<b>Flame propagation banded conductors</b>	flame effect 20 min fire trace: < 1,5 m	passed fire trace: 0,8 m no afterflame period ✓
<b>Acidity of corrosive gases</b>	pH min. 4,3 conductivity max. 10,0 µS/mm	passed ✓
<b>Development of corrosive gases</b>	hydrogen chloride max. 0,5%, fluorine max. 0,1%	passed ✓
<b>Smoke density</b>	category 4 ≥ 70%	light transmission Z 80% ✓

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Web site: [www.sabcable.com](http://www.sabcable.com)

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**VDE Prüf- und Zertifizierungsinstitut**


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SAB BRÖCKSKES GmbH & Co. KG  
Grefrather Strasse 204-212 b  
41749 Viersen

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is authorized to use for their product

**Kabel und Leitungen für Schienenfahrzeuge mit verbessertem Verhalten  
im Brandfall, reduzierte Isolierwanddicken, einadrig.  
Railway rolling stock cables having special fire  
performance-Thin wall-Single core cables.**

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DIN EN 50306-2 (VDE 0260 Teil 306-2):2003-05

Aktenzeichen: 493200-5730-0002 / 49161  
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Offenbach, 2004-10-27

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Datum / Date  
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Spezifische Angaben:  
Gefahrenniveau K  
Hazard level K

Nennspannung  
300 V


Hersteller  
SAB BRÖCKSKES

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VDE Testing and Certification Institute  
Fachgebiet FG41  
Section FG41

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