

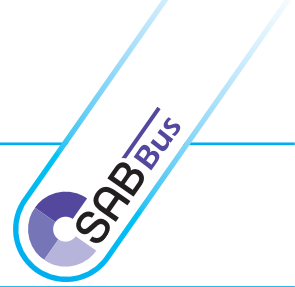
# CABLES FOR E-TICKETING SYSTEMS



[www.sab-cable.com](http://www.sab-cable.com)



# Cables for E-Ticketing Systems



## SAB Bröckskes



### Problem solution

- Especially in the E-Ticketing area highly flexible cables are required. You need help? We will act fast and competently. And as a pioneer in the field of halogen free, flame retardant cables we will be your first-choice partner.

### Service

- Deliveries of small quantities are possible

### Flexibility

- Several cables can be combined in a space saving hybrid cable
- Production length of 100 m possible
- Cable development customized to your request

### Speed

- From development to distribution in maximum speed

### High quality

- Highest quality by DIN EN ISO 9001
- Country specific standards on demand

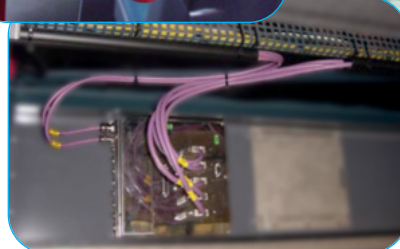
### References

- RET Rotterdam
- HTM The Hague
- Arriva
- Vialis
- further projects for Croatia and Russia
- GVB Amsterdam
- EVO Bus
- MAN
- VDL
- Veolia
- Volvo

## SAB Bröckskes

75 years of experience in cable and wire manufacturing as well as in temperature measurement technology turned a one-man business into a company with more than 550 employees. We prove our strength every year with more than 1500 special products according to customers' requirements. Each product is a new challenge for our creative technical team. We at SAB see ourselves as a manufacturer and a service provider – in the sense of true partnership and the greatest possible customer orientation.

Today, the quality of our products is known and appreciated in more than 100 countries around the world. In all product ranges, we are certified according to DIN EN ISO 9001. Furthermore, we have implemented an environmental management system for our company according to DIN EN ISO 14001, an occupational health and safety management system according to DIN EN ISO 14001 and DIN ISO 45001, and an energy management system according to DIN EN ISO 50001.



# Cables for E-Ticketing Systems

**SABIX® IBS 610 FRNC (B)**  
**SABIX® IBS 610 FRNC**  
**Ethernet Cable**

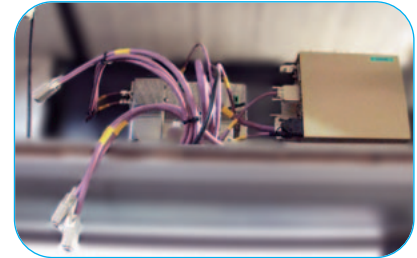
**SABIX® A 200 FRNC**  
**SABIX® D 345 FRNC TP**



BRÖCKSKES · D-VIERSEN · RET. TCK. DATA-VOEDING

BRÖCKSKES · D-VIERSEN · Ethernet Leitung

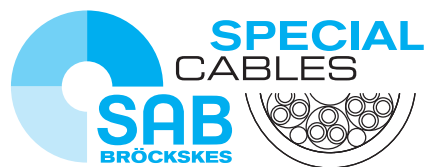
BRÖCKSKES · D-VIERSEN · RET. TCK. I/O-INTERFACE



<b>Construction:</b>	<b>SABIX® IBS 610 FRNC (B)</b>	<b>SABIX® IBS 610 FRNC</b>	<b>SABIX® A 200 FRNC</b>	<b>SABIX® D 345 FRNC TP</b>	<b>Ethernet Cable</b>
<b>Dimension:</b>	3 x 2 x 0,25 + 2 x 0,5 mm <sup>2</sup>	2 x 0,25 + 1 x 0,25 mm <sup>2</sup>	4 x 1,5 mm <sup>2</sup>	20 x 2 x 0,25 mm <sup>2</sup>	2 x 2 x 0,34 mm <sup>2</sup>
<b>Conductor:</b>	bare copper strands, fine wires				
<b>Insulation:</b>	0,25 mm <sup>2</sup> : PE, 2Y11 acc. to EN 50290-2-23 + VDE 0819-103 0,50 mm <sup>2</sup> : SABIX®	0,25 mm <sup>2</sup> : PE, 2Y11 acc. to EN 50290-2-23 + VDE 0819-103 0,25 mm <sup>2</sup> : SABIX®	SABIX® acc. to DIN VDE 0207 part 23		thermoplastic material based on polyethylene
<b>Colour code:</b>	with reference to DIN 47100	with reference to DIN 47100 and pink	red, blue, yellow, green	with reference to DIN 47100	blue, yellow, white, orange
<b>Stranding:</b>	pairwise, datapairs and cores in layers		in layers	pairwise, pairs in layers	specialy adjusted layering
<b>Wrapping:</b>	PETP foil		---	PETP foil	
<b>Inner sheath:</b>	---				thermoplastic material based on polyolefin
<b>Screen:</b>	tinned copper braiding		---	tinned copper braiding	
<b>Wrapping:</b>	non-woven tape		---	---	non-woven tape
<b>Sheath material:</b>	SABIX®				
<b>Sheath colour:</b>	redlilac (RAL 4001)				green (RAL 6018)

<b>Technical data:</b>	<b>SABIX® IBS 610 FRNC (B)</b>	<b>SABIX® IBS 610 FRNC</b>	<b>SABIX® A 200 FRNC</b>	<b>SABIX® D 345 FRNC TP</b>	<b>Ethernet Cable</b>
<b>Item number:</b>	6610-9002	6610-9003	6200-9109	6345-9067	0660-9002
<b>Nominal voltage:</b>	---		U <sub>0</sub> /U 300/500 V	---	
<b>Peak operating voltage:</b>	max. 350 V		---	max. 500 V	max. 350 V
<b>Testing voltage</b> core/core: core/screen:	1500 V 1200 V		2000 V ---	1500 V 1200 V	
<b>Temperature range</b> fixed laying: flexible application:	-40/+70 °C -30/+70 °C		-40/+85 °C -30/+85 °C		-30/+70 °C -20/+70 °C
<b>Min. bending radius</b> fixed laying: flexible application:	7,5 x d		4 x d 6 x d	5 x d 10 x d	
<b>Characteristic impedance:</b>	0,064 MHz: 120 Ω ± 20% 1 MHz: 100 Ω ± 15 Ω		---		fulfils the electrical and transmission requirements with high frequency acc. to EN 50288-2-2 + VDE 0819-2-2 (CAT 5 acc. to EN 50173-1)
<b>Halogen-free:</b>	acc. to IEC 60754-1 + VDE 0482-754-1				
<b>Fire performance:</b>	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2				
<b>Corrosiveness of conflagration gases:</b>	in compliance with IEC 60754-2 + VDE 0482-754-2 - no development of corrosive conflagration gases				
<b>Absence of harmful substances:</b>	acc. to RoHS directive of the European Union				

<b>Technische Daten:</b>	<b>SABIX® IBS 610 FRNC (B)</b>	<b>SABIX® IBS 610 FRNC</b>	<b>SABIX® A 200 FRNC</b>	<b>SABIX® D 345 FRNC TP</b>	<b>Ethernet Cable</b>
	combined bus and control cable - space-saving version		flexible		for flexible applications. Suitable for EtherCAT and EtherNET/IP applications



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