

# Halogen-free Cables

## SABIX® R 645 FRNC TP SABIX® Rail - Data cable, paired with overall tinned copper shield

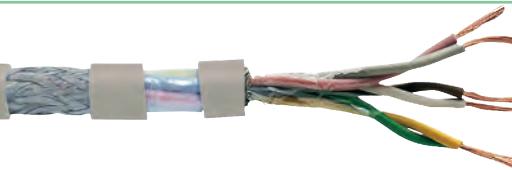
EN 45545-2

NFPA 130

UN/ECE R118

SAB Rail

R 645 FRNC TP 3 x 2 x 0.25 mm<sup>2</sup> CE



Marking for SABIX® R 645 FRNC TP 66450325:

SAB BRÖCKSKES · D-VIERSEN · SABIX® R 645 FRNC TP 3 x 2 x 0.25 mm<sup>2</sup> CE

### Construction:

<b>Conductor:</b>	bare copper strands with reference to IEC 60228, VDE 0295, class 5
<b>Insulation:</b>	special SABIX®
<b>Color code:</b>	DIN 47100, see below
<b>Stranding:</b>	pairwise in layers
<b>Wrapping:</b>	foil
<b>Shielding:</b>	tinned copper braiding
<b>Jacket material:</b>	special SABIX®
<b>Jacket color:</b>	grayish tan (RAL 7032)

### Technical data:

<b>Nominal voltage:</b>	< 24 AWG = max. 350 V ≥ 24 AWG = max. 500 V
<b>Testing voltage:</b>	conductor/conductor: 1500 V conductor/shielding: 1200 V
<b>Min. bending radius:</b>	5 x O.D.
<i>fixed installation:</i>	10 x O.D.
<i>free movement:</i>	
<b>Temperature range:</b>	
<i>static:</i>	-40/+90°C
<i>flexible:</i>	-30/+90°C
<b>Halogen-free:</b>	acc. to EN 50306-1 + EN 50264-1 are fulfilled. Development of HCl is < 0.5% acc. to IEC 60754-1. pH-value is > 4.3 acc. to IEC 60754-2. Conductivity is < 10.0 μS/mm acc. to IEC 60754-2. Fluoric content < 0.1% acc. to IEC 60684-2
<b>Burning characteristics:</b>	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. Flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2. Flame retardant acc. to UL 1685 section 12, FT4/IEEE 1202. * Burning tests acc. to ASTM E 162-09. Flame retardant acc. to ISO 6722 (UN/ECE R118)
<b>Toxicity:</b>	acc. to EN 50305+ VDE 0260-305
<b>Smoke density:</b>	acc. to IEC 61034 + VDE 0482-1034 + ASTM E 662-09
<b>Flexibility:</b>	good
<b>Approvals:</b>	CE, EAC, RoHS
<b>Absence of harmful substances:</b>	acc. to RoHS directive of the European Union see page O/30

### Outstanding features:

- low smoke halogen-free (LSHF)
- no flame propagation
- good EMC characteristics\*
- flame retardant and self-extinguishing
- fulfills fire protection requirements R15 (EL1A)  
acc. to EN 45545-2 for hazard levels HL1-3
- fulfills fire protection requirements  
acc. to NFPA 130 section 8.6.7.1.1  
and section 12.2.1 (1) \*
- flame retardant acc. to UN/ECE R118
- tested acc. to American ASTM standard
- good transmission rates and crosstalk attenuation

\*copper braiding should be connected circularly to optimize the EMC characteristics

item no.	no. of pairs	nominal outer-ø inch ±10%	mm ±10%	cable weight ≈lbs/mft
<b>▶ 26 AWG (≈ 18/38) • 0.14 mm<sup>2</sup></b>				
66450214	2	0.205	5.2	26
66450314	3	0.224	5.7	30
66450414	4	0.256	6.5	36
66450514	5	0.276	7.0	43
66450614	6	0.283	7.2	48
66450814	8	0.307	7.8	56
66451014	10	0.350	8.9	71
66451214	12	0.382	9.7	81
66451614	16	0.413	10.5	99
66451814	18	0.437	11.1	117
66452414	24	0.504	12.8	150
<b>▶ 24 AWG (≈ 14/34) • 0.25 mm<sup>2</sup></b>				
66450225	2	0.224	5.7	31
66450325	3	0.252	6.4	41
66450425	4	0.283	7.2	48
66450525	5	0.303	7.7	56
66450625	6	0.311	7.9	62
66450825	8	0.354	9.0	80
66451025	10	0.386	9.8	93
66451225	12	0.429	10.9	116
66451625	16	0.469	11.9	143
66451825	18	0.500	12.7	165
66452425	24	0.559	14.2	199

item no.	no. of pairs	nominal outer-ø inch ±10%	mm ±10%	cable weight ≈lbs/mft
<b>▶ 22 AWG (≈ 7/30) • 0.34 mm<sup>2</sup></b>				
66450234	2	0.268	6.8	42
66450334	3	0.291	7.4	53
66450434	4	0.346	8.8	69
66450534	5	0.374	9.5	81
66450634	6	0.382	9.7	84
66450834	8	0.417	10.6	107
66451234	12	0.528	13.4	167
66451634	16	0.575	14.6	205
66451834	18	0.594	15.1	224
66452434	24	0.693	17.6	302
<b>▶ 20 AWG (≈ 16/32) • 0.50 mm<sup>2</sup></b>				
66450250	2	0.283	7.2	48
66450350	3	0.311	7.9	62
66450450	4	0.370	9.4	80
66450550	5	0.402	10.2	95
66450650	6	0.409	10.4	104
66450850	8	0.449	11.4	120
66451050	10	0.520	13.2	169
66451250	12	0.567	14.4	198
66451650	16	0.642	16.3	255
66451850	18	0.665	16.9	293
66452450	24	0.748	19.0	341

item no.	no. of pairs	nominal outer-ø inch ±10%	mm ±10%	cable weight ≈lbs/mft
<b>▶ 19 AWG (≈ 23/32) • 0.75 mm<sup>2</sup></b>				
66450275	2	0.335	8.5	69
66450375	3	0.370	9.4	86
66450475	4	0.429	10.9	112
66450575	5	0.461	11.7	135
66450675	6	0.492	12.5	161
66450875	8	0.539	13.7	187
66451275	12	0.673	17.1	282
66451675	16	0.732	18.6	351
66451875	18	0.760	19.3	390
66452475	24	0.858	21.8	480

Other dimensions and colors are available on request

#### DIN 47100 color code:

- #1- white/brown, #2- green/yellow, #3- gray/pink,
- #4- blue/red, #5- black/purple, #6- gray-pink/red-blue,
- #7- white-green/brown-green, #8- white-yellow/yellow-brown,
- #9- white-gray/gray-brown, #10- white-pink/pink-brown,
- #11- white-blue/brown-blue, #12- white-red/brown-red,
- #13- white-black/brown-black, #14- gray-green/yellow-gray,
- #15- pink-green/yellow-pink, #16- green-blue/yellow-blue,
- #17- green-red/yellow-red, #18- green-black/yellow-black,
- #19- gray-blue/pink-blue, #20- gray-red/pink-red,
- #21- gray-black/pink-black, #22- blue-black, red-black,
- #23- white/brown, #24- green/yellow

\* NFPA 130 / FT4 only up to outer-ø < 13 mm (0.512").

