

EN 45545-2

# HALOGEN-FREE CABLES

ASTM E 162-09  
ASTM E 662-09

Flame retardant acc. to  
UN/ECE R118

## SABIX® R 615 FRNC SABIX® Rail Data with overall tinned copper screen



CE



Especially for use in rail vehicles.



D-VIERSEN · SABIX® R 615 FRNC 7 x 0.5 mm²

Marking for SABIX® R 615 FRNC 66150750:  
SAB BRÖCKSKES · D-VIERSEN · SABIX® R 615 FRNC 7 x 0.5 mm² CE

With our specially developed for rail vehicles data cable with colored conductors and overall tinned copper screen SABIX® R 615 FRNC, we offer our customers maximum planning certainty and comfort for flexible installation in railway vehicles. In addition to high flexibility, these cables meet the highest safety standards for the railway industry. For these cables, the stringent requirements have been confirmed in accordance with EN 45545-2.

### Construction:

<b>Conductor:</b>	bare copper strands with reference to IEC 60228, EN 6028, VDE 0295, class 5
<b>Insulation:</b>	special SABIX®
<b>Color code:</b>	with reference to DIN 47100
<b>Stranding:</b>	in layers
<b>Wrapping:</b>	PETP foil
<b>Screen:</b>	tinned copper braiding
<b>Jacket material:</b>	special SABIX®
<b>Jacket color:</b>	gray

### Outstanding features:

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

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

### Technical data:

<b>Peak operating voltage:</b>	< 24 AWG = max. 350 V ≥ 24 AWG = max. 500 V
<b>Testing voltage:</b>	conductor/conductor 1500 V conductor/screen 1200 V
<b>Min. bending radius</b>	
fixed laying:	5 x O. D.
flexible application:	10 x O. D.
<b>Temperature range</b>	
fixed laying:	-40/+90°C
flexible application:	-30/+90°C
<b>Zero halogen:</b>	acc. to EN 50306-1 + EN 50264-1 are fulfilled. Development of HCl is < 0.5% acc. to DIN EN 50267-2-1. pH-value is > 4.3 acc. to DIN EN 50267-2-2. Conductivity is < 10.0 µS/mm acc. to DIN EN 50267-2-2. Fluoric content < 0.1% acc. to DIN EN 60684-2.
<b>Burning characteristics:</b>	No flame propagation acc. to DIN EN 60332-3-24, DIN EN 60332-3-25 and DIN EN 50305 section 9.1.2. Flame retardant and self-extinguishing acc. to DIN EN 60332-1-2. Flame retardant acc. to ISO 6722 (UN/ECE R118). Burning tests acc. to ASTM E 162-09.
<b>Toxicity:</b>	acc. to DIN EN 50305
<b>Smoke density:</b>	acc. to DIN EN 61034 + ASTM E 662-09
<b>Flexibility:</b>	good
<b>Absence of harmful substances:</b>	acc. to RoHS directive of the European Union see page O/30

Tested at reference types.

item no. no. of conductors nominal outer-ø inch mm cable weight ≈ lbs/mft

▶ 26 AWG (≈ 18/38) • 0.14 mm²

66150214	2	0.142	3.6	14
66150314	3	0.150	3.8	15
66150414	4	0.157	4.0	16
66150514	5	0.169	4.3	19
66150714	7	0.181	4.6	22
66150814	8	0.213	5.4	29
66151014	10	0.228	5.8	32
66151214	12	0.244	6.2	36
66151414	14	0.252	6.4	40
66151614	16	0.264	6.7	45
66151814	18	0.276	7.0	48
66152114	21	0.299	7.6	56
66152414	24	0.315	8.0	60
66152714	27	0.339	8.6	70
66153014	30	0.346	8.8	75
66153214	32	0.358	9.1	79
66153614	36	0.370	9.4	86
66154014	40	0.394	10.0	95
66154414	44	0.417	10.6	109
66155014	50	0.433	11.0	118
66155214	52	0.433	11.0	120
66156114	61	0.457	11.6	136

item no. no. of conductors nominal outer-ø inch mm cable weight ≈ lbs/mft

▶ 24 AWG (≈ 14/34) • 0.25 mm²

66150225	2	0.154	3.9	16
66150325	3	0.161	4.1	17
66150425	4	0.173	4.4	21
66150525	5	0.193	4.9	26
66150725	7	0.209	5.3	31
66150825	8	0.240	6.1	39
66151025	10	0.260	6.6	43
66151225	12	0.268	6.8	48
66151425	14	0.280	7.1	54
66151625	16	0.291	7.4	60
66151825	18	0.307	7.8	66
66152125	21	0.346	8.8	82
66152425	24	0.366	9.3	87
66152725	27	0.374	9.5	95
66153025	30	0.386	9.8	102
66153225	32	0.398	10.1	108
66153625	36	0.421	10.7	127
66154025	40	0.445	11.3	140
66154425	44	0.465	11.8	149
66155025	50	0.500	12.7	171
66155225	52	0.500	12.7	175
66156125	61	0.528	13.4	198

item no. no. of conductors nominal outer-ø inch mm cable weight ≈ lbs/mft

▶ 22 AWG (≈ 7/30) • 0.34 mm²

66150234	2	0.177	4.5	21
66150334	3	0.193	4.9	24
66150434	4	0.209	5.3	29
66150534	5	0.224	5.7	34
66150734	7	0.252	6.4	42
66150834	8	0.283	7.2	52
66151034	10	0.307	7.8	58
66151234	12	0.315	8.0	65
66151434	14	0.346	8.8	79
66151634	16	0.362	9.2	87
66151834	18	0.382	9.7	97
66152134	21	0.421	10.7	119
66152434	24	0.445	11.3	130
66152734	27	0.453	11.5	139
66153034	30	0.469	11.9	149
66153234	32	0.500	12.7	166
66153634	36	0.520	13.2	183
66154034	40	0.551	14.0	202
66154434	44	0.575	14.6	214
66155034	50	0.622	15.8	259
66155234	52	0.622	15.8	265
66156134	61	0.657	16.7	246

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

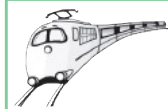
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EN 45545-2

## HALOGEN-FREE CABLES

ASTM E 162-09  
ASTM E 662-09Flame  
retardant acc. to  
UN/ECE R118

## SABIX® R 615 FRNC SABIX® Rail Data with overall tinned copper screen

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<b>Stranding:</b>	in layers
<b>Wrapping:</b>	PETP foil
<b>Screen:</b>	tinned copper braiding
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<b>Jacket color:</b>	gray

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<b>Zero halogen:</b>	acc. to EN 50306-1 + EN 50264-1 are fulfilled. Development of HCl is < 0.5% acc. to DIN EN 50267-2-1. pH-value is > 4.3 acc. to DIN EN 50267-2-2. Conductivity is < 10.0 µS/mm acc. to DIN EN 50267-2-2. Fluoric content < 0.1% acc. to DIN EN 60684-2.
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<b>Toxicity:</b>	acc. to DIN EN 50305
<b>Smoke density:</b>	acc. to DIN EN 61034 + ASTM E 662-09
<b>Flexibility:</b>	good
<b>Absence of harmful substances:</b>	acc. to RoHS directive of the European Union see page O/30

Tested at reference types.

item no.	no. of conductors	nominal outer- $\phi$ inch	nominal outer- $\phi$ mm	cable weight $\approx$ lbs/mft
▶ 20 AWG ( $\approx$ 16/32) • 0.50 mm <sup>2</sup>				
66150250	2	0.197	5.0	26
66150350	3	0.205	5.2	28
66150450	4	0.220	5.6	34
66150550	5	0.248	6.3	42
66150750	7	0.268	6.8	51
66150850	8	0.307	7.8	63
66151050	10	0.346	8.8	76
66151250	12	0.354	9.0	85
66151450	14	0.370	9.4	93
66151650	16	0.390	9.9	105
66151850	18	0.417	10.6	124
66152150	21	0.457	11.6	148
66152450	24	0.496	12.6	161
66152750	27	0.504	12.8	175
66153050	30	0.520	13.2	190
66153250	32	0.539	13.7	201
66153650	36	0.559	14.2	222
66154450	44	0.646	16.4	284
66155050	50	0.669	17.0	315
66156150	61	0.709	18.0	363

item no.	no. of conductors	nominal outer- $\phi$ inch	nominal outer- $\phi$ mm	cable weight $\approx$ lbs/mft
▶ 19 AWG ( $\approx$ 23/32) • 0.75 mm <sup>2</sup>				
66150275	2	0.220	5.6	32
66150375	3	0.240	6.1	38
66150475	4	0.260	6.6	49
66150575	5	0.280	7.1	54
66150775	7	0.303	7.7	68
66150875	8	0.362	9.2	89
66151275	12	0.413	10.5	120
66151475	14	0.433	11.0	133
66151675	16	0.453	11.5	151
66151875	18	0.488	12.4	173
66152175	21	0.535	13.6	200
66152475	24	0.567	14.4	218
66152775	27	0.579	14.7	237
66153075	30	0.622	15.8	280
66153275	32	0.642	16.3	296
66153675	36	0.665	16.9	322

item no.	no. of conductors	nominal outer- $\phi$ inch	nominal outer- $\phi$ mm	cable weight $\approx$ lbs/mft
▶ 18 AWG ( $\approx$ 30/32) • 1.00 mm <sup>2</sup>				
66150280	2	0.228	5.8	36
66150380	3	0.248	6.3	44
66150480	4	0.268	6.8	52
66150580	5	0.291	7.4	64
66150680	6	0.315	8.0	75
66150780	7	0.315	8.0	79
▶ 16 AWG ( $\approx$ 27-29/30) • 1.50 mm <sup>2</sup>				
66150285	2	0.260	6.6	48
66150385	3	0.268	6.8	60
66150485	4	0.291	7.4	66
66150585	5	0.339	8.6	87
66150685	6	0.366	9.3	102
66150785	7	0.366	9.3	109

Other dimensions and colors are possible on request.

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46E-mail: [info@sabcable.com](mailto:info@sabcable.com)Web site: [www.sabcable.com](http://www.sabcable.com)