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Single core screened and sheathed cables 1.8/3kV, 3.6/6kV

Scope of applications

Strictly halogen free, all these wires combine the advantages of reduced size, lightweight, high chemical resistance and high mechanical properties. They are recommended for installation in railway vehicles for power supply.

Standards

Current carrying capacity according to EN 50343.
Cabling rules according to EN 50355.
Fire protection requirements according to EN 45545.

Construction

1. Conductor
   Flexible stranded tinned copper
   Class 5 acc. to IEC 60228
   Covered with separate tape (Optional)
2. Insulation
   Special cross-linked compound
   Type EI 109 acc. to EN 50264-1
   Color: Black
3. Screen
   Tinned copper wires braid
   Minimum coverage: 80%
4. Sheath
   Special cross-linked compound
   Type EM 104 acc. to EN 50264-1
   Inside covered with optional tapes
   Color: Black

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Benetrans EN50264

Technical data

Table 1 EN50264-3-1(120) 1.8/3kV cables - screened and sheathed

Nominal cross section	Nominal conductor diameter[a]	Mean thickness of insulation	Diameter of screened approx.	Mean thickness of sheath	Overall diameter		Resistance of conductor at 20℃	Average Weight	Fire load appro.	TYPE NO.
					min.	max.	max.			
mm^2	mm	mm	mm	mm	mm	mm	Ω/km	Kg/km	MJ/km	
25	6.4	1.8	11.4	1.0	13.2	14.2	0.795	399	2689	720HT20101
35	7.7	1.8	12.1	1.0	14.1	15.1	0.565	514	3177	720HT20102
50	9.2	1.8	14.1	1.0	16.2	17.2	0.393	682	3707	720HT20103
70	11.0	1.8	16.0	1.0	18.1	19.1	0.277	893	4095	720HT20104
95	12.5	2.2	18.5	1.0	21.0	22.0	0.210	1161	5501	720HT20105
120	14.2	2.2	20.7	1.0	22.2	23.4	0.164	1464	6013	720HT20106
150	15.8	2.2	22.7	1.2	24.7	25.9	0.132	1791	7118	720HT20107
185	17.5	2.4	24.9	1.2	27.0	28.2	0.108	2129	8695	720HT20108
240	20.1	2.4	27.5	1.2	29.6	30.8	0.0817	2710	9017	720HT20109

(a:For information ,indicative only)

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Table 2 EN50264-3-1(120) 3.6/6kV cables - screened and sheathed

Nominal cross section	Conductor diameter d[a]	Mean thickness of insulation	Diameter of screened approx.	Mean thickness of sheath	Overall diameter		Resistance of conductor at 20℃	Average Weight	Fire load approx.	TYPE NO.
					min.	max.	max.			
mm^2	mm	mm	mm	mm	mm	mm	Ω/km	Kg/km	MJ/km	
35	7.7	3.0	14.6	1.0	16.8	17.8	0.565	645	3787	720HT30101
50	9.2	3.0	16.3	1.0	19.0	20.0	0.393	815	5813	720HT30102
70	11.0	3.0	18.4	1.0	20.5	21.5	0.277	1055	6175	720HT30103
95	12.5	3.0	20.1	1.0	23.1	24.1	0.210	1298	6715	720HT30104
120	14.2	3.1	21.9	1.0	24.2	25.2	0.164	1557	7907	720HT30105
150	15.8	3.1	23.9	1.2	26.3	27.5	0.132	1868	8485	720HT30106
185	17.5	3.5	26.6	1.2	29.0	30.2	0.108	2337	10813	720HT30107
240	20.1	3.5	29.2	1.2	31.0	32.2	0.0817	2925	12628	720HT30108

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Usage characteristics

• Electrical properties

Rated voltage	U_0 / U (U_m)=1.8/3 (3.6) kV
	U_0 / U (U_m)=3.6/6 (7.2) kV
Test voltage(a.c)	1.8/3 kV: 6.5kV,5min
	3.6/6 kV: 11kV,5min

• Max. operating temperature at conductor

Conductor at normal operation	≤ 140°C / 20,000 h
Conductor under short-circuit conditions(tinned)	≤ 250 °C / 5 s

• Operating in cold

Min. permissible ambient temperature	-40°C
Max. permissible ambient temperature	+120°C

• Min. bending radius

Fixed installation	≥5D
Free moved	≥ 10D

D = cable Ø (mm)