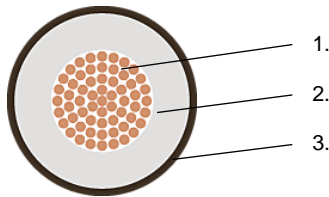


Technical datasheet

BETAtans[®] 4 GKW-INX



Product description

Robust, halogen free, electron-beam cross-linked thin walled flexible cable with improved fire performance and very high resistance to temperature. This cable fulfils the requirements of the specification no. ELRS/SPEC/ELC/0019, Rev`2` for working voltage above 750 V up to 1.8 / 3 kV.

Application

For fixed and protected installations inside and outside of rail vehicles and buses. These cables are for use in power, auxiliary as well as control circuits of conventional Tap Changer Electric Locomotives, AC/DC EMU, BG AC EMU & MEMU / Coaching stock. The use of this cable in applications with torsion or high bending frequencies (e.g. jumper cables between 2 car bodies or car body and bogie) is only permitted after consultation with the manufacturer.

Construction

1. conductor	tinned fine copper strands according to VDE 0295 / IEC 60228 class 5			
2. insulation	EPDM compound, electron-beam cross-linked			
3. sheath	EVA compound, electron-beam cross-linked			
colour	black, other colours upon request			
marking	LEONI STUDER AG BETATRANS 4 GKW-INX 1.8/3.0 KV MM2 EPDM/EVA 120 DEG C-
		1.	2.	3. 4.
	1. cross section	e.g. 2,5		
	2. year of manufacture	e.g. 2012		
	3. part no.	e.g. 308028		
	4. production order no.	e.g. 887169		

Product properties

nominal voltage	U_0/U	1,8/3,0 kV AC
max. voltage	U_{0m}	2,16 kV AC
max. voltage	V_0	2,7 kV DC
testing voltage		6,5 kV AC (50 Hz / 5 min.)
max. conductor temperature	fixed installation	+120 °C (20'000 h at 50 % elongation)
	sporadically moved	+90 °C
	short circuit	+200 °C
min. ambient temperature	fixed installation	
min. bending radius	$\varnothing \leq 10 \text{ mm}$	> 3 x \varnothing -50 °C
	$\varnothing > 10 \text{ mm}$	> 4 x \varnothing -50 °C
min. ambient temperature	sporadically moved	
min. bending radius	$\varnothing \leq 10 \text{ mm}$	> 5 x \varnothing -35 °C
	$\varnothing > 10 \text{ mm}$	> 6 x \varnothing -35 °C

Technical data

weights, dimensions and conductor resistances doc. no.: 11064

Technical datasheet

BETAtrans[®] 4 GKW-INX

Fire performance for rolling stock

ELRS/SPEC/ELC/0019, REV`2`

flame retardance (single cable)	IS 10810 part 61	charred length ≤ 200 mm cease of burning ≤ 30 sec.
flame propagation (bunched cable)	IS 10810 part 62	carbonisation ≤ 2,5 m
corrosivity of gases	IEC 60754-2 (EN 50267-2-2)	pH > 4.3
toxicity of combustion gases	IEC 60754-2 (EN 50267-2-2)	conductivity < 10 μS/mm
smoke intensity (sheath only)	NES 713	toxicity index ≤ 5
	ASTM-D-2843	SDR ≤ 20 %

Material properties

resistance to ozone	IS 10810 part 13	96h/20 °C, method B volume concentration 275 ppm
resistance to oil	IS 10810 part 31	24h/100 °C, IRM 902
resistance to diesel oil	IS 10810 part 31	168h/70 °C, IRM 903
resistance to cleaner	IS 10810 part 31	24h/20 °C, soap

All information regarding properties, technical data, etc. are without obligation. Dimensions and weights are reference values. All information can be changed at any time and without prior notice.