

ÖLFLEX® TRAIN 4GKW

LK 12111604RD

Version: 04

Date: 22.03.2019

1. Designation

ÖLFLEX® TRAIN 4GKW

2. Application

For protected installations inside and outside of rail vehicles and buses and other rail vehicles used for the connection of fixed and moved parts. Suitable for the wiring of switchboards, converters and distribution boxes. Due to the double-insulated design, these cables can be classified as short circuit and earth fault-proof. The thin outer layer protects against the effects of mineral oil fuels and ozone.

3. ▶ Design ◀

- Conductor : Fine wire strands of non-porous tinned copper wires according IEC 60228, Class 5
- Conductor resistance according VDE 0295, Class 5
- Separator tape (if necessary)
- Core insulation : electron beam cross-linked polymer compound, halogen free and flame retardant
The insulation colour is natural.
- Core sheath : electron beam cross-linked polymer compound, halogen free and flame retardant
The sheath colour is black.

4. ▶ Technical data ◀

Nominal voltage U_0/U (AC)	1.8/3kV AC
Nominal voltage V_0 (DC)	2.7kV DC
Test voltage	6.5 kV
Temperature range	fixed installed : -40 °C up to +125 °C max. occasional flexing -35 °C up to +90 °C max.
Short circuit temperature	+200 °C
Minimum bending radius ($\leq 12\text{mm}$)	fixed installation: 3 x cable diameter occasional flexing: 4 x cable diameter
($> 12\text{mm}$)	fixed installation: 4 x cable diameter occasional flexing: 5 x cable diameter

5. Fire performance

BS6853	Interior use	Ia,Ib,II
	Exterior use	Ia,Ib,II
Vertical flame spread of bunched wires and cables		BS 6853
Smoke density		BS 6853 appendix D
Toxicity of gases		BS 6853 appendix B R < 1.0

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EN 45545-2

hazard level

HL 1, HL 2, HL 3

Vertical flame propagation for a single insulated wire or cable
 Vertical flame spread of bunched wires and cables
 Smoke density
 Toxicity of gases

EN 60332-1-2
 EN 50305
 EN 61034-2
 EN 50305

NFPA 130

Vertical flame spread of bunched wires and cables
 Smoke density
 Toxicity of gases

FT4/IEEE1202
 ANSI/UL1685
 BSS-7239

6. Cable make up**6.1 Conductor**

- Conductor make up: Fine wire strands of tinned copper according to IEC 60228/EN 60228 resp. VDE 0295 class 5
- Conductor resistance acc. to EN 60228 resp. VDE 0295 class 5 for tinned copper wires
- Separator tape (if necessary)

6.2 Inner insulation

- Material: temperature resistant electron beam cross-linked polymer, halogen free and highly flame retardant
 Manufacturer and compound designation:
- Colours : natural

6.3 Outer insulation

- Material: temperature resistant electron beam cross-linked polymer, halogen free and highly flame retardant
 Manufacturer and compound designation:
- Colours : black

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6.4 ▶ Dimension ◀

Conductor	Inner Insulation	Outer Insulation	Outer diameter
Cross section (mm ²)	Thickness (mm)	Thickness (mm)	Approx. (mm)
1.5	0.6	0.4	3.6
2.5	0.6	0.4	4.0
4	0.6	0.4	4.5
6	0.7	0.4	5.3
10	0.8	0.4	6.5
16	0.8	0.6	8.6
25	0.9	0.7	10.3
35	1.0	0.7	11.9
50	1.0	0.8	14.3
70	1.0	0.8	16.2
95	1.0	0.8	18.1
120	1.2	0.9	20.4
150	1.2	0.9	22.2
185	1.2	1.1	24.6
240	1.2	1.1	27.5
300	1.3	1.2	30.6
400	1.3	1.3	34.3

7. Common requirements

RoHS: Dangerous and forbidden substances according to EC-Directive 2011/65/EU regarding Restriction of the use of certain hazardous substances (RoHS), are not allowed during manufacturing.

REACH: All materials used in the manufacturing process of the product are subject to the EC-Regulation No.1907/2006 regarding Registration, Evaluation, Authorization and Restriction of Chemicals (**REACH**).

If substances based on the current Candidate List are used, they shall be listed with their designation and their concentration.