

15327000	DATA SHEET	
Valid from: 06.11.2019	ÖLFLEX® TRAIN 327 C TW-E 300V	

Application

ÖLFLEX® TRAIN 327 C TW-E are halogen-free, highly flame retardant cables with reduced insulation wall thickness for use in railway vehicles.

They are designed for fixed installation and for applications, where limited movement may occur.

They are particularly used in areas, where human life as well as valuable property are exposed to high risk of fire hazards.

ÖLFLEX® TRAIN 327 C TW-E are oil-, fuel-, acid- and alkali resistant acc. to EN 50306-4.

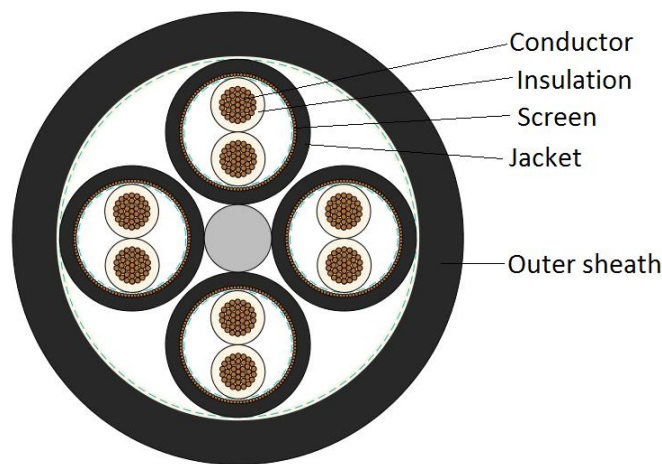
Relevant for the installation are the indications in EN 50355 and EN 50343.

The screen is a protection against electrical interference.

Application range:

railway vehicles, control and monitoring circuits as well as locking circuits and internal wiring of equipment in trains and locomotives

Design



Design	according to EN 50306-4, class 5E
Norm references	EN 50306-4 bzw. VDE 0260-306-4. code designation MM S MM = extra low temperature, extra oil and fuel resistant
Classification	EN 45545-2: Hazard Level HL1, HL2, HL3 NF F 16-101: Internal Category A1, A2, B External Category A1, A2, B Category C for flame propagation Category F1 for smoke
Conductor	tinned- copper strand, 19 or 37 wires, SRC (Special Round Conductor) acc. to EN 50306-2
Core isolation	electron beam cross-linked polymer compound acc. to EN 50306-2
Core identification	white cores with black numbers acc. to DIN EN 50334 resp. VDE 0293-334
Pairs	braid of tinned copper wires, coverage = 85% (nominal value) jacket: electron beam cross-linked polymer compound S2
Outer sheath	electron beam cross-linked polymer compound, halogen free and flame retardant, S2 acc. to EN 50306-1 colour: Black, similar RAL 9005

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Electrical properties

Nominal voltage	U_0 / U : 300/500 V AC according to EN 50306 U_m : 550V AC according to EN 50306 U_0 / U : 600/1000 V AC
Test voltage	core/core and core/screen: 3.5 kV AC or 8.4 kV DC

Mechanical and thermal properties

Min. bending radius	fixed installation: 10 x cable diameter occasional flexing: 10 x cable diameter
Temperature range	fixed installation: -45 °C up to +125 °C max. conductor temp. (20.000h) occasional flexing: -35 °C up to +105 °C max. conductor temp. - 50° according to GOST 33326-2015 and GOST 20.57.406-81 (method 203-1 und 205-1)
Short circuit temperature	max. +160°C (5s)

Fire protection according to EN 50306-4 / EN 45545:

Classification	EN 45545-2: Hazard Level HL1, HL2, HL3
Flammability	acc. to EN 60332-1-2 resp. VDE 0482-332-1-2
No flame propagation acc. to	≥ 12 mm: EN 60332-3-24 resp. VDE 0482-332-3-24 > 6 mm und < 12 mm: EN 60332-3-25 resp. VDE 0482-332-3-25 ≤ 6 mm: EN 50305, clause 9.1.2
Smoke density	acc. to EN 50306-1, light transmission: min. 70% acc. to IEC 61034-2; EN 61034-2
Halogen-free	acc. to IEC 60754-1; EN 60754-1; EN 50267-2-1 (chlorine and bromine) acc. to EN 60684-2 (fluorine)
Corrosivity	acc. to EN 50264-1, pH ≥ 4.3 and conductivity $\leq 10\mu\text{S}/\text{mm}$ acc. to IEC 60754-2; EN 60754-2; EN 50267-2-2
Toxicity (< 6)	acc. to EN 50305

Fire protection according to NF:

Classification	NF F 16-101: Internal Category A1, A2, B External Category A1, A2, B Category C for flame propagation Category F1 for smoke
Flammability	acc. to NF C 32-070, Category C1 and C2
Smoke density	acc. to NF X 10-702
Toxicity	acc. to NF X 70-100

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Material properties

Ozone resistance	acc. to EN 50306, method A or B
Mineral oil resistance	acc. to EN 50306
Fuel resistance	acc. to EN 50306
Acid and alkali resistance	acc. to EN 50306
UV resistance	acc. to EN 50525-1 (VDE 0285-525-1) are cables with black sheath suitable for a permanent outdoor use.
Tests	acc. to EN 50306-2 and EN 50306-4
EU Directives	These cables are conform to the EU-Directives 2014/35/EC (Low Voltage Directive)

Art. No.	Number of cores x cross section [mm ²]	Conductor [n x mmø]	Max. conductor resistance (20°C) [Ohm/km]	Conductor ø reference value [mm]	Core ø reference value [mm]	Outer ø [mm]	Fire load reference value [kWh/m]	Weight [kg/km]
15327000	2X2X0.5	19x0.18	40.1	0.9	1.4	10.7 ± 0.6	0.63	179
15327001	3X2X0.5	19x0.18	40.1	0.9	1.4	11.4 ± 0.6	0.69	212
15327002	4X2X0.5	19x0.18	40.1	0.9	1.4	12.4 ± 0.6	0.79	254
15327003	7X2X0.5	19x0.18	40.1	0.9	1.4	14.7 ± 0.8	1.07	375
15327004	2X2X0.75	37x0.16*	26.7	1.1	1.6	11.5 ± 0.6	0.73	213
15327005	3X2X0.75	37x0.16*	26.7	1.1	1.6	12.2 ± 0.6	0.78	250
15327006	4X2X0.75	37x0.16*	26.7	1.1	1.6	13.4 ± 0.6	0.92	307
15327007	7X2X0.75	37x0.16*	26.7	1.1	1.6	15.9 ± 0.8	1.20	447
15327008	2X2X1	37x0.18*	20.0	1.2	1.6	11.9 ± 0.6	0.77	235
15327009	3X2X1	37x0.18*	20.0	1.2	1.6	12.6 ± 0.6	0.84	282
15327010	4X2X1	37x0.18*	20.0	1.2	1.6	13.8 ± 0.6	0.97	342
15327011	7X2X1	37x0.18*	20.0	1.2	1.6	16.5 ± 0.8	1.25	499
15327012	2X2X1.5	37x0.23*	13.7	1.6	2.2	13.9 ± 0.6	1.02	317
15327013	3X2X1.5	37x0.23*	13.7	1.6	2.2	14.8 ± 0.8	1.11	383
15327014	4X2X1.5	37x0.23*	13.7	1.6	2.2	16.3 ± 0.8	1.40	492
15327015	7X2X1.5	37x0.23*	13.7	1.6	2.2	19.5 ± 0.8	1.70	697

* These cables may be supplied in 19 strand conductors.

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