

15327000	DATA SHEET	
valid from 2025-04-22	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.

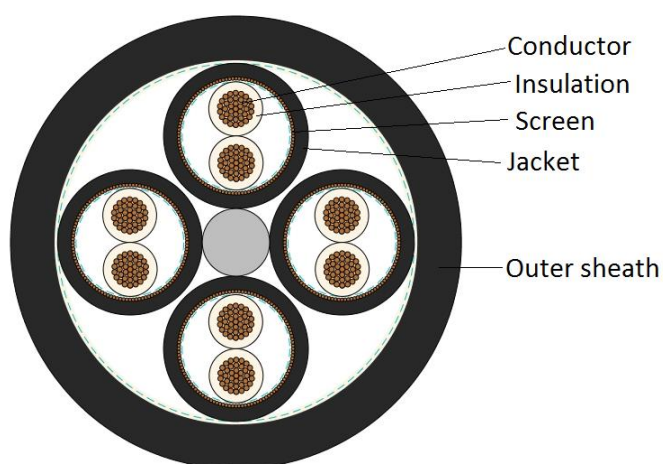
Relevant for the installation are the indications in EN 50355 and EN 50343.

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	acc. to EN 50306-4, class 5E
Norm references	EN 50306-4. 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
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, EM 104 acc. to EN 50264-1 colour: Black, similar RAL 9005

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Electrical properties at 20 °C

Nominal voltage	U_0 / U : 300/500 V AC acc. to EN 50306 U_m : 550V AC acc. to EN 50355 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	Outer diameter $\leq$ 12.0 mm: 5 x outer diameter for cautions bending (one bend at end of core): 4 x outer diameter Outer diameter $>$ 12.0 mm: 6 x outer diameter for cautions bending (one bend at end of core): 5 x outer diameter
Temperature range	-40 °C up to +90 °C max. conductor temp. up to +120 °C max. conductor temp. (20.000h) -50°C acc. to GOST 33326-2015 and GOST 20.57.406-81 (method 203-1 and 205-1)
Short circuit temperature	max. +160°C (5s)

Fire protection acc. to EN 50306-4 / EN 45545-2:

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

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Fire protection acc. 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	No flame propagation 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

Material properties

Ozone resistance	acc. to EN 50306-2 and EN 50306-4, method A or B
Mineral oil resistance	acc. to EN 50306-2 and EN 50264-1 (EM104)
Fuel resistance	acc. to EN 50306-2 and EN 50264-1 (EM104)
Acid and alkali resistance	acc. to EN 50306-2 and EN 50264-1 (EM104)
UV resistance	acc. to EN 50525-1 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 conform to the EU-Directives 2014/35/EC (Low Voltage Directive)
Environmental information	These cables meet the substance-specific requirements of the EU Directive 2011/65/EU (RoHS).

Art. No.	Number of cores x cross section [mm²]	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 [kJ/m]	Weight [kg/km]
15327000	2X2X0.5	19x0.18	40.1	0.9	1.4	10.7 ± 0.6	2270	179
15327001	3X2X0.5	19x0.18	40.1	0.9	1.4	11.4 ± 0.6	2489	212
15327002	4X2X0.5	19x0.18	40.1	0.9	1.4	12.4 ± 0.6	2848	254
15327003	7X2X0.5	19x0.18	40.1	0.9	1.4	14.7 ± 0.8	3863	375
15327004	2X2X0.75	37x0.16*	26.7	1.1	1.6	11.5 ± 0.6	2615	213
15327005	3X2X0.75	37x0.16*	26.7	1.1	1.6	12.2 ± 0.6	2791	250
15327006	4X2X0.75	37x0.16*	26.7	1.1	1.6	13.4 ± 0.6	3301	307
15327007	7X2X0.75	37x0.16*	26.7	1.1	1.6	15.9 ± 0.8	4314	447
15327008	2X2X1	37x0.18*	20.0	1.2	1.6	11.9 ± 0.6	2786	235
15327009	3X2X1	37x0.18*	20.0	1.2	1.6	12.6 ± 0.6	3037	282
15327010	4X2X1	37x0.18*	20.0	1.2	1.6	13.8 ± 0.6	3496	342
15327011	7X2X1	37x0.18*	20.0	1.2	1.6	16.5 ± 0.8	4512	499
15327012	2X2X1.5	37x0.23*	13.7	1.6	2.2	13.9 ± 0.6	3684	317
15327013	3X2X1.5	37x0.23*	13.7	1.6	2.2	14.8 ± 0.8	4007	383
15327014	4X2X1.5	37x0.23*	13.7	1.6	2.2	16.3 ± 0.8	5035	492
15327015	7X2X1.5	37x0.23*	13.7	1.6	2.2	19.5 ± 0.8	6112	697

* These cables may be supplied in 19 strand conductors.

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