

15325000	DATA SHEET	
valid from 2025-04-22	ÖLFLEX® TRAIN 325 C TW-E 300V	

Application

ÖLFLEX® TRAIN 325 C TW-E are halogen-free, highly flame retardant cables with reduced insulation 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 325 C TW-E are oil-, fuel-, acid- and alkali resistant acc. to EN 50306-2 and EN 50264-1 (EM 104).

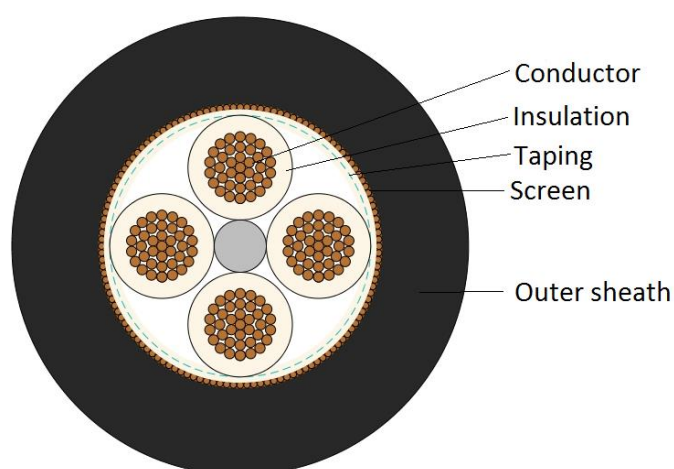
Relevant for the installation are the indications in EN 50355 and EN 50343.

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 3E
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 F0 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
Wrapping	plastic foil
Screen	braid of tinned copper wires. coverage = 85% (nominal value)
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 50306-4 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	acc. to EN 45545-2: Hazard Level HL1, HL2, HL3
Flammability	flame retardant acc. to EN 50306-1, clause 8.1 IEC 60332-1-2 resp. EN 60332-1-2 no flame propagation acc. to EN 50306-1, clause 8.2 $\geq$ 12 mm: acc. to IEC 60332-3-24 resp. EN 60332-3-24 $>$ 6 mm and $<$ 12 mm: acc. to IEC 60332-3-25 resp. EN 60332-3-25 $\leq$ 6 mm: acc. to 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

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 F0 for smoke
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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]
15325000	2X0.5	19x0.18	40.1	0.9	1.4	6.0 ± 0.5	615	57
15325001	3X0.5	19x0.18	40.1	0.9	1.4	6.2 ± 0.5	648	65
15325002	4X0.5	19x0.18	40.1	0.9	1.4	6.6 ± 0.5	709	75
15325003	6X0.5	19x0.18	40.1	0.9	1.4	7.4 ± 0.5	844	95
15325004	8X0.5	19x0.18	40.1	0.9	1.4	8.0 ± 0.5	977	122
15325005	2X0.75	37x0.16*	26.7	1.1	1.6	6.4 ± 0.5	652	66
15325006	3X0.75	37x0.16*	26.7	1.1	1.6	6.7 ± 0.5	718	78
15325007	4X0.75	37x0.16*	26.7	1.1	1.6	7.0 ± 0.5	762	89
15325008	6X0.75	37x0.16*	26.7	1.1	1.6	8.0 ± 0.5	901	121
15325009	8X0.75	37x0.16*	26.7	1.1	1.6	8.7 ± 0.5	1119	153
15325010	2X1	37x0.18*	20.0	1.2	1.7	6.7 ± 0.5	724	76
15325011	3X1	37x0.18*	20.0	1.2	1.7	7.0 ± 0.5	769	89
15325012	4X1	37x0.18*	20.0	1.2	1.7	7.4 ± 0.5	854	106
15325013	6X1	37x0.18*	20.0	1.2	1.7	8.5 ± 0.5	1010	144
15325014	8X1	37x0.18*	20.0	1.2	1.7	9.2 ± 0.6	1214	180
15325015	2X1.5	37x0.23*	13.7	1.6	2.2	7.6 ± 0.5	889	99
15325016	3X1.5	37x0.23*	13.7	1.6	2.2	7.9 ± 0.5	899	121
15325017	4X1.5	37x0.23*	13.7	1.6	2.2	8.5 ± 0.5	1020	145
15325018	6X1.5	37x0.23*	13.7	1.6	2.2	9.8 ± 0.6	1276	196

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15325019	8X1.5	37x0.23*	13.7	1.6	2.2	10.8 ± 0.6	1585	250
15325020	2X2.5	37x0.30*	8.21	2.1	2.8	8.8 ± 0.5	1075	142
15325021	3X2.5	37x0.30*	8.21	2.1	2.8	9.2 ± 0.6	1154	173
15325022	4X2.5	37x0.30*	8.21	2.1	2.8	10.0 ± 0.6	1311	211

* These cables may be supplied in 19 strand conductors.

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