

15317000	DATA SHEET	
Valid from: 03.09.2018	ÖLFLEX® TRAIN 317 C TW-P 300V	

Application

ÖLFLEX® TRAIN 317 C TW-P are halogen-free, highly flame retardant cables with reduced insulation wall thickness for use in railway vehicles and buses.

They are designed for fixed and protected installation, further 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.

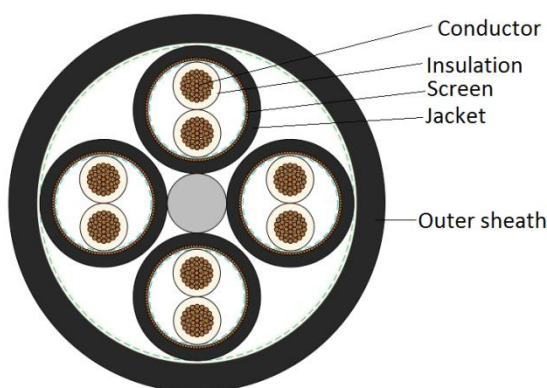
ÖLFLEX® TRAIN 317 C TW-P are oil-, fuel-, acid- and alkali resistant acc. to EN 50306-4.

The screen is a protection against electrical interference.

Application range:

railway vehicles and buses, 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 5P
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 : 600 V AC U_0 / U : 300/500 V AC according to EN 50306 U_m : 550V AC according to EN 50306
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]
15317000	2X2X0.5	19x0.18	40.1	0.9	1.4	9.6 ± 0.6	0.50	150
15317001	3X2X0.5	19x0.18	40.1	0.9	1.4	10.2 ± 0.6	0.54	178
15317002	4X2X0.5	19x0.18	40.1	0.9	1.4	11.3 ± 0.6	0.63	217
15317003	7X2X0.5	19x0.18	40.1	0.9	1.4	13.6 ± 0.6	0.87	331
15317004	2X2X0.75	37x0.16*	26.7	1.1	1.6	10.4 ± 0.6	0.57	179
15317005	3X2X0.75	37x0.16*	26.7	1.1	1.6	11.1 ± 0.6	0.64	219
15317006	4X2X0.75	37x0.16*	26.7	1.1	1.6	12.2 ± 0.6	0.74	267
15317007	7X2X0.75	37x0.16*	26.7	1.1	1.6	14.8 ± 0.8	0.98	399
15317008	2X2X1	37x0.18*	20.0	1.2	1.6	10.9 ± 0.7	0.65	208
15317009	3X2X1	37x0.18*	20.0	1.2	1.6	11.5 ± 0.6	0.70	250
15317010	4X2X1	37x0.18*	20.0	1.2	1.6	12.7 ± 0.6	0.80	304
15317011	7X2X1	37x0.18*	20.0	1.2	1.6	15.4 ± 0.8	1.07	458
15317012	2X2X1.5	37x0.23*	13.7	1.6	2.2	12.8 ± 0.6	0.87	283
15317013	3X2X1.5	37x0.23*	13.7	1.6	2.2	13.7 ± 0.6	0.95	346
15317014	4X2X1.5	37x0.23*	13.7	1.6	2.2	15.1 ± 0.8	1.18	443
15317015	7X2X1.5	37x0.23*	13.7	1.6	2.2	18.4 ± 0.8	1.43	638

* These cables may be supplied in 19 strand conductors.

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