



Control & signal cable

AJ-2YOF(L)2YDB2Y

Water-Blocked Induction-Protected Railway Cable

DB 416.0115 'AJ' induction-protected + 'OF' water-blocked armoured railway quad cable



AJ- Induction Protected

OF Jelly Water-Blocked

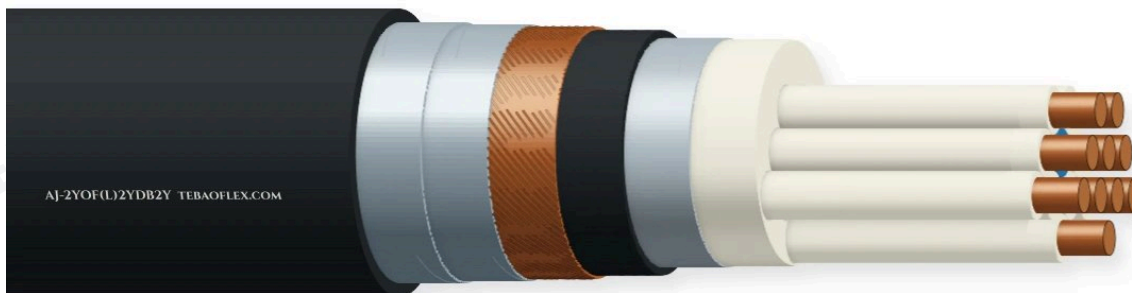
Cu Screen (D) + Steel Armour (B)

Application

AJ-2YOF(L)2YDB2Y water-blocked and induction-protected railway telecom cable (DB 416.0115 / DIN VDE 0816) combining 'AJ-' AC traction shielding (Cu wire screen 'D' + steel tape armour 'B', $r_k \leq 0.10-0.25$) with 'OF' petrolatum jelly water blocking.

Typical uses: Electrified Mainline Direct-Burial Routes, Flooded Trackside Troughs & Under-Track Crossings, 15 kV / 25 kV AC Railway Interlocking & SCADA, Wet Tunnel Portal & Bridge Approaches, Railway Substation Control & Voice Trunks

Construction



Cross-section, not to scale

- 1 Solid bare copper star-quads
- 2 2Y polyethylene core insulation
- 3 OF petrolatum core filling
- 4 (L)2Y Al/PE sheath + Cu screen (D)
- 5 High-permeability steel tape armour (B)
- 6 2Y black HDPE outer sheath

Technical data

Typical values

Reduction factor r_k	≤ 0.10 to ≤ 0.25 at 16.7 / 50 Hz (100–300 V/km)	Loop resistance (+20 °C)	$\leq 56.6 \Omega/\text{km}$ (0.9) · $\leq 31.8 \Omega/\text{km}$ (1.2) · $\leq 23.4 \Omega/\text{km}$ (1.4)
Mutual capacitance (800 Hz)	$\leq 50\text{--}52 \text{ nF/km}$	AC dielectric test voltage	2,500 V AC (core/core & core/screen)
Operating temperature (fixed)	-40 °C to +70 °C	Installation temperature	-20 °C to +50 °C
Water-blocking system	OF petrolatum jelly + (L)2Y Al/PE barrier	Screen & armour system	Copper wire screen (D) + 2× steel tapes (B)
Min. bending radius	15 × overall cable diameter	Longitudinal water tightness	IEC 60794-1-22 Method F5 pass
AC catenary induction	15 kV 16.7 Hz & 25 kV 50 Hz protected	Rodent & crush resistance	Double steel tape armour ('B')
Standards	DB TL 416.0115 & DIN VDE 0816-1		

Sizes

10 standard constructions

Tick the sizes you need and send this page to info@tebaoflex.com or WhatsApp +86 185 9591 3361.

Order designation	Cross-section / size	Conductor build	Wall $\approx$ mm	Outer $\varnothing \approx$ mm	Metal kg/km	Weight $\approx$ kg/km	Min. bend R fixed mm
Standard AJ-2YOF(L)2YDB2Y configurations 10 sizes							
☐ AJ-2YOF(L)2YDB2Y 2×4×0.9	2×4×0.9	≤ 0.20	1.94	17.60	195.8	445.0	265
☐ AJ-2YOF(L)2YDB2Y 4×4×0.9	4×4×0.9	≤ 0.20	2.20	20.00	255.2	580.0	300
☐ AJ-2YOF(L)2YDB2Y 6×4×0.9	6×4×0.9	≤ 0.15	2.48	22.50	319.0	725.0	340
☐ AJ-2YOF(L)2YDB2Y 10×4×0.9	10×4×0.9	≤ 0.15	2.86	26.00	426.8	970.0	390
☐ AJ-2YOF(L)2YDB2Y 14×4×0.9	14×4×0.9	≤ 0.12	3.17	28.80	532.4	1,210.0	435
☐ AJ-2YOF(L)2YDB2Y 20×4×0.9	20×4×0.9	≤ 0.10	3.58	32.50	677.6	1,540.0	490
☐ AJ-2YOF(L)2YDB2Y 2×4×1.4	2×4×1.4	≤ 0.20	2.31	21.00	297.0	675.0	315
☐ AJ-2YOF(L)2YDB2Y 4×4×1.4	4×4×1.4	≤ 0.15	2.64	24.00	396.0	900.0	360
☐ AJ-2YOF(L)2YDB2Y 6×4×1.4	6×4×1.4	≤ 0.15	3.04	27.60	521.4	1,185.0	415
☐ AJ-2YOF(L)2YDB2Y 10×4×1.4	10×4×1.4	≤ 0.10	3.54	32.20	739.2	1,680.0	485

– Outer diameters and weights are nominal engineering values for AJ-2YOF(L)2YDB2Y subject to standard manufacturing tolerances per DB 416.0115 / DIN VDE 0816 Water-Blocked & Induction-Protected Railway Specification.

Electrical & rating data

10 sizes

Configuration	Max. DC R @ 20 °C Ω/km	Primary rating (A or nF/km)	Secondary rating	Dielectric test V AC rms
2×4×0.9	12.80	52.0	44.2	2,500
4×4×0.9	12.80	52.0	44.2	2,500
6×4×0.9	12.80	52.0	44.2	2,500
10×4×0.9	12.80	52.0	44.2	2,500
14×4×0.9	12.80	52.0	44.2	2,500
20×4×0.9	12.80	52.0	44.2	2,500
2×4×1.4	12.80	52.0	44.2	2,500
4×4×1.4	12.80	52.0	44.2	2,500
6×4×1.4	12.80	52.0	44.2	2,500
10×4×1.4	12.80	52.0	44.2	2,500

– Electrical resistance at +20 °C and dielectric withstand voltages verified per DB 416.0115 / DIN VDE 0816 Water-Blocked & Induction-Protected Railway Specification.

Standards and approvals

- ✓ DB 416.0115 / DIN VDE 0816 Water-Blocked & Induction-Protected Railway Specification
- ✓ CE (2014/35/EU) & RoHS 3 (2015/863/EU) Compliant
- ✓ REACH SVHC Compliance Verified

Certifications



Management systems: ISO 9001, ISO 14001, ISO 45001

Request a quotation

Send the size, length and destination. An application engineer replies within 2 business hours.

WhatsApp / phone

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Email

info@tebaoflex.com

Web

tebaoflex.com/cables/aj-2yof-l-2ydb2y-water-blocked-induction-protected-railway-cable



Typical values for this cable type, based on DB 416.0115 / DIN VDE 0816 Water-Blocked & Induction-Protected Railway Specification. Values for your order are confirmed in the quotation. Subject to change without notice. Jiangsu Tebaoflex Special Cable Co., Ltd., Taicang, Jiangsu, China.