

Application

This is a highly flexible multicore control cable for permanent use in moving cable carriers (energy chains / drag chains, sleepkettering). The extra-finely stranded bare copper conductors are PVC-insulated and laid up with an optimised, short lay length around a central element for a long flex life; a polyurethane (PUR) outer sheath gives high resistance to abrasion, notching, oils, coolants, UV and weathering. Rated 300/500 V, the cable is designed for continuous flexing in machine tools, handling and automation equipment, robots and production lines. This datasheet describes the UNSHIELDED version with numbered black cores and a green/yellow protective conductor (JZ configuration). Where electromagnetic screening is required, a shielded variant is available with an inner sheath and a braided screen of tinned copper wires beneath the PUR sheath (layer code CU/PVC/PVC/TCWB/PUR); an unshielded version without protective conductor (numbered cores only, OZ) is also common.



CONSTRUCTION

Conductor	Extra-finely stranded bare annealed copper, class 5/6 to IEC/EN 60228 (VDE 0295).
Insulation	PVC compound (special continuous-flex grade).
Screen	None (unshielded, JZ). A shielded variant with an inner sheath and a braided screen of tinned copper wires (approx. 85 % coverage) is available on request.
Sheath	Polyurethane (PUR), oil-, coolant-, abrasion-, notch-, UV- and weather-resistant; grey or black.
Core identification	Black cores with printed white numbers acc. to VDE 0293-334, plus a green/yellow protective conductor (JZ).

ELECTRICAL & THERMAL PROPERTIES

Rated voltage Uo/U	300/500 V.
Test voltage	4 kV.
Standard	Construction in line with the EN 50525-2 series / VDE 0285-525 for flexible PVC control cables; designed for continuous flexing in cable carriers.
Flame-retardant	IEC/EN 60332-1-2 (VDE 0482-332-1-2).
Conductor standard	IEC/EN 60228 class 5/6 (VDE 0295).
Max. conductor temperature	+70 °C.
Permitted outer cable temperature, fixed	-40 °C to +80 °C.
Permitted outer cable temperature, flexing	-5 °C to +70 °C.
Min. bending radius, fixed	4 × outer diameter.
Min. bending radius, flexing	7.5 × outer diameter.
Oil / abrasion resistance	High (PUR sheath): resistant to oils, coolants, abrasion, notching, UV and ozone.
Reaction to fire (CPR)	Outside the scope of EN 50575 (flexible connection cable, not for permanent installation in construction works).

DIMENSIONS & TECHNICAL DATA

Cores × mm ²	Cond. R @20°C (Ω/km)	Nominal O.D. (mm)	Weight (kg/km)
2 × 0.5	39	6.5	46
7 × 0.5	39	9.6	118
3 × 0.75	26	7.3	66
4 × 0.75	26	8	82
5 × 0.75	26	8.7	101
7 × 0.75	26	10.7	142
12 × 0.75	26	11.7	196
18 × 0.75	26	13.9	282
25 × 0.75	26	16.6	404
34 × 0.75	26	18.9	541
50 × 0.75	26	22.5	738
3 × 1.5	13.3	8.4	98
4 × 1.5	13.3	9.3	125
5 × 1.5	13.3	10.1	155
7 × 1.5	13.3	11.9	221
12 × 1.5	13.3	13.9	318
18 × 1.5	13.3	16.9	484
25 × 1.5	13.3	20.1	671
34 × 1.5	13.3	23.1	910
2 × 2.5	7.98	8.9	102
3 × 2.5	7.98	9.3	134
4 × 2.5	7.98	10.3	173
5 × 2.5	7.98	11.3	217
7 × 2.5	7.98	13.4	312
12 × 2.5	7.98	15.8	460
3 × 4	4.95	10.9	197
4 × 4	4.95	12.1	257
7 × 4	4.95	16.1	471
4 × 6	3.3	13.7	363
4 × 10	1.91	17.9	605
4 × 16	1.21	23.4	973
4 × 25	0.78	27.6	1437

Outer diameter and weight are nominal manufacturer values of the leading reference source for the unshielded JZ configuration (numbered cores plus green/yellow protective conductor); conductor resistance is the maximum value at 20 °C per IEC/EN 60228 class 5/6; all values are indicative and non-binding.