

# JZ-HF flexible, number coded, control cable for drag chains, meter marking



## Technical data

- Special PVC control cable, extreme flexibility due to special construction
- Requirements adapted to DIN VDE 0281 part 13
- **Temperature range**  
flexing -5°C to +80°C  
fixed installation -40°C to +80°C
- **Nominal voltage** U<sub>0</sub>/U 300/500 V
- **Test voltage** 4000 V
- **Breakdown voltage** min. 8000 V
- **Insulation resistance**  
min. 20 MΩm x km
- **Minimum bending radius**  
flexing 7,5x cable Ø  
fixed installation 4x cable Ø
- **Radiation resistance**  
up to 80x10<sup>6</sup> cJ/kg (up to 80 Mrad)

## Cable structure

- Bare copper, extra fine wire conductors, to DIN VDE 0295 cl. 6 col. 4, BS 6360 cl. 6 and IEC 60228 cl. 6
- Core insulation of special PVC Z 7225
- Black cores with continuous white figure imprint to DIN VDE 0293
- Green-yellow earth core in the outer layer (3 cores and above)
- Cores stranded in layers with optimal selected lay-length
- Core wrapping with fleece
- Special PVC outer sheath, TM2 to DIN VDE 0281 part 1 and HD 21.1,
- Colour grey (RAL 7001)
- with meter marking, change-over in 2009

## Properties

- Extensively oil resistant  
Chemical Resistance - see table Technical Informations
- PVC self-extinguishing and flame retardant according to VDE 0482-332-1-2, DIN EN 60332-1-2/ IEC 60332-1 (equivalent DIN VDE 0472 part 804 test method B)
- The materials used in manufacture are cadmium-free and contain no silicone and free from substances harmful to the wetting properties of lacquers

## Note

- G = with green-yellow earth core;  
x = without green-yellow earth core (OZ).
- AWG sizes are approximate equivalent values. The actual cross-section is in mm<sup>2</sup>.
- Cleanroom qualification tested with analog type. Please note "cleanroom qualified" when ordering.
- **screened analogue type:**  
**JZ-HF-CY** confer page C 8

## Application

JZ-HF cables are ideal for use in the machine tool industry, in robotics and machine production and anywhere where high flexibility is essential. These cables have shown excellent performance in combination with standard cable trays. These cables are suitable for flexible use for medium mechanical stresses with free movements.

For applications which go beyond standard solutions (for example for composting appliances or high shelf conveyors with extremely high processing speeds etc.) we recommend for our especially developed enquiry sheet for energy guiding systems.

Before installation in cable trays please read the instructions. Further technical details see selection table for drag chain cables, see lead text.

CE= The product is conformed with the EC Low-Voltage Directive 2006/95/EG.

| Part No. | No. cores x cross-sec. mm <sup>2</sup> | Outer ø app. mm | Cop. weight kg / km | Weight app. kg / km | AWG-No. | Part No. | No. cores x cross-sec. mm <sup>2</sup> | Outer ø app. mm | Cop. weight kg / km | Weight app. kg / km | AWG-No. |
|----------|--|-----------------|---------------------|---------------------|---------|----------|--|-----------------|---------------------|---------------------|---------|
| 15001    | 2 x 0,5                                | 5,0             | 9,6                 | 46,0                | 20      | 15019    | 2 x 0,75                               | 5,4             | 14,4                | 58,0                | 18      |
| 15002    | 3 G 0,5                                | 5,3             | 14,0                | 57,0                | 20      | 15020    | 3 G 0,75                               | 5,7             | 22,0                | 73,0                | 18      |
| 15003    | 4 G 0,5                                | 5,7             | 19,0                | 70,0                | 20      | 15021    | 4 G 0,75                               | 6,4             | 29,0                | 77,0                | 18      |
| 15004    | 5 G 0,5                                | 6,4             | 24,0                | 93,0                | 20      | 15022    | 5 G 0,75                               | 7,0             | 36,0                | 119,0               | 18      |
| 15005    | 7 G 0,5                                | 7,5             | 34,0                | 127,0               | 20      | 15023    | 7 G 0,75                               | 8,3             | 50,0                | 165,0               | 18      |
| 15090    | 7 x 0,5                                | 7,5             | 34,0                | 127,0               | 20      | 15024    | 10 G 0,75                              | 10,1            | 72,0                | 216,0               | 18      |
| 15006    | 10 G 0,5                               | 9,1             | 48,0                | 161,0               | 20      | 15025    | 12 G 0,75                              | 10,2            | 86,0                | 247,0               | 18      |
| 15007    | 12 G 0,5                               | 9,2             | 58,0                | 177,0               | 20      | 15026    | 14 G 0,75                              | 10,9            | 101,0               | 284,0               | 18      |
| 15008    | 14 G 0,5                               | 9,8             | 67,0                | 213,0               | 20      | 15027    | 16 G 0,75                              | 11,5            | 115,0               | 320,0               | 18      |
| 15009    | 16 G 0,5                               | 10,3            | 77,0                | 260,0               | 20      | 15028    | 18 G 0,75                              | 12,1            | 130,0               | 356,0               | 18      |
| 15010    | 18 G 0,5                               | 11,1            | 86,0                | 284,0               | 20      | 15029    | 20 G 0,75                              | 12,8            | 144,0               | 453,0               | 18      |
| 15011    | 20 G 0,5                               | 11,6            | 96,0                | 318,0               | 20      | 15030    | 25 G 0,75                              | 14,9            | 180,0               | 498,0               | 18      |
| 15012    | 25 G 0,5                               | 13,4            | 120,0               | 363,0               | 20      | 15031    | 30 G 0,75                              | 15,2            | 216,0               | 510,0               | 18      |
| 15013    | 30 G 0,5                               | 13,7            | 144,0               | 432,0               | 20      | 15032    | 34 G 0,75                              | 16,6            | 245,0               | 550,0               | 18      |
| 15014    | 34 G 0,5                               | 15,0            | 163,0               | 487,0               | 20      | 15033    | 36 G 0,75                              | 16,6            | 259,0               | 570,0               | 18      |
| 15015    | 36 G 0,5                               | 15,0            | 173,0               | 518,0               | 20      | 15034    | 42 G 0,75                              | 18,1            | 302,0               | 600,0               | 18      |
| 15016    | 42 G 0,5                               | 16,1            | 202,0               | 575,0               | 20      | 15035    | 50 G 0,75                              | 20,0            | 360,0               | 700,0               | 18      |
| 15017    | 50 G 0,5                               | 17,9            | 240,0               | 675,0               | 20      | 15036    | 61 G 0,75                              | 22,1            | 432,0               | 820,0               | 18      |
| 15018    | 61 G 0,5                               | 19,6            | 290,0               | 829,0               | 20      | 15091    | 65 G 0,75                              | 22,7            | 439,0               | 841,0               | 18      |

Dimensions and specifications may be changed without prior notice. (RC01)

Continuation ▶

# JZ-HF flexible, number coded, control cable for drag chains, meter marking



## marking

| Part No. | No. cores x cross-sec. mm² | Outer ø app. mm | Cop. weight kg / km | Weight app. kg / km | AWG-No. |
|----------|----------------------------|-----------------|---------------------|---------------------|---------|
| 15037    | 2 x 1                      | 5,7             | 19,0                | 65,0                | 17      |
| 15038    | 3 G 1                      | 6,0             | 29,0                | 84,0                | 17      |
| 15039    | 4 G 1                      | 6,8             | 38,0                | 113,0               | 17      |
| 15040    | 5 G 1                      | 7,4             | 48,0                | 137,0               | 17      |
| 15041    | 7 G 1                      | 8,8             | 67,0                | 192,0               | 17      |
| 15042    | 10 G 1                     | 10,7            | 96,0                | 251,0               | 17      |
| 15043    | 12 G 1                     | 10,8            | 115,0               | 295,0               | 17      |
| 15044    | 14 G 1                     | 11,6            | 134,0               | 337,0               | 17      |
| 15045    | 16 G 1                     | 12,2            | 154,0               | 379,0               | 17      |
| 15046    | 18 G 1                     | 13,0            | 173,0               | 420,0               | 17      |
| 15047    | 20 G 1                     | 13,6            | 192,0               | 480,0               | 17      |
| 15048    | 25 G 1                     | 15,8            | 240,0               | 600,0               | 17      |
| 15049    | 30 G 1                     | 16,4            | 288,0               | 695,0               | 17      |
| 15050    | 34 G 1                     | 17,8            | 326,0               | 777,0               | 17      |
| 15051    | 36 G 1                     | 17,8            | 346,0               | 825,0               | 17      |
| 15052    | 41 G 1                     | 19,3            | 403,0               | 926,0               | 17      |
| 15214    | 42 G 1                     | 19,3            | 403,0               | 948,0               | 17      |
| 15053    | 50 G 1                     | 21,2            | 480,0               | 1092,0              | 17      |
| 15092    | 61 G 1                     | 23,7            | 586,0               | 1204,0              | 17      |
| 15054    | 65 G 1                     | 24,4            | 624,0               | 1400,0              | 17      |
| 15055    | 2 x 1,5                    | 6,4             | 29,0                | 91,0                | 16      |
| 15056    | 3 G 1,5                    | 6,8             | 43,0                | 117,0               | 16      |
| 15057    | 4 G 1,5                    | 7,4             | 58,0                | 147,0               | 16      |
| 15058    | 5 G 1,5                    | 8,3             | 72,0                | 181,0               | 16      |
| 15059    | 7 G 1,5                    | 9,9             | 101,0               | 273,0               | 16      |
| 15060    | 10 G 1,5                   | 11,9            | 144,0               | 344,0               | 16      |
| 15061    | 12 G 1,5                   | 12,1            | 173,0               | 391,0               | 16      |
| 15062    | 14 G 1,5                   | 12,9            | 202,0               | 457,0               | 16      |
| 15063    | 16 G 1,5                   | 13,6            | 230,0               | 525,0               | 16      |
| 15064    | 18 G 1,5                   | 14,5            | 259,0               | 590,0               | 16      |
| 15065    | 20 G 1,5                   | 15,2            | 288,0               | 650,0               | 16      |
| 15066    | 25 G 1,5                   | 17,8            | 360,0               | 801,0               | 16      |
| 15067    | 30 G 1,5                   | 18,2            | 432,0               | 958,0               | 16      |
| 15068    | 34 G 1,5                   | 19,7            | 490,0               | 1084,0              | 16      |
| 15069    | 36 G 1,5                   | 19,7            | 518,0               | 1135,0              | 16      |
| 15070    | 42 G 1,5                   | 21,5            | 605,0               | 1290,0              | 16      |
| 15071    | 50 G 1,5                   | 23,7            | 720,0               | 1521,0              | 16      |
| 15072    | 60 G 1,5                   | 25,3            | 864,0               | 1885,0              | 16      |
| 15215    | 61 G 1,5                   | 26,2            | 878,0               | 1916,0              | 16      |
| 15216    | 65 G 1,5                   | 27,2            | 936,0               | 1994,0              | 16      |

| Part No. | No. cores x cross-sec. mm² | Outer ø app. mm | Cop. weight kg / km | Weight app. kg / km | AWG-No. |
|----------|----------------------------|-----------------|---------------------|---------------------|---------|
| 15073    | 2 x 2,5                    | 7,7             | 43,0                | 130,0               | 14      |
| 15074    | 3 G 2,5                    | 8,4             | 72,0                | 160,0               | 14      |
| 15075    | 4 G 2,5                    | 9,1             | 96,0                | 200,0               | 14      |
| 15076    | 5 G 2,5                    | 10,2            | 120,0               | 268,0               | 14      |
| 15077    | 7 G 2,5                    | 12,2            | 168,0               | 357,0               | 14      |
| 15078    | 10 G 2,5                   | 15,0            | 240,0               | 486,0               | 14      |
| 15079    | 12 G 2,5                   | 15,2            | 288,0               | 572,0               | 14      |
| 15080    | 14 G 2,5                   | 16,1            | 336,0               | 612,0               | 14      |
| 15081    | 16 G 2,5                   | 17,2            | 384,0               | 702,0               | 14      |
| 15082    | 18 G 2,5                   | 18,1            | 432,0               | 800,0               | 14      |
| 15083    | 20 G 2,5                   | 19,2            | 480,0               | 920,0               | 14      |
| 15084    | 25 G 2,5                   | 22,5            | 600,0               | 1100,0              | 14      |
| 15085    | 30 G 2,5                   | 23,5            | 720,0               | 1400,0              | 14      |
| 15086    | 34 G 2,5                   | 25,2            | 816,0               | 1500,0              | 14      |
| 15087    | 36 G 2,5                   | 25,2            | 864,0               | 1600,0              | 14      |
| 15088    | 42 G 2,5                   | 27,4            | 1008,0              | 1800,0              | 14      |
| 15089    | 50 G 2,5                   | 30,0            | 1200,0              | 2100,0              | 14      |
| 15142    | 3 G 4                      | 10,4            | 115,0               | 221,0               | 12      |
| 15143    | 4 G 4                      | 11,4            | 154,0               | 260,0               | 12      |
| 15144    | 5 G 4                      | 12,7            | 192,0               | 318,0               | 12      |
| 15145    | 4 G 6                      | 13,3            | 230,0               | 392,0               | 10      |
| 15146    | 5 G 6                      | 14,5            | 288,0               | 481,0               | 10      |
| 15147    | 4 G 10                     | 17,7            | 384,0               | 642,0               | 8       |
| 15148    | 5 G 10                     | 19,7            | 480,0               | 780,0               | 8       |
| 15149    | 4 G 16                     | 20,8            | 614,0               | 926,0               | 6       |
| 15150    | 5 G 16                     | 23,5            | 768,0               | 1155,0              | 6       |

Dimensions and specifications may be changed without prior notice. (RC01)

| HELUKABEL GMBH             |                               |                     |          |                         |       |         |
|----------------------------|-------------------------------|---------------------|----------|-------------------------|-------|---------|
| Schleppketten-Testergebnis |                               |                     |          |                         |       |         |
| Type:                      | JZ-HF / -CY                   |                     |          |                         |       |         |
| Art. Nr                    | Aderzahl x Nennquerschnitt mm | Außendurchmesser mm | geschlmt | Maximal-<br>biegeradius | 1000m | 1000m   |
| 15023                      | 7G0,75                        | 8,30                | nein     | 7,5d                    | 247   | 1880,00 |
| 15005                      | 7G0,5                         | 7,50                | nein     | 7,5d                    | 247   | 1880,00 |
| 15041                      | 7G1                           | 8,60                | nein     | 7,5d                    | 251   | 1880,00 |
| 15058                      | 5G1,5                         | 8,30                | nein     | 7,5d                    | 257   | 1880,00 |
| 15006                      | 10G0,5                        | 9,10                | nein     | 7,5d                    | 258   | 1880,00 |
| 15075                      | 4G2,5                         | 15,40               | ja       | 10d                     | 251   | 1880,00 |
| 15967                      | 18G1                          | 13,10               | ja       | 10d                     | 247   | 1880,00 |
| 15986                      | 14G0,75                       | 13,10               | ja       | 10d                     | 250   | 1880,00 |
| 15966                      | 12G1                          | 14,40               | ja       | 10d                     | 254   | 1880,00 |
| 15966                      | 7G2,5                         | 12,70               | ja       | 10d                     | 254   | 1880,00 |
| 15928                      | 5G2,5                         | 14,50               | ja       | 7,5d                    | 253   | 1880,00 |

To be able to provide information on the service life and in line with our certification to DIN EN ISO 9001:2000, we document the realistic testing of our cables suitable for use in drag chains.