

# ÖLFLEX® FD 890/890 CY

## Super Flexible Heavy Duty Continuous Flex Control Cable with PVC Jacket



ÖLFLEX® FD 890 is a time-tested, performance-proven multi-conductor cable designed for continuous flex applications. Fine stranding and specially formulated compounds optimize flexing life and provide excellent resistance to mineral oils, synthetic oils, and water-based coolants. ÖLFLEX® FD 890 CY is a shielded version available with an overall tinned copper braid. This is recommended when electrical interference needs to be suppressed.

### Recommended Applications

Cable tracks & power chains; gantry robots; pick and place units; conveyor systems; machine tool and other continuous flexing applications

### Approvals



| Cable Attributes |       | page 640 |       |
|------------------|-------|----------|-------|
| OIL              | OR-04 | FLAME    | FR-02 |
| MOTION           | CF-03 | MECH.    | MP-02 |

| Complete the Installation |          |
|---------------------------|----------|
| SKINTOP® Strain Relief    | page 488 |
| EPIC® Connectors          | page 280 |

| ÖLFLEX® CONNECT Solution |                                   |
|--------------------------|-----------------------------------|
|                          | ÖLFLEX® CONNECT CHAIN<br>page 609 |

### Unshielded Construction

**Conductors:** Finely stranded bare copper

**Insulation:** Specially formulated PVC; dry lubricant; non-woven wrapping over outer layer

**Jacket:** Specially formulated PVC; black

### Shielded Construction

**Conductors:** Finely stranded bare copper

**Insulation:** Specially formulated PVC; dry lubricant; non-woven wrapping over outer layer

**Inner Jacket:** PVC

**Shielding:** Tinned copper braid (85% coverage)

**Jacket:** Specially formulated PVC; black

### Application Advantage

- Meets Oil Res I/II, resistant to harsh environments for long service life
- Pressure-extruded jacket for precision connectorization
- Passes UL 1277 impact and crush tests

### Technical Data

|                             |   |                    |  |
|-----------------------------|---|--------------------|--|
| <b>Minimum Bend Radius:</b> | - for continuous flexing: 7.5 x cable diameter<br>- shielded: 10 x cable diameter | <b>Color Code:</b> | Black with white numbers, plus green/yellow ground   |
| <b>Temperature Range:</b>   | - for continuous flexing: -5°C to +90°C<br>- for stationary use: -25°C to +90°C   | <b>Approvals:</b>  | UL: AWM 2587<br>AWM 21098 (Oil)<br>Attributes: UL Oil Res I/II<br>Sunlight resistant<br>NFPA 79<br>UL 758 80°C Oil Test<br>Canada: CSA AWM I/II A/B FT1<br>CSA C22.2, 210.2<br>Additional: CE & RoHS |
| <b>Nominal Voltage:</b>     | 600V  |                    |  |
| <b>Test Voltage:</b>        | 2000V   |                    |  |
| <b>Conductor Stranding:</b> | Better than Class 6 super fine wire   |                    |  |

If not otherwise specified, all values relating to the product are nominal values. Photographs are not to scale and are not true representations of the products in question. For current information go to our website.

ÖLFLEX® FD 890

| Part Number                         | Number of Conductors (incl. ground) | Nominal Outer Diameter (in) (mm) |      | Copper Weight (lbs/mft) | Approx. Weight (lbs/mft) | SKINTOP® Non-Metallic PG Thread | Part Number                         | Number of Conductors (incl. ground) | Nominal Outer Diameter (in) (mm) |      | Copper Weight (lbs/mft) | Approx. Weight (lbs/mft) | SKINTOP® Non-Metallic PG Thread |
|-------------------------------------|-------------------------------------|----------------------------------|------|-------------------------|--------------------------|---------------------------------|-------------------------------------|-------------------------------------|----------------------------------|------|-------------------------|--------------------------|---------------------------------|
| <b>20 AWG (0.50 mm<sup>2</sup>)</b> |                                     |                                  |      |                         |                          |                                 | <b>14 AWG (2.50 mm<sup>2</sup>)</b> |                                     |                                  |      |                         |                          |                                 |
| 8920034                             | 3                                   | 0.264                            | 6.7  | 10                      | 43                       | S2109                           | 8914044                             | 4                                   | 0.456                            | 11.6 | 67                      | 148                      | S2113                           |
| 8920044                             | 4                                   | 0.291                            | 7.4  | 16                      | 53                       | S2111                           | 8914074                             | 7                                   | 0.614                            | 15.6 | 117                     | 227                      | S2121                           |
| 8920054                             | 5                                   | 0.323                            | 8.2  | 19                      | 68                       | S2111                           | <b>12 AWG (4 mm<sup>2</sup>)</b>    |                                     |                                  |      |                         |                          |                                 |
| 8920074                             | 7                                   | 0.382                            | 9.7  | 27                      | 75                       | S2113                           | 8912044                             | 4                                   | 0.531                            | 13.5 | 104                     | 208                      | S2121                           |
| 8920124                             | 12                                  | 0.457                            | 11.6 | 39                      | 124                      | S2113                           | 8912074                             | 7                                   | 0.740                            | 18.8 | 181                     | 335                      | S2129                           |
| 8920184                             | 18                                  | 0.539                            | 13.7 | 69                      | 183                      | S2121                           | <b>10 AWG (6 mm<sup>2</sup>)</b>    |                                     |                                  |      |                         |                          |                                 |
| 8920254                             | 25                                  | 0.677                            | 17.2 | 96                      | 265                      | S2121                           | 8910044                             | 4                                   | 0.640                            | 16.3 | 155                     | 275                      | S2121                           |
| <b>18 AWG (1.00 mm<sup>2</sup>)</b> |                                     |                                  |      |                         |                          |                                 | <b>8 AWG (10 mm<sup>2</sup>)</b>    |                                     |                                  |      |                         |                          |                                 |
| 8918034                             | 3                                   | 0.287                            | 7.3  | 18                      | 46                       | S2111                           | 8908044                             | 4                                   | 0.756                            | 19.2 | 259                     | 481                      | S2129                           |
| 8918044                             | 4                                   | 0.327                            | 8.3  | 24                      | 60                       | S2111                           | <b>6 AWG (16 mm<sup>2</sup>)</b>    |                                     |                                  |      |                         |                          |                                 |
| 8918054                             | 5                                   | 0.355                            | 9.0  | 29                      | 74                       | S2111                           | 8906044                             | 4                                   | 0.909                            | 23.1 | 413                     | 709                      | S2129                           |
| 8918074                             | 7                                   | 0.429                            | 10.9 | 41                      | 102                      | S2113                           | <b>4 AWG (25 mm<sup>2</sup>)</b>    |                                     |                                  |      |                         |                          |                                 |
| 8918124                             | 12                                  | 0.500                            | 12.7 | 70                      | 158                      | S2116                           | 8904044                             | 4                                   | 1.059                            | 26.9 | 646                     | 1005                     | S2136                           |
| 8918154                             | 15                                  | 0.559                            | 14.2 | 88                      | 202                      | S2121                           | <b>2 AWG (35 mm<sup>2</sup>)</b>    |                                     |                                  |      |                         |                          |                                 |
| 8918184                             | 18                                  | 0.614                            | 15.6 | 105                     | 234                      | S2121                           | 8902044                             | 4                                   | 1.252                            | 31.8 | 904                     | 1240                     | S2248                           |
| 8918254                             | 25                                  | 0.763                            | 19.4 | 146                     | 336                      | S2129                           |                                     |                                     |                                  |      |                         |                          |                                 |
| 8918344                             | 34                                  | 0.826                            | 21.0 | 211                     | 434                      | S2129                           |                                     |                                     |                                  |      |                         |                          |                                 |
| <b>16 AWG (1.50 mm<sup>2</sup>)</b> |                                     |                                  |      |                         |                          |                                 |                                     |                                     |                                  |      |                         |                          |                                 |
| 8916034                             | 3                                   | 0.323                            | 8.2  | 30                      | 79                       | S2111                           |                                     |                                     |                                  |      |                         |                          |                                 |
| 8916044                             | 4                                   | 0.358                            | 9.1  | 39                      | 106                      | S2111                           |                                     |                                     |                                  |      |                         |                          |                                 |
| 8916054                             | 5                                   | 0.393                            | 10.0 | 49                      | 132                      | S2113                           |                                     |                                     |                                  |      |                         |                          |                                 |
| 8916074                             | 7                                   | 0.480                            | 12.2 | 68                      | 138                      | S2116                           |                                     |                                     |                                  |      |                         |                          |                                 |
| 8916124                             | 12                                  | 0.555                            | 14.1 | 117                     | 214                      | S2121                           |                                     |                                     |                                  |      |                         |                          |                                 |
| 8916184                             | 18                                  | 0.685                            | 17.4 | 175                     | 323                      | S2129                           |                                     |                                     |                                  |      |                         |                          |                                 |
| 8916254                             | 25                                  | 0.854                            | 21.7 | 242                     | 505                      | S2129                           |                                     |                                     |                                  |      |                         |                          |                                 |
| 8916344                             | 34                                  | 0.925                            | 23.5 | 329                     | 623                      | S2129                           |                                     |                                     |                                  |      |                         |                          |                                 |
| 8916504                             | 50                                  | 1.094                            | 27.8 | 437                     | 880                      | S2136                           |                                     |                                     |                                  |      |                         |                          |                                 |

ÖLFLEX® FD 890 CY

| Part Number                         | Number of Conductors (incl. ground) | Nominal Outer Diameter (in) (mm) |      | Copper Weight (lbs/mft) | Approx. Weight (lbs/mft) | SKINTOP® MS-SC PG Thread | Part Number                         | Number of Conductors (incl. ground) | Nominal Outer Diameter (in) (mm) |      | Copper Weight (lbs/mft) | Approx. Weight (lbs/mft) | SKINTOP® MS-SC PG Thread |
|-------------------------------------|-------------------------------------|----------------------------------|------|-------------------------|--------------------------|--------------------------|-------------------------------------|-------------------------------------|----------------------------------|------|-------------------------|--------------------------|--------------------------|
| <b>20 AWG (0.50 mm<sup>2</sup>)</b> |                                     |                                  |      |                         |                          |                          | <b>14 AWG (2.50 mm<sup>2</sup>)</b> |                                     |                                  |      |                         |                          |                          |
| 8920034S                            | 3                                   | 0.342                            | 8.7  | 27                      | 82                       | 53112220                 | 8914044S                            | 4                                   | 0.551                            | 14.0 | 103                     | 181                      | 53112250                 |
| 8920044S                            | 4                                   | 0.370                            | 9.4  | 38                      | 97                       | 53112230                 | 8914074S                            | 7                                   | 0.709                            | 18.0 | 175                     | 347                      | 53112260                 |
| 8920054S                            | 5                                   | 0.409                            | 10.4 | 44                      | 108                      | 53112230                 | 8914184S                            | 18                                  | 1.012                            | 25.7 | 385                     | 762                      | 53112270                 |
| 8920074S                            | 7                                   | 0.468                            | 11.9 | 52                      | 137                      | 53112240                 | <b>12 AWG (4 mm<sup>2</sup>)</b>    |                                     |                                  |      |                         |                          |                          |
| 8920124S                            | 12                                  | 0.551                            | 14.0 | 68                      | 214                      | 53112250                 | 8912044S                            | 4                                   | 0.650                            | 16.5 | 160                     | 302                      | 53112250                 |
| 8920184S                            | 18                                  | 0.657                            | 16.7 | 112                     | 293                      | 53112250                 | 8912074S                            | 7                                   | 0.858                            | 21.8 | 251                     | 194                      | 53112260                 |
| 8920254S                            | 25                                  | 0.803                            | 20.4 | 158                     | 421                      | 53112260                 | <b>10 AWG (6 mm<sup>2</sup>)</b>    |                                     |                                  |      |                         |                          |                          |
| <b>18 AWG (1.00 mm<sup>2</sup>)</b> |                                     |                                  |      |                         |                          |                          | 8910044S                            | 4                                   | 0.752                            | 19.1 | 215                     | 333                      | 53112260                 |
| 8918034S                            | 3                                   | 0.375                            | 9.5  | 40                      | 91                       | 53112230                 | <b>8 AWG (10 mm<sup>2</sup>)</b>    |                                     |                                  |      |                         |                          |                          |
| 8918044S                            | 4                                   | 0.419                            | 10.6 | 48                      | 112                      | 53112230                 | 8908044S                            | 4                                   | 0.882                            | 22.4 | 330                     | 701                      | 53112260                 |
| 8918054S                            | 5                                   | 0.447                            | 11.4 | 57                      | 131                      | 53112240                 | <b>6 AWG (16 mm<sup>2</sup>)</b>    |                                     |                                  |      |                         |                          |                          |
| 8918074S                            | 7                                   | 0.528                            | 13.4 | 76                      | 198                      | 53112240                 | 8906044S                            | 4                                   | 1.066                            | 27.1 | 498                     | 986                      | 53112270                 |
| 8918124S                            | 12                                  | 0.636                            | 16.2 | 125                     | 271                      | 53112250                 |                                     |                                     |                                  |      |                         |                          |                          |
| 8918184S                            | 18                                  | 0.719                            | 18.3 | 162                     | 357                      | 53112260                 |                                     |                                     |                                  |      |                         |                          |                          |
| 8918254S                            | 25                                  | 0.887                            | 22.5 | 218                     | 538                      | 53112260                 |                                     |                                     |                                  |      |                         |                          |                          |
| 8918344S                            | 34                                  | 0.986                            | 25.0 | 211                     | 660                      | 53112270                 |                                     |                                     |                                  |      |                         |                          |                          |
| <b>16 AWG (1.50 mm<sup>2</sup>)</b> |                                     |                                  |      |                         |                          |                          |                                     |                                     |                                  |      |                         |                          |                          |
| 8916034S                            | 3                                   | 0.409                            | 10.4 | 54                      | 121                      | 53112230                 |                                     |                                     |                                  |      |                         |                          |                          |
| 8916044S                            | 4                                   | 0.444                            | 11.3 | 68                      | 154                      | 53112240                 |                                     |                                     |                                  |      |                         |                          |                          |
| 8916054S                            | 5                                   | 0.480                            | 12.2 | 81                      | 170                      | 53112240                 |                                     |                                     |                                  |      |                         |                          |                          |
| 8916074S                            | 7                                   | 0.598                            | 15.2 | 125                     | 258                      | 53112250                 |                                     |                                     |                                  |      |                         |                          |                          |
| 8916124S                            | 12                                  | 0.673                            | 17.1 | 174                     | 366                      | 53112260                 |                                     |                                     |                                  |      |                         |                          |                          |
| 8916184S                            | 18                                  | 0.826                            | 21.0 | 239                     | 493                      | 53112260                 |                                     |                                     |                                  |      |                         |                          |                          |
| 8916254S                            | 25                                  | 0.996                            | 25.3 | 320                     | 687                      | 53112270                 |                                     |                                     |                                  |      |                         |                          |                          |
| 8916344S                            | 34                                  | 1.067                            | 27.1 | 446                     | 769                      | 53112270                 |                                     |                                     |                                  |      |                         |                          |                          |

Recommended SKINTOP® assumes minimal OD variance. Additional configurations are available; please see our SKINTOP® section. If not otherwise specified, all values relating to the product are nominal values. For current information go to our website.