

Power chain applications • Torsion, articulated robot, certified



## ÖLFLEX® ROBOT F1

TPE-PUR robot cable for flexing and torsion load, certified



**Info**

- Simultaneous bending and torsion
- Torsion angle up to +/- 360 °/m
- AWM certification for USA and Canada

### Benefits

- Allows much faster speed and accelerations which increases the economic efficiency of the machines
- Multi-standard certification reduces part varieties and saves costs
- Increased durability under harsh conditions thanks to robust PUR outer sheath
- Resistant to contact with many mineral oil-based lubricants, diluted acids, aqueous alkaline solutions and other chemical media
- Wide temperature range for applications in harsh climatic environments

### Application range

- Multi-axis articulated robots
- Automated handling equipment
- Industrial machinery and machine tools
- In power chains or moving machine parts
- Plant engineering

### Product features

- Abrasion and notch-resistant
- Flame-retardant
- High oil-resistance
- Flexible at low temperatures
- Low-adhesive surface

### Norm references / Approvals

- UL AWM Style 20940
- cUL AWM I/II A/B
- UL File No. E213974
- For use in power chains: Please comply with assembly guideline Appendix T3

### Product Make-up

- Extra-fine strands, 0.14 mm<sup>2</sup> - 0.5 mm<sup>2</sup>, made from tinned-copper wires, bare above.
- Core insulation: TPE
- Cores (or core pairs) twisted in layers or bundles
- PTFE tape wrapping
- Pair screen (D): layer of tinned-copper wires
- PUR outer sheath, black (RAL 9005)

### Technical data

**Classification**  
ETIM 5.0 Class-ID: EC000104  
ETIM 5.0 Class-Description: Control cable

**Core identification code**  
Up to 0.34 mm<sup>2</sup>: DIN 47100 cores  
From 0.5 mm<sup>2</sup>: white cores with black printed numbers

**Conductor stranding**  
Extra-fine wire

**Torsion**  
Torsion load max. ± 360 °/m

**Minimum bending radius**  
Flexible use: 10 x outer diameter  
Fixed installation: 4 x outer diameter

**Nominal voltage**  
IEC: up to 0.34 mm<sup>2</sup> 250 Vss.  
0.5 - 2.5 mm<sup>2</sup> 300/500 V  
UL/CSA up to 1.5 mm<sup>2</sup> 600 V,  
from 2.5 mm<sup>2</sup> 1000 V

**Test voltage**  
Cores: spark test 6 kV

**Protective conductor**  
G = with GN-YE protective conductor  
X = without protective conductor

**Temperature range**  
Flexing: -40°C to +80°C  
Fixed installation: -50°C to +80°C

### Accessories

- SILVYN® RILL PA 12 refer to page 863

Article number	Number of cores and mm <sup>2</sup> per conductor	Outer diameter (mm)	Copper index (kg/km)	Weight (kg/km)
<b>ÖLFLEX® ROBOT F1</b>				
0029590	7 X 0.25	6.7	16.8	62
0029591	12 X 0.25	9.0	30	122
0029592	18 X 0.25	10.6	45	156
0029593	25 X 0.25	12.5	60	205
0029594	2 X 0.34	4.6	7	38
0029595	3 X 0.34	4.8	10	40
0029596	4 X 0.34	5.2	15	48
0029599	12 X 0.34	9.4	40	130
0029600	18 X 0.34	11.2	60	170
0029601	25 X 0.34	13.1	83	220
0029608	18 G 0.5	12.3	84	202
0029609	25 G 0.5	15.2	120	284
0029610	2 X 1.0	6.3	19	60
0029611	3 G 1.0	6.6	28	71
0029612	4 G 1.0	7.2	38	87
0029614	7 G 1.0	9.2	65	141
0029615	12 G 1.0	12.4	110	237
0029616	14 G 1.0	13.2	128	257
0029617	16 G 1,0 + (2 x 1,0)	15.4	190	346
0029618	18 G 1.0	16.1	170	349
0029619	23 G 1 + (2 x 1,0)	18.0	250	461
0029620	25 G 1.0	18.3	240	407
0029621	34 G 1.0	21.1	320	600
0029622	41 G 1.0	23.6	390	753
0029624	4 G 1.5	8.2	57	114
0029625	5 G 1.5	9.1	72	141
0029627	7 G 1.5	10.5	101	187
0029629	12 G 1.5	14.3	170	294
0029630	18 G 1.5	17.5	259	450
0029631	25 G 1.5	22.2	360	661
0029632	3 G 2.5	9.1	72	136
0029641	4 G 6	13.3	220	330

Unless specified otherwise, the shown product values are nominal values. Detailed values (e.g. tolerances) are available upon request.  
Copper price basis: EUR 150/100 kg. Refer to catalogue appendix T17 for the definition and calculation of copper-related surcharges.  
Please find our standard lengths at: [www.lappkabel.de/en/cable-standardlengths](http://www.lappkabel.de/en/cable-standardlengths)  
Packaging size: coil ≤ 30 kg or ≤ 250 m, otherwise drum  
Please specify the preferred type of packaging (e.g. 1 x 500 m drum or 5 x 100 m coils).  
Photographs are not to scale and do not represent detailed images of the respective products.