


U.I. Lapp GmbH	<b>PRODUCT INFORMATION</b>	
	<b>ÖLFLEX® ROBOT F1</b>	29.11.2013

TPE-PUR robot cable for flexing and torsion load, approved  
Space-saving installation due to small cable diameters  
Hightech robot cable  
Protection against water and dirt  
Wear-resistant



Mechanical resistance



Oil-resistant



Power chain



Torsion-resistant



UV-resistant

### Info

Simultaneous bending and torsion  
AWM approvals for USA and Canada

### Application range

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


### Design

Fine or 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)

### Norm references / Approvals

UL AWM Style 20940 VW1cUL AWM I/II A/B FT 1  
For travel distances up to 100 m (horizontal)  
For use in power chains: Please comply with the assembly guidelines listed in Appendix T3  
UL File No. E213974

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**Product features**

Abrasion and cut-resistant  
Hydrolysis-resistant  
Oil-resistant  
Low-adhesive surface  
Flame-retardant

**Remark**

Unless specified otherwise, the shown product values are nominal values. Detailed values (e.g. tolerances) are available upon request.

Copper price basis: EUR 150/100kg. 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.

**Technical Data**

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
Classification:	ETIM 5.0 Class-ID: EC000104 ETIM 5.0 Class-Description: Control cable
Specific insulation resistance:	> 20 GOhm x cm
Conductor stranding:	Fine wire or extra-fine wire
Torsion:	Max. torsion load Max. torsion load ± 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 Core insulation: capable of temporary overload to +120°C

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Part number	Number of cores and mm <sup>2</sup> per conductor	Outer diameter (mm)	Copper index (kg/km)	Weight (kg/km)
0029590	7 X 0,25	6,7	16.8	62
0029591	12 X 0,25	9.0	30.0	122
0029592	18 X 0,25	10,6	45.0	156
0029593	25 X 0,25	12,5	60.0	205
0029594	2 X 0,34	4,6	7.0	38
0029595	3 X 0,34	4,8	10.0	40
0029596	4 X 0,34	5,2	15.0	48
0029599	12 X 0,34	9,4	40.0	130
0029600	18 X 0,34	11,2	60.0	170
0029601	25 X 0,34	13,1	83.0	220
0029608	18 G 0,5	12,3	84.0	202
0029609	25 G 0,5	15,2	120.0	284
0029610	2 X 1,0	6,3	19.0	60
0029611	3 G 1,0	6,6	28.0	71
0029612	4 G 1,0	7,2	38.0	87
0029614	7 G 1,0	9,2	65.0	141
0029615	12 G 1,0	12,4	110.0	237
0029616	14 G 1,0	13,2	128.0	257
0029617	16 G 1,0 + (2 x 1,0)	15,4	190.0	346
0029618	18 G 1,0	16,1	170.0	349
0029619	23 G 1 + (2 x 1,0)	18.0	250.0	461
0029620	25 G 1,0	17,8	240.0	407
0029621	34 G 1,0	21,1	320.0	600
0029622	41 G 1,0	23,6	390.0	753
0029624	4 G 1,5	8,2	57.0	114
0029625	5 G 1,5	9,1	72.0	141
0029627	7 G 1,5	10,5	101.0	187
0029629	12 G 1,5	14,3	170.0	294
0029630	18 G 1,5	17,5	259.0	450
0029631	25 G 1,5	22,2	360.0	661
0029632	3 G 2,5	9,1	72.0	136
0029641	4 G 6	13,3	220.0	330