

0029590	DATA SHEET	
valid from: 05.08.2019	ÖLFLEX® ROBOT F1 / ÖLFLEX® ROBOT F1 (C)	

Application

ÖLFLEX® ROBOT F1 is especially designed to withstand torsion and bending stress in once, e.g. for connecting handling tools to assembling- or welding robotics, to manipulators, for connecting to rotating or tilting tables. Usable for transmission of control- and monitoring signals or as supply cables. They are for use in dry, damp or wet locations as well as outdoors. Usage on motor drum guidance or under a strain of more than 15 N/mm² is not allowed. ÖLFLEX® ROBOT F1 cables are increased oil-resistant and at room temperature generally resistant against acids and caustics solutions. The outer sheath of Polyurethane is resistant against high mechanical stress, particularly to abrasion cuts, microbe proof and hydrolysis resistant. ÖLFLEX® ROBOT F1 cables, marked with (C) or (D) are screened against electromagnetic interfering effects (EMC). Approvals for USA and Canada covers the usage in factory wired equipment; field-wiring or outdoor usage is not covered.

Design

Certification	UL AWM 758, Style 20940 cRU AWM I/II A/B
Conductor	extra fine copper wires acc. to IEC 60228 / VDE 0295 0.14 mm ² up to 0.5 mm ² tinned copper wires, ≥ 0.75 mm ² bare copper wires
Insulation	TPE compound (Thermoplastic elastomer)
Core identification code	≤ 0.34 mm ² colour coded according DIN 47100. ≥ 0.5 mm ² : white cores with black numbers, version "G" with protective conductor GNYE. Version "X" = without protective conductor (GNYE).
Stranding	Cores arranged in layers, versions with 12 cores and more: cores arranged in bundles of cores with adhesive-free slip tape wrapping.
Screen	Screened version: Braiding (C) or helix (D) of tinned copper wires over slip-tape wrapping
Outer sheath	Polyurethane compound TPU acc. HD 22.10 S1 and UL 758, CSA C22.2 No.210-15, colour: anthracite grey, similar RAL 7016

Electrical properties at 20°C

Peak operating voltage	sizes ≤ 0.34 mm ² : 350V (not for power applications)
Nominal voltage	IEC: sizes ≥ 0.5 mm ² : U ₀ /U: 300/500 V, UL & CSA: sizes ≤ 1.5 mm ² : 600V, sizes ≥ 2.5 mm ² : 1000V
Test voltage	≤ 0.34 mm ² : 1500 V AC 0.5 mm ² - 1.5 mm ² : 2000 V AC ≥ 2.5 mm ² : 3000 V AC

Mechanical and thermal properties

Minimum bending radius	occasional flexing: 10 x outer diameter fixed installation: 4 x outer diameter
Temperature range	for flex. applications (IEC) -40 °C up to +80 °C max. conductor temperature for flex. applications (UL/CSA) up to +80 °C max. conductor temperature fixed installation (IEC) -50 °C up to +80 °C max. conductor temperature fixed installation (UL/CSA) up to +80 °C max. conductor temperature
Torsional stress	max. torsion angle: ± 360° /m (unshielded version) ± 180° /m (shielded version)
Flammability	flame retardant acc. to IEC 60332-1-2 resp. VDE 0482-332-1-2
Oil resistance	according to VDE 0472 part 803 test methode B
Tests	acc. UL & CSA, VDE 0472 & IEC 60811 resp. VDE 0473
General requirements	≤ 0.34 mm ² : These cables are conform to the EU-Directive 2011/65/EU (RoHS, Restriction of the use of certain hazardous substances). ≥ 0.5 mm ² : These cables are conform to the EU-Directive 2014/35/EU (Low Voltage Directive).

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