1311802	DATA SHEET	LAPP
valid from: 01.01.2019	ÖLFLEX® 409 P	

Application

ÖLFLEX® 409 P cables are control cables for the European and North American market for occasional flexible use and fixed installation subject to normal mechanical load conditions. They are also suitable for use in dry, damp or wet areas.
They are suitable for outdoor use if the indicated temperature range is observed.
ÖLFLEX® 409 P are increased resistant to oils and at room temperature largely resistant to acids and alkalis.
The outer sheath withstands high mechanical stresses, in particular abrasion and dragging. It is also cut proof and resists microbes and hydrolysis.
They are suitable for occasional, non-automated movements. The maximum tensile load is 15 N/mm² of conductor cross-section during installation and operation. Compulsory guidance is not permitted.

Application range:
Appliance and apparatus construction, industrial machinery and machine tools, measurement, control and electrical applica-tions, very suitable for oily wet areas within machinery and production lines

USE according to RU: PUR sheathed cables for external interconnection of electronic equipment
USE according to cRUus: Cables for internal and external interconnection with or without mechanical use

Design

Design	acc. to UL 758; Style 11009 and 20234, C22.2 No. 210-15 based on EN 50525-1 resp. VDE 0285-525-1
Certification	RU AWM Style 11009 and 20234 (File No. E63634) cRUus AWM I A/B, II A/B (File No. E63634)
Conductor	fine wire strands of bare copper, acc. to IEC 60228 resp. VDE 0295, Class 5
Insulation	PVC compound (UL/CSA 80°C rating)
Core identification code	acc. to VDE 0293-1, with or without GN/YE ground conductor black cores with white numbers acc. to DIN EN 50334 (VDE 0293-334)
Outer sheath	two layer design: Inner layer: PVC compound (UL/CSA 80°C rating), colour: silver grey, similar RAL 7001 Outer layer: TMPU Polyurethane compound(UL/CSA 80°C Rating) colour: black, similar RAL 9005

Electrical properties at 20°C

Rated voltage	IEC U_0/U: 300/500 V UL/CSA: 1000 V
Test voltage	4000 V AC

Mechanical and thermal properties

Minimum bending radius	occasional flexing: 15 x outer diameter fixed installation: 4 x outer diameter
Temperature range	occasional flexing (VDE): -5 °C up to +70 °C max. conductor temp. occasional flexing (UL/CSA): -5 °C up to +80 °C max. conductor temp. fixed installation (VDE): -40 °C up to +70 °C max. conductor temp. fixed installation (UL/CSA): up to +80 °C max. conductor temp.
Flammability	flame retardant acc. to IEC 60332-1-2 resp. VDE 0482-332-1-2 UL: Vertical flame test VW-1; CSA: FT1
UV resistance	acc. to EN 50618 resp. VDE 0283-618 acc. to EN 50620 resp. VDE 0285-620 acc. to EN ISO 4892-2-2013, method A (change of colour allowed)
Oil resistance	acc. to EN 50363-10-2 resp. VDE 0207-363-10-2
Tests	acc. to IEC 60811 resp. VDE 0473 part 811, EN 50395, EN 50396, UL AWM 758, UL 1581 and CSA C22.2
General requirements	These cables are conform to the EU-Directive 2014/35/EU (Low Voltage Directive)