1026513	DATA SHEET	LAPP
valid from: 24.05.2024	ÖLFLEX® CHAIN 90 P	

Application

ÖLFLEX® CHAIN 90 P are highly-flexible TPU single core cables approved for the European, North American and Canadian market, for permanent flexible use in power chains and fixed installation with narrow bending radii under increased mechanical load conditions. They are also suitable for use in dry, damp or wet areas. These products are suitable for outdoor use if the indicated temperature range is observed.
ÖLFLEX® CHAIN 90 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.
ÖLFLEX® CHAIN 90 P are especially suitable for increased requirements (Extended Line) in power chains and in permanently moved machine parts. They are suitable for linear, 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:
Power chains or moving machine parts, for wiring of electric and electronic equipment in switch cabinets, test systems in the automotive industry, vehicles and stationary fuel cell systems. This cable is suitable for torsion application in wind turbines (WTG). The torsional load is limited to applications, as they typically occur in the loop of a wind turbine.

USE acc. to : External Wiring
USE acc. to : Cables for internal or external interconnection with or without mechanical abuse.

Design

Design	acc. to UL 758 AWM Style 11624, CSA C22.2 No. 210 based on EN 50525-1
Certification	AWM Style 11624 (File No. E63634) AWM I/II A/B (File No. E63634) DNV (Certificate no. TAE000047C)
Conductor	extra fine wire strands of bare copper acc. to IEC 60228 resp. EN 60228, Class 6
Insulation	Special compound based on TPE
Core identification code	black or GN/YE
Outer sheath	TPU Polyurethane compound (UL/CSA 80 °C rating) colour: black, similar RAL 9005

Electrical properties at 20 °C

Nominal voltage	EN: U_0/U: 600/1000 V
Rated voltage	UL/CSA: 1000 V
Test voltage	4000 V AC

Mechanical and thermal properties

Minimum bending radius	flexing: up from 7.5 x outer diameter fixed installation: 3 x outer diameter
Temperature range	flexing (EN): -35 °C up to +80 °C max. conductor temperature flexing (UL/CSA): up to +80 °C max. conductor temperature fixed installation (EN): -50 °C up to +80 °C max. conductor temperature fixed installation(UL/CSA): up to +80 °C max. conductor temperature
Bending cycles and power chain operation parameters	See Selection Table A2-1 in the appendix of our online catalogue For use in power chains: Please comply with assembly guideline Appendix T3
Torsional stress	Torsion movement in wind turbine generators TW-0 (5000 cycles at ≥ +5 °C) TW-2 (2000 cycles at ≥ -40 °C) ± 150 °/m at 1 rotation per minute
Flammability	flame retardant acc. to: IEC 60332-1-2 resp. EN 60332-1-2 IEC 60332-3-24 resp. EN 60332-3-24 IEC 60332-3-25 resp. EN 60332-3-25 UL VW-1 acc. to UL 1581 § 1080 CSA FT1 acc. to CSA C22.2 No. 2256 § 9.3
Halogen free	acc. to VDE 0472-815

We reserve all rights according to DIN ISO 16016.

UV resistance	acc. to EN 50618 EN 50620 EN ISO 4892-2-2013, method A (change of colour allowed)
Ozone resistance	acc. to EN 50396, method B
Oil resistance	acc. to EN 50363-10-2
Tests	acc. to IEC 60811 resp. EN 60811, EN 50395, EN 50396 UL 1581 und CSA C22.2 No. 210
General requirements	These cables are conform to the EU-Directive 2014/35/EU (Low Voltage Directive)
Environmental information	These cables meet the substance-specific requirements of the EU Directive 2011/65/EU (RoHS).

We reserve all rights according to DIN ISO 16016.