4160100	DATA SHEET	LAPP
valid from: 28.03.2024	ÖLFLEX® WIRE MS 2.1 (former MULTI-STANDARD SC 2.1)	

Application

ÖLFLEX® WIRE MS 2.1 wiring cables are UL, CSA and HAR* approved and are designed for use for control cabinet wiring as well as for installation in protective tubes, applicable within the scope of the UL-, Canadian or European standard specifications.
They are especially qualified for wiring in industrial machines in accordance with NFPA 79.
At room temperature they are widely resistant to oils.
Application range:
HAR: wiring cable for internal wiring acc. to EN 50565-2
UL (AWM): oil resistant wiring cable for internal wiring of appliances
UL (MTW): acc. to ANSI/NFPA 70 (National Electrical Code)
CSA (TEW): oil resistant wiring cable for internal wiring of appliances

Design

Design	acc. to EN 50525-2-31 UL AWM Style 1015, UL 758 UL 1063 CSA 22.2 No.127-18 IEC 60227-3: This design follows the IEC 60227-3 Code designation 60227 IEC 02 requirements (no approval and marking acc. to IEC 60227-3). Only for HAR products.
Certification	H07V-K ⊲HAR⊳ (*) acc. to EN 50525-2-31 (*) For the dimensions 0.5; 0.75; 1.0 and 16 mm² as well for the colours GN and YE, and also for multi-coloured cores (except for GN/YE) there are no HAR-approval available (X07V-K)! UL (AWM) Style 1015, UL 758 (File No. E63634) UL (MTW): UL 1063 (File E198296) CSA (TEW): C22.2 No. 127-18 EN 13501-6 and EN 50575 Classification of fire behaviour (article/dimension range see www.lappkabel.com/cpr)
Conductor	fine wire strands of tinned copper, acc. to IEC 60228 resp. EN 60228, class 5
Insulation	special PVC-based compound
Core identification code	different core colours

Electrical properties at 20 °C

Nominal voltage	H07V-K; X07V-K, U0/U: 450/750 V AC
Rated voltage	UL (AWM): 600 V UL (MTW): 600 V CSA (TEW): 600 V
Test voltage	H07V-K; X07V-K: 2500 V AC Spark test (AC) acc. to UL 1063: 22 AWG - 10 AWG: 7.5 kV RMS 9 AWG - 2 AWG: 10.0 kV RMS 1 AWG – 4/0 MCM: 12.5 kV RMS

Mechanical and thermal properties

Minimum bending radius	fixed installation: at normal use: OD ≤ 8 mm: 4 x outer diameter 8 < OD ≤ 12 mm: 5 x outer diameter OD > 12 mm: 6 x outer diameter at careful bending at termination (with a former) OD ≤ 8 mm: 2 x outer diameter 8 < OD ≤ 12 mm: 3 x outer diameter OD > 12 mm: 4 x outer diameter
Temperature range	fixed installation: H07V-K; X07V-K: -40 °C up to + 70 °C max. conductor temperature UL (AWM): up to + 105 °C max. conductor temperature UL (MTW): up to + 90 °C max. conductor temperature CSA (TEW): up to +105 °C max. conductor temperature

Flammability	flame retardant acc. to HAR: IEC 60332-1-2 resp. EN 60332-1-2 UL: Vertical flame test VW-1 acc. to UL 2556, 9.4 CSA: FT1 acc. to CSA C22.2 No. 2556, 9.3
Oil resistance	UL (AWM) / CSA (TEW): 60 °C rating
Tests	acc. to IEC 60811 resp. EN 60811, UL 1581, UL 1063 and CSA C22.2 No 127
General requirements	These cables are conform to the EU-Directive 2014/35/EU (Low Voltage Directive). A part of these cables (see www.lappkabel.com/cpr) are classified in accordance with the EU-Regulation no. 305/2011 (CPR).
Environmental information	These cables meet the substance-specific requirements of the EU Directive 2011/65/EU (RoHS).