



Lloyd's
Register

Type Approval Certificate

This is to certify that the undernoted product(s) has/have been tested with satisfactory results in accordance with the relevant requirements of the Lloyd's Register Type Approval System.

This certificate supersedes certificate number 01/ 20034 (E4) issued on 09.09.2013 which is hereby cancelled.

This certificate is issued to:

PRODUCER

Nexans Suisse SA
Rue de la Fabrique2
CH-2016 Cortaillod
Switzerland

DESCRIPTION

Flame retardant flexible single core connection cable

TYPE

SIWO-KUL ①②③④⑤

① Main families

- B (= Braid) braiding protection (=KUL+SIL)
- D (= Dual) without braiding protection, one or two layers of extruded silicone insulation
- S (= Screen) metal screen
- 2S (=2xScreen) double metal screen

② Covering

- braiding KUL [only for families B and S]
- braiding SIL [only for families B]
- silicone sheath (=SIR) [only for families S and D]

③ Conductor

- Conductor Class 5, tinned copper

④ Voltage level

- 1.1, 3.3, 6.6, 13.8 kV

⑤ Cross-section of conductor

- 1.5, 2.5, 4, 6, 10, 16, 25, 35, 50, 70, 95, 120, 150, 185, 240, 300, 400

Certificate No.

01/20034 (E5)

Issue Date

9 March 2017

Expiry Date

15 April 2021

Sheet

1 of 2

Lloyd's Register EMEA

71 Fenchurch Street, London EC3M 4BS



Jochen Körner
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LR031.1.2013.12

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TYPE (continuous) Construction comprising:

- Stranded, flexible tinned copper to Class 5
- Semi-conducting SIR (6.6kV and 13.8kV only)
- Silicon rubber insulation (S95)
- Separator tape
- Tinned copper braid (type SIWO-KUL S and SIWO-KUL 2S only)
- Protective synthetic yarn braiding, polyurethane varnished.

APPLICATION Suitable for use as coil leads in motors, generators, transformers and switchgear in high temperature applications and similar internal connections of marine, offshore Industry equipment.

STANDARDS

- IEC 60331-1: 2009-05
- IEC 60331-21: 1999-04
- IEC 60332-1-2: 2005-06
- IEC 60092-350: 2014 (partly)
- IEC 60332-3-22: 2009-02
- IEC 60332-3-24: 2009-02
- IEC 60754-1: 2011
- IEC 60754-2: 2011
- DIN EN 50362: 2003-11
- IEC 61034-2: 2005-04
- IEC 60502-2: 2005 (partly)
- IEC 60228: 2004
- UL 758: ED3 (partly) - Styles 3640/3641/3642/3643

The Type Approval does not eliminate the need for normal inspection and survey procedures required by the Rules and Regulations.

If the specified standards are amended during the validity of this certificate, the product is to be re-approved prior to it being supplied to vessels to which the amended standards apply.

The Design Appraisal Document No. HTS/ETS 34966-17 and its supplementary Type Approval Terms and Conditions form part of this Certificate.

Certificate No. 01/20034 (E5)
Issue Date 9 March 2017
Expiry Date 15 April 2021
Sheet 2 of 2


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 Hamburg Technical Support Office
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Part 1
Subject: Electrical Equipment (Not Environmentally Tested)
Product: Cables and Accessories (Part 1b)

Producer/Licence No.	Description of Product				Cert. No.
	Type	Details of Approval	Application	Remarks	
Nexans Suisse SA Rue de la Fabrique2 CH-2016 Cortaillod Switzerland	SIWO-KUL	<p>Flame retardant flexible single core connection cable</p> <p>SIWO-KUL ①②③ ④ ⑤</p> <p>① Main families</p> <p>B (= Braid) braiding protection (=KUL+SIL)</p> <p>D (= Dual) without braiding protection, one or two layers of extruded silicone insulation</p> <p>S (= Screen)metal screen</p> <p>2S (=2xScreen) double metal screen</p> <p>② Covering</p> <p>braiding KUL [only for families B and S]</p> <p>braiding SIL [only for families B]</p> <p>silicone sheath (=SIR) [only for families S and D]</p> <p>③ Conductor</p> <p>Conductor Class 5, tinned copper</p> <p>④ Voltage level</p> <p>1.1, 3.3, 6.6, 13.8 kV</p> <p>⑤ Cross-section of conductor</p> <p>1.5, 2.5, 4, 6, 10, 16, 25, 35, 50, 70, 95, 120, 150, 185, 240, 300, 400</p> <p>Construction comprising:</p> <ul style="list-style-type: none"> - Stranded, flexible tinned copper to Class 5 - Semi-conducting SIR (6.6kV and 13.8kV only) - Silicon rubber insulation (S95) - Separator tape - Tinned copper braid (type SIWO-KUL S and SIWO-KUL 2S only) - Protective synthetic yarn braiding, polyurethane varnished. <p>Flame retardant flexible single core, stranded Cu conductor, silicon rubber insulation, tinned copper braid, synthetic braid, polyurethane varnish covering. Rated voltage: 1.1, 3.3, 6.6, 13.8 kV</p>	Suitable for use as coil leads in motors, generators, transformers and switchgear in high temperature applications and similar internal connections of marine, offshore Industry equipment.	<p>Expires: 15 April 2021</p> <p>Complies with:</p> <p>IEC 60331-1: 2009-05</p> <p>IEC 60331-21: 1999-04</p> <p>IEC 60332-1-2: 2005-06</p> <p>IEC 60092-350: 2014 (partly)</p> <p>IEC 60332-3-22: 2009-02</p> <p>IEC 60332-3-24: 2009-02</p> <p>IEC 60754-1: 2011</p> <p>IEC 60754-2: 2011</p> <p>DIN EN 50362: 2003-11</p> <p>IEC 61034-2: 2005-04</p> <p>IEC 60502-2: 2005 (partly)</p> <p>IEC 60228: 2004</p> <p>UL 758: ED3 (partly) - Styles 3640/3641/3642/3643</p>	01/20034 (E5)

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Design Appraisal Document

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Date
09 March 2017

Please quote this reference number on all future communications
HPC1562068/34966-17/HN/JK/KW

**THE LLOYD'S REGISTER'S TYPE APPROVAL SYSTEM, 2015
ISSUED TO: NEXANS SUISSE SA
FOR: FLAME RETARDANT FLEXIBLE SINGLE CORE CONNECTION CABLE SIWO-KUL
TYPE APPROVAL CERTIFICATE NO. 01/20034 (E5)**

The undernoted documents have been reviewed for compliance with the requirements of the Lloyd's Register's Type Approval System Procedure TA14 and this Design Appraisal Document forms part of the Certificate.

APPROVAL DOCUMENTATION

Form 2571	Application for Type approval	02.03.2016
HPC1562068	PQA	06.04.2016
Unnumbered	List of documentation	02.03.2016
HDS/ETS 28711-13	Design Appraisal Document HPC 1220490	09.09.2013


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FINAL ACCEPTANCE OF ACTUAL ITEM(S) DEPEND(S) ON SATISFACTORY SURVEY AND TESTING

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Supplementary Type Approval Terms and Conditions

Type Approval certifies that a representative sample of the product(s) referred to herein has/have been found to meet the applicable design criteria for the use specified herein. It does not mean or imply approval for any other use, nor approval of any product(s) designed or manufactured otherwise than in strict conformity with the said representative sample.

Type Approval is based on the understanding that the manufacturer's recommendations and instructions and any relevant requirements of the Rules and Regulations are complied with.

Type Approval does not eliminate the need for normal inspection and survey procedures required by the Rules and Regulations.

Lloyd's Register EMEA reserves the right to cancel or withdraw this Type Approval Certificate in accordance with the LR Type Approval System Procedure.

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