Marine & Offshore

Certificate number: 09555/D0 BV
File number: ACE 01/723/01
Product code: 2502H

This certificate is not valid when presented without the full attached schedule composed of 7 sections

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TYPE APPROVAL CERTIFICATE

This certificate is issued to

NEXANS Suisse SA

Cortaillod - SWITZERLAND

for the type of product

CABLES (MEDIUM/HIGH VOLTAGE)

Types: SIWO-KUL B10, B20, D30, S10 and S30

Requirements:
Bureau Veritas Rules for the Classification of Steel Ships
IEC 60228 (2004)
IEC 60331-1 (2009) ,IEC 60331-21 (1999)
IEC 60332-1-2 (2015), IEC 60332-3-22/24 (2008)
IEC 60754-1/2 (2011)
IEC 61034-1/2 (2013)

This certificate is issued to attest that Bureau Veritas Marine & Offshore did undertake the relevant approval procedures for the product identified above which was found to comply with the relevant requirements mentioned above.

This certificate will expire on: 22 Feb 2027

For Bureau Veritas Marine & Offshore,
At BV HAMBURG, on 22 Feb 2022,
Dirk Hoepfner

THE SCHEDULE OF APPROVAL

1. PRODUCT DESCRIPTION :

SIWO-KUL cables are Low, Medium and High Voltage cables for High Temperature Internal Wiring or Connections of Marine Equipments.

1.1 - Common specifications:

Construction / Design:	According to: UL758 (partly) Styles 3640, 3641, 3642, 3643 and IEC 60092-350 (partly)
Temperature range:	-55°C to +180°C
Flame retardant:	IEC 60332-1-2 IEC 60332-3-22 (cross-sections <=35 mm2) IEC 60332-3-24 (cross-sections >35 mm2)
Fire Resistant:	IEC 60331-21 (90+15 mn), IEC 60331-1 (120 mn)
Halogen Free:	IEC 60754-1/2
Low Smoke:	IEC 61034-1/2
Fluorine Content:	IEC 60684-2
Toxicity:	EN 50305

1.2 - Construction:

Conductor:	Stranded tinned copper - Class 5
Insulation:	Silicone rubber (SIR)
Screen:	Tinned copper wires braiding (S10 and S30 types)
Outer Sheath:	Synthetic yarn braiding (B10, B20 and S10 types) Silicone rubber (SIR) (D30 and S30 types)

1.3 - Product Range:

Type	Number of core	Cross-Section area (mm^2)	Rated Voltage (kV)	Remark
SIWO-KULB10	1C	1.5 to 300	1.1 & 3.3/4.2	No metal screen
SIWO-KULB20		2.5 to 300	6.6/7.2	No metal screen
SIWO-KULD30		6 to 300	13.8/15.0	No metal screen
SIWO-KULS10	1C	1.5 to 300	1.1 & 3.3/4.2	CuSn braided screen
SIWO-KULS30		4 to 300	6.6/7.2	CuSn braided screen
		16 to 300	12/13.8	CuSn braided screen

2. DOCUMENTS AND DRAWINGS :

Type	1.1kV	3.3/4.2kV	6.6/7.2kV	12/13.8/15kV
SIWO-KULB10	A37.50.075 dated 04 Feb 2020	A37.50.075 dated 04 Feb 2020	A37.50.076 dated 04 Feb 2020	A37.50.076 dated 04 Feb 2020
SIWO-KULB20	37.50.435 dated 02 Apr 2020	37.50.435 dated 02 Apr 2020	37.50.436 dated 02 Apr 2020	37.50.436 dated 02 Apr 2020
SIWO-KULD30	A37.50.565 dated 06 Apr 2020	A37.50.565 dated 06 Apr 2020	A37.50.569 dated 06 Apr 2020	A37.50.569 dated 06 Apr 2020
SIWO-KULS10	37.50.421 dated 12 Mar 2020	37.50.421 dated 12 Mar 2020	DB37.50.363 dated 23 Mar 2020	37.50.558 dated 23 Mar 2020
SIWO-KULS30	37.50.421 dated 12 Mar 2020	37.50.421 dated 12 Mar 2020	37.50.363 dated 23 Mar 2020	37.50.558 dated 23 Mar 2020

3. TEST REPORTS :

Tests carried out by Alcatel Kabel in house laboratory on 15 & 16/Nov/1999 and witnessed by the Society.

Nexans Schweiz AG:

Type Test Reports Nr. Q6604.003 dated (2 pages) and Q6604.001 (1 page), undated
Test Reports No. Q-24PI-05-W-5114/5115/5116 all dated 31.01.2011.

Nexans Switzerland LTD:

Test Certificate No. Q-24PI-05-Z- 103686438 dated 03.12.2009
Test Certificates No. Q-24PI-05-Z- 104162716 and No. Q-24PI-05-Z-104183839 both dated 11.01.2011
Test Certificate No. Q-24PI-05-Z- 104156107 dated 19.01.2011.
Test Certificate No. Q-31103CH-Z- 100829205, dated 28.06.2018
Test Certificate No. Q-31103CH-Z- 100911351, dated 24.07.2018
Test Certificate No. Q-31103CH-Z- 200015926, dated 11.07.2018
Test Certificate No. Q-31103CH-Z- 200020977, dated 17.07.2018
Test Certificate No. Q-31103CH-Z- 200016174, dated 07.08.2018
Test Certificate No. Q-31103CH-Z- 200009541, dated 31.08.2018
Test Certificate No. Q-31103CH-Z- 101186383, dated 120.11.2019
Test Certificate No. Q-31103CH-Z- 101399006, dated 16.09.2020
Test Certificate No. Q-31103CH-Z- 101492147, dated 16.09.2020
Test Certificate No. Q-31103CH-Z- 101477649, dated 25.02.2021
Test Certificate No. Q-31103CH-Z- 101491781 and Q-31103CH-Z- 101493606, dated 15.03.2021
Test Certificate No. Q-31103CH-Z- 101479245 and Q-31103CH-Z- 101511476, dated 18.03.2021

Nexans Research Center Nürnberg:

Test report N° NX_ROS-19-017, dated May 2019.
Summary of the Fire Performance Tests: SIWO-KUL/SIWO-SCREEN HV-cables (Silicone), dated August 2011.
(Test Reports according to IEC 60332-1, IEC 60332-3-24, IEC 60331-1/21, IEC 61034-1/2, EN 50362, EN 50266-2-2, EN 50305-9.2, EN 50306-1, EN 50267-2-2, EN 60684-2)
Test for Vertical Flame Spead, Project Nr. P-00465 (IEC 60332-3-22, DIN EN 50266-2-2), dated 09.02.2012.

4. APPLICATION / LIMITATION :

4.1 - BUREAU VERITAS Rules for the Classification of Steel Ships.
4.2 - For use as coil leads in generators, motors, engines and any other high temperature low, medium and high voltage connections of marine equipments.

5. PRODUCTION SURVEY REQUIREMENTS :

5.1 - The above products are to be supplied by **NEXANS Suisse SA** in compliance with the type described in this certificate.
5.2 - This type of product is within the category HBV of Bureau Veritas Rule Note NR320 and as such does not require a BV product certificate.
5.3 - **NEXANS Suisse SA** has to make the necessary arrangements to have its works recognised by Bureau Veritas in compliance with the requirements of NR320 for HBV products.
5.4 - For information, **NEXANS Suisse SA** has declared to Bureau Veritas the following production site:

NEXANS Suisse SA
Av. Francois Borel, 17
2016 Cortaillod
SWITZERLAND

6. MARKING OF PRODUCT :

The cable shall be marked on the surface outer sheath, in a durable legible and visible manner, with the following information through the length of cable:
1) - Voltage grade and rating temperature .
2) - Cable symbol.
3) - Number of conductors and conductor size.
4) - Applicable standard(s) to flame retardant and fire resistance.
5) - Manufacturer's name or trade mark.
6) - Year of manufacture.

7. OTHERS :

7.1 - It is **NEXANS Suisse SA**'s responsibility to inform shipbuilders or their sub-contractors of the proper methods of fitting, use and general maintenance of the approved equipment and the conditions of this approval.
7.2 - This certificate supersedes the Type Approval Certificate n° 09555/C0 BV issued on 02 Mar 2012 by the Society.

***** END OF CERTIFICATE *****