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Materialcertifikat / Material certificate

Materialcertifikat 3.1 / Material certificate 3.1

Svets / Welding

WPS

WPQR

Svetsarprovningssintyg / Welder test document

Icke förstörande provning / NDT

Penetrant / Penetrant

Röntgen / X-ray

Magnetpulver / Magnetic powder

Provtryckning-intyg / Pressure testing document

Tvätt / Cleaning

Avfettning / Degreasing

Tvätt enligt ASTM A 380 / Degreasing according to ASTM A 380

Tillverkning enligt standar

10380 standard för tillverkning av metallslang / Manufacturing standard for metal hose

3834-2 Kvalitetsystem för svetsning / Quality system for welding

PED 2014/68/EU Tryckkärlsdirektivet (CE märkning) / PED module H

DNV GL Marine type approval / Marine approval by DNV

ISO 9001/14001



FULL QUALITY ASSURANCE CERTIFICATE

Certificate No.:
8238-2016-CE-SWE-ACCREDIA

Initial date:
12 May 2016

Validity:
12 May, 2022 – 11 May, 2025

This certificate consists of 2 pages

This is to certify that the quality system of:

Hydroscand AB

Bogårdsvägen 43, 128 62 Sköndal, Sweden

has been assessed and found to comply with respect to the conformity assessment procedure described in:

ANNEX III MODULE H OF DIRECTIVE 2014/68/EU ON PRESSURE EQUIPMENT

This certificate is valid for the following scope:

Type of Pressure Equipment
Product Name

Pressure accessory
Stainless steel flexible hoses and expansion joint, PTFE hoses and composite hoses

Place and date:
Vimercate, 13 April, 2022

Check Validity



SGQ N° 003 A
SGA N° 003 D
SGE N° 007 M
SCR N° 004 F

EMAS N° 009 P
PRD N° 003 B
PRS N° 094 C
SSI N° 002 G

Membro di MLA EA per gli schemi di accreditamento SGQ, SGA, PRD, PRS, ISP, GHG, LAB e LAT, di MLA IAF per gli schemi di accreditamento SGQ, SGA, SSI, FSM e PRD e di MRA ILAC per gli schemi di accreditamento LAB, MED, LAT e ISP

For the issuing office:
Notified Body 0496, Italy
DNV Business Assurance Italy S.r.l.

Nicola Privato
Management Representative



Certificate No.: 8238-2016-CE-SWE-ACCREDIA
Place and date: Vimercate 13 April, 2022
Revision No.: 02

Jurisdiction

Application of Directive 2014/68/EU and Decreto Legislativo n. 26 of 15 February 2016.

Certificate history:

Revision	Description	Issue Date
Rev 00	Original certificate	24 May, 2016
Rev 01	Recertification	18 July, 2019
Rev 02	Recertification	13 April, 2022

Products covered by this Certificate:

Product Name	Product Description	Type of material	Applied product standard
Hydroscand high pressure/industrial hoses and compensators	Flexible hoses Expansion joints	Stainless steel PTFE Composite materials	EN 13485 ISO 10380 EJMA ISO 13480

Sites covered by this certificate

Site Name	Site Address	Audited by	Date	Report ref
Hydroscan Motala	Myntgatan 1 591 61 Motala Sweden	Björn Hillefors	17-18 Feb 2022	Audit report 2022-02-20

Applications/limitations

- Materials have been subjected to Particular Material Appraisal

Terms and conditions

Valid terms and conditions are found in the DNV's PED Certification Requirements

End of Certificate

CERTIFIKAT

Härmed intygas att



Hydroscand AB

556130-7124

Bogårdsvägen 43, Sköndal

samt verksamheter enligt bilaga "Certifierade enheter"

har ett ledningssystem som uppfyller kraven enligt

ISO 9001:2015
ISO 14001:2015

avseende

Försäljning, montering och distribution av slangar och ledningskomponenter med tillhörande tjänster.

Certifikatet är giltigt förutsatt att Qvalify AB:s certifieringsbestämmelser följs.

Jönköping 2020-06-15

Peter Landin

På uppdrag av Qvalify AB

Ursprungscertifikat utfärdat:

ISO 9001 1999-11-15

ISO 14001 2002-04-26



Certifikat
nr 11175-03



Inspecta Sertifiointi Oy har beviljat detta certifikat, vilket intygar att organisationen

Hydroscand AB
Motala

har ett kvalitetssystem i överensstämmelse med standarden

ISO 3834-2:2021

Certifieringen omfattar följande verksamhet

**Utveckling, tillverkning och montage av metallslang,
metallkompensatorer och rörkonstruktioner.**

Certifikatet är beviljat 2022-11-30
(första certifikatet beviljat 2020-02-08).
Detta certifikat gäller t.o.m. 2026-02-08.

A handwritten signature in blue ink, appearing to read "Maija Vanttaja".

Maija Vanttaja, verkställande direktör

Certifikatet förutsätter att organisationens kvalitetssystem är i överensstämmelse med den ovannämnda standarden och kraven i ABC 200. Certifikatets giltighet kan verifieras på hemsidan www.kiwa.com/fi.

Inspecta Sertifiointi Oy

P.O. Box 1000,

Sörnäistenkatu 2

FI-00581 Helsinki,

Finland

Tel. +358 10 521 600



Inspecta Sertifiointi Oy



Certifikat Bilaga

nr 11175-03

Sida 1 (1)

Hydroscand AB
Myntgatan 1
SE-591 61 MOTALA

Verksamhetens omfattning

Produkt typ(er)

Svetsning i samband med tillverkning av tryckbärande utrustning

Produkt standard(er)

Kundkrav och kundstandards

Tillverkningsmaterialgrupp(er) (enligt CEN ISO/TR 15608)

1.1 och 8

Svetsning och tillhörande processer

141

Andra dokument (inte nämnd(a) ovan) använt av tillverkaren i anslutning till överensstämmelse med EN ISO 3834-2 (EN-, ISO-, andra standarder)

ISO 9606-1, ISO 14732, ISO 15609-1, ISO 15614-1, ISO 17637, ISO 14731, ISO 17662.

Ansvarig(a) svetskoordinator(er)

Robin Ludvigsson

SE/IWS/02033

Inspecta Sertifiointi Oy

P.O. Box 1000
FI-00581 Helsinki, Finland
Tel. + 358 10 521 600
fi.sertifiointi@kiwa.com

Visiting address

Sörnäistenkatu 2
FI-00580 Helsinki, Finland
www.kiwa.com/fi

Company ID

FI10657452



TYPE APPROVAL CERTIFICATE

This is to certify:

That the Flexible Hoses of Metallic Material with permanently fitted couplings

with type designation(s)

1484-01-xx, 1484-02-xx, 1485-01-xx, 1485-02-xx

Issued to

**Hydroscand Special Hoses
MOTALA, Sweden**

is found to comply with

**DNV GL rules for classification – Ships Pt.4 Ch.6 Piping systems
DNVGL-OS-D101 – Marine and machinery systems and equipment, Edition January 2018
DNV GL class programme DNVGL-CP-0184 – Type approval – Flexible hoses with permanently fitted couplings**

Application :

Product(s) approved by this certificate is/are accepted for installation on vessels classed by DNV GL.

Type:	Temperature range:	Max. working press.:	Sizes:
1484-01-xx	-200°C to +550°C	3.5 to 75 bar (size dependant, see page 2)	3/8" to 10" (see page 2)
1484-02-xx	-200°C to +550°C	5 to 105 bar (size dependant, see page 2)	3/8" to 10" (see page 2)
1485-01-xx	-200°C to +550°C	10 to 75 bar (size dependant, see page 2)	3/8" to 6" (see page 2)
1485-02-xx	-200°C to +550°C	15 to 105 bar (size dependant, see page 2)	3/8" to 6" (see page 2)

Issued at **Høvik** on **2020-05-15**

This Certificate is valid until **2025-05-14**.

DNV GL local station: **Sweden CMC**

Approval Engineer: **Maheshraja Venkatesan**



for **DNV GL**
Digitally Signed By: Ragavendhra Rao, Vishnumurthi

Location: DNV GL Høvik, Norway

on behalf of

**Zeinab Sharifi
Head of Section**

This Certificate is subject to terms and conditions overleaf. Any significant change in design or construction may render this Certificate invalid. The validity date relates to the Type Approval Certificate and not to the approval of equipment/systems installed.

LEGAL DISCLAIMER: Unless otherwise stated in the applicable contract with the holder of this document, or following from mandatory law, the liability of DNV GL AS, its parent companies and subsidiaries as well as their officers, directors and employees ("DNV GL") arising from or in connection with the services rendered for the purpose of the issuance of this document or reliance thereon, whether in contract or in tort (including negligence), shall be limited to direct losses and under any circumstance be limited to 300,000 USD.



Form code: TA 251

Revision: 2020-02

www.dnvgl.com

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Product description

Flexible hoses of metallic materials with permanently fitted couplings

Hose types:

- 1484-01-xx (SP.T.9750), 1 layer of wire braid reinforcement
- 1484-02-xx (SP.T.9755), 2 layers of wire braid reinforcement
- 1485-01-xx (SP.T.9650), 1 layer of wire braid reinforcement
- 1485-02-xx (SP.T.9655), 2 layers of wire braid reinforcement

Materials:

Hoses	Stainless steel	AISI 316L	1.4404/ 1.4435	EN 10028-7
		AISI 321	1.4541	EN 10028-7
Braiding	Stainless steel	AISI 304	1.4301	EN 10088-3
		AISI 321	1.4541	EN 10088-3
		AISI 316L	1.4404	EN 10088-3
		AISI 316L	1.4435	EN 10088-3
Ferrule & End fittings	Stainless steel	316L	1.4404	EN 10088-1
		304	1.4301	EN 10088-1

Hose & ferrule manufacturer : Tubiflex S.P.A., Orbassano TO, Italy
 End fitting manufacturer : Hydroscand Special Hoses, Motala, Sweden

Application/Limitation

This certificate is valid for the specific assembly of hose and coupling type as specified, assembled and delivered by the holder (named as manufacturer) of this certificate.

Pressure rating at 20°C:

Size		Maximum working pressure (bar)			
DN	Inch	1484-01-xx	1484-02-xx	1485-01-xx	1485-02-xx
10	3/8	75	105	75	105
12	1/2	70	100	70	100
16	5/8	65	90	65	90
20	3/4	50	75	50	75
25	1	40	60	40	60
32	1 1/4	35	50	35	50
40	1 1/2	30	40	30	40
50	2	25	32	25	32
65	2 1/2	20	25	20	25
80	3	18	22	18	22
100	4	14	20	14	20
125	5	12.5	18	12.5	18
150	6	10	15	10	15
200	8	6	9	-	-
250	10	3.5	5	-	-

Flexible hoses are only to be used where it is necessary due to vibrations or flexible mounting of the machinery. The hoses shall not replace/be used where permanent piping is possible/required. The hoses must only be fitted on places where they are always accessible for inspection.

The hoses are not to be used in systems where pressure pulsations may occur (except hose 1485-01-xx sizes DN10 to DN100).

The hoses are not to be used in systems subjected to cyclic loading (except hose 1484-01-xx sizes DN10 to DN100 and hose 1485-01-xx sizes DN10 to DN100).

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Certificate No: **TAP0000236**

At elevated temperatures, the maximum allowable pressure is to be reduced with the following factors (According to ISO 10380 Table A.4):

Temperature °C	20	50	100	150	200	250	300	350	400	450	500	550
Material	1.4404	1	0.88	0.74	0.67	0.62	0.58	0.54	0.52	0.50	0.48	0.47
	1.4435	1	0.88	0.74	0.67	0.62	0.58	0.54	0.52	0.50	0.48	0.47
	1.4541	1	0.92	0.83	0.78	0.74	0.71	0.67	0.64	0.62	0.61	0.59
	1.4301	1	0.88	0.73	0.66	0.60	0.56	0.52	0.50	0.48	0.47	0.46

Hose assemblies covered by this certificate shall not be used as Cargo hoses and/ or in LNG/LPG systems.

It must be possible to shut off from the system all hoses used in the fuel oil, lubricating oil and compressed air systems.

The hoses are to be mounted according to the manufacturer's instructions.

Welding shall fulfill requirements in DNV GL Rules Pt.2 Ch.4. 100% liquid penetrant inspection may be used in lieu of volumetric inspection for double walled designs.

End connections shall fulfil the restrictions in Pt.4 Ch.6 Sec.9 [5] and Pt.6 Ch.2 Sec.5 [11.2] as below:

- Flanges with their pressure-temperature ratings shall be in accordance with a recognised international standard.
- For general machinery systems: threaded joints having pipe threads where pressure-tight joints are made on the threads:
 - 1) with parallel or tapered threads, shall comply with requirements of a recognized national or international standard.
 - 2) Shall not be used for piping systems conveying toxic or flammable media or services where fatigue, severe erosion or crevice corrosion is expected to occur.
 - 3) For cases other than (2), tapered threads are only to be used for outside diameters:
 - not more than 33.7 mm, for class I piping systems
 - not more than 60.3 mm, for class II and III piping systems
 - 4) For cases other than (2), parallel thread is only allowed for class III piping systems where outside diameter is not more than 60.3 mm.
- For general machinery systems: Mechanical joints other than standard bolted flanges are not covered by this certificate and shall be type approved separately in accordance with DNVGL-CP-0185
- Flanges in fuel piping systems shall be of the welding neck, slip-on or socket welding type. For all piping (except open ended lines), the following restrictions apply:
 - 1) For design pressure above 10 bar, only welding neck flanges shall be used.
 - 2) For design temperatures <-10°C slip-on flanges shall not be used in nominal sizes above 100 mm and socket welding flanges shall not be used in nominal sizes above 50 mm.

Production testing

Each hose assembly shall be hydrostatically tested at a hydrostatic pressure of 1.5 times the maximum working pressure and shall be delivered with the pressure test report with reference to the type approval certificate (product certificate is not required).

Type Approval documentation

<i>Document ref.</i>	<i>Rev.</i>	<i>Title</i>
TAP00001T1	-	DNV GL Type approval certificate from Tubiflex S.P.A., Italy
-	-	Authorization letter from Tubiflex dated 06 th May 2020
-	-	Product description

Job Id: **262.1-012788-2**
Certificate No: **TAP0000236**

1484-01 - Catalogue – PARALLELVECKAD METALLSLANG dated 03.03.2020
- - Burst test reports witnessed by DNV GL Surveyor dated 03.03.2020
with customer pn : HSPSP84116, HSPSP84208, HSPSP84132,
HSPSP84164, HSPSP84216, HSPSP84264, HSPSP84232,
HSPSP84108, HSPSP841128 and HSPSP842128.
Hose art nr - Traceability between Hydrosand and Tubiflex

Tests carried out

Burst test, Pliability (bending) test, fatigue test

Marking of product

For traceability to this Type Approval, the products are at least to be marked with:

- hose manufacturer's name or trademark
- date of manufacture (month/year)
- designation type reference
- nominal diameter
- pressure rating
- temperature rating

Periodical assessment

For retention of the Type Approval, a DNV GL Surveyor shall perform periodical assessment after two years (+/- 90 days) and after 3.5 years (+/- 90 days) to verify that the conditions for the approval are complied with. Reference is made to DNVGL-CP-0338.