DNV·GL

Certificate No:
MEDB00006BN

EC-TYPE EXAMINATION CERTIFICATE (MODULE B)

Application of: Directive 2014/90/EU of 23 July 2014 on marine equipment (MED), issued as "Forskrift om Skipsutstyr" by the Norwegian Maritime Authority. This Certificate is issued by DNV GL AS under the authority of the Government of Norway.

This is to certify:

That the Materials other than steel for pipes conveying oil or fuel oil: flexible pipe assemblies and compensators

with type designation(s)
Mathilda (1436-50), MK1 (1432-80), HI-TEMP (1071-00) & Egeflex CO (1101-14)

Issued to
Hydroscand Automotive AB
GÖTEBORG, Sweden

is found to comply with the requirements in the following Regulations/Standards:
Regulation **(EU) 2019/1397,**
item No. MED/3.15c. SOLAS 74 as amended, Regulation II-2/4 & X/3 and 2000 HSC Code 7 & 10 and IMO MSC/Circ.1120

Further details of the equipment and conditions for certification are given overleaf.

This Certificate is valid until **2025-04-21**.
Issued at **Høvik** on **2020-04-22**

DNV GL local station:
Sweden CMC

Approval Engineer:
Adel Samiei

Notified Body
No.: **0575**

for **DNV GL AS**

Roald Vårheim
Head of Notified Body

NORWEGIAN ACCREDITATION PROD 019

The mark of conformity may only be affixed to the above type approved equipment and a Manufacturer's Declaration of Conformity issued when the production-surveillance module (D, E or F) of Annex B of the MED is fully complied with and controlled by a written inspection agreement with a Notified Body. The product liability rests with the manufacturer or his representative in accordance with Directive 2014/90/EU.
This certificate is valid for equipment, which is conform to the approved type. The manufacturer shall inform DNV GL AS of any changes to the approved equipment. This certificate remains valid unless suspended, withdrawn, recalled or cancelled.
Should the specified regulations or standards be amended during the validity of this certificate, the product is to be re-approved before being placed on board a vessel to which the amended regulations or standards apply.

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.

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Job Id: **344.1-002391-8**
Certificate No: **MEDB00006BN**

Product description

Four types of hose assemblies:

1) HYDROSCAND article number 1436-50 MATHILDA
   Inner tube: PTFE
   Reinforcement: One layer of stainless steel wire braid, AISI 304
   Cover: Thermoplastic polyurethane (TPU)
   Couplings: Hydroscand 42- series & 42S- series / TIEFFE hose fittings "CX" series [Carbon steel 1.0718 (11SMnPb37) & Stainless steel AISI 316]
   Ferrule: 4200-07 [Carbon steel 1.0718 (11SMnPb37) & Stainless steel AISI 316]
   Hoses made by: Polyhose, India / Couplings made by: Tieffe S.p.A., Italy
2) HYDROSCAND article number 1432-80 MK1
   Inner tube: Fluoroelastomer (FPM)
   Intermediate tube: Epichlorohydrin rubber (ECO)
   Reinforcement: One layer of braided synthetic textile
   Cover: Chlorosulfonated polyethylene (CSM)
   Couplings: Hydroscand design 5800 / Cohline Type 8010 [1.0718 (11SMnPb37), St 37.4/E235+N EN 10305-4] and AISI304/306
   Ferrule: Cohline Type 8001 [steel DC04 (1.0338)]
   Hoses made by: Veritas, Germany / Couplings made by: Cohline, Germany
3) HYDROSCAND article number 1071-00 HI-TEMP
   Inner tube: Synthetic oil resistant rubber.
   Reinforcement: One layer of high tensile steel wire braid.
   Outer cover: Heat, abrasion and ozone resistant synthetic rubber
   The hose complies with EN 853 1 SN
   Couplings: Hydroscand 42- series & 42S- series / TIEFFE hose fittings "CX" series [Carbon steel 1.0718 (11SMnPb37) & Stainless steel AISI 316
   Ferrule: EN1SN 4200-21; 1SN/2SN/2SC 4200-23 [Carbon steel 1.0718 (11SMnPb37) & Stainless steel AISI 316]
   Hoses made by: Semperit, Austria / Couplings made by: Tieffe S.p.A., Italy
4) HYDROSCAND article number 1101-14 EGEFLEX CO (1SN according to EN 853 1SN)
   Inner tube: Synthetic oil resistant rubber.
   Reinforcement: One layer of steel wire braid.
   Hoses made by: Semperit, Austria / Couplings made by: Tieffe S.p.A., Italy
   Couplings: Hydroscand 42- series & 42S- series / TIEFFE hose fittings "CX" series [Carbon steel 1.0718 (11SMnPb37) & Stainless steel AISI 316]

Application/Limitation

Hose assemblies covered by this certificate are tested according to:

1) EN ISO 15540:2016 - Fire resistance of hose assemblies- Test methods
2) EN ISO 15541:2016 - Fire resistance of hose assemblies - Requirements for the test bench

Size		Part Number / Maximum working pressure (bar)							
DN	inch	MATHILDA		MK1		HI-TEMP		EGEFLEX CO	
5	3/16"	-	-	1432-80-03	10	-	-	1101-14-03	250
6	1/4"	1436-50-04	10	-	-	1071-00-04	225	1101-14-04	225
8	5/16"	-	-	1432-80-05	10	1071-00-05	215	1101-14-05	215
10	3/8"	1436-50-06	100	1432-80-06	10	1071-00-06	180	1101-14-06	180
12	1/2"	-	-	-	-	1071-00-08	160	1101-14-08	160
16	5/8"	-	-	-	-	1071-00-10	130	1101-14-10	130
19	3/4"	-	-	-	-	1071-00-12	105	1101-14-12	105
25	1"	-	-	-	-	1071-00-16	88	1101-14-16	88
31	1 1/4"	-	-	-	-	1071-00-20	63	1101-14-20	63
38	1 1/2"	-	-	-	-	1071-00-24	50	1101-14-24	50
51	2"	-	-	-	-	1071-00-32	40	1101-14-32	40

Type Examination documentation

Tests carried out

Fire tests carried out according to ISO 15540/15541

Marking of product

As a minimum, the final products (hoses with couplings) are to be marked with:

- Manufacturers name or trademark
- Manufacturer's address
- Specification or hose name
- Hose size (inside diameter in inches)
- Data code (quarterly and daily production code)