EC-TYPE EXAMINATION CERTIFICATE (MODULE B)

Certificate no.:
MEDB0000B7B
Revision no.:
0

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 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)
T1D, T2D, RQP1, RQP2, BT1, TXA2D, H5000, SRF/SRX, RTH1

issued to
Fluiconnecto Ryco Australia Pty. Ltd.
Derrimut, **Australia**

is found to comply with the Implementing Regulation **(EU) 2025/1533** for
Item no. **MED/3.15c** (Row **1 of 1**)
according to the following requirements:
SOLAS 74 Reg. II-2/4, IMO Res. MSC.36(63)-(1994 HSC Code) 7, IMO Res. MSC.36(63)-(1994 HSC Code) 10, IMO Res. MSC.97(73)-(2000 HSC Code) 7, IMO Res. MSC.97(73)-(2000 HSC Code) 10, IMO MSC/Circ.1120, SOLAS 74 Reg. X/3

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

Date of issue: **2025-10-15**

Expiry date: **2030-10-14**

DNV local unit:
Australia

Approval Engineer:
Maheshraja Venkatesan

Notified Body
no.: **0575**

for **DNV AS**

Christine Mydlak-Röder
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 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 This certificate remains valid unless suspended, withdrawn, recalled or cancelled.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 AS, its parent companies and their subsidiaries as well as their officers, directors and employees (“DNV”) 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 USD 300 000.

Product description

9 types of non-metallic hoses with permanently fitted couplings fulfilling fire testing requirements according to:
a) ISO 15540:2016 – Fire resistance of non-metallic hose assemblies and non-metallic compensators – Test methods
b) ISO 15541:2016 – Fire resistance of non-metallic hose assemblies and non-metallic compensators – Requirements for the test bench

Please see Appendix: Product Description

Application/Limitation

Please see Appendix: Application/Limitation

Type Examination documentation

Tests carried out

Fire testing according to ISO 15540 and ISO 15541

Marking of product

For traceability to this certificate, each hose is marked with:
- Manufacturer's name or trademark
- Specification or hose name
- Hose size and type designation
- Date of manufacture
- Mark of conformity according to Article 10 of the Council Directive 2014/90/EU

Mark of Conformity may only be affixed to the product when the corresponding certification related to production-control phase module (D, E, or F) is valid.

APPENDIX

Application/Limitation

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Hose assemblies covered by this certificate are suitable for systems conveying oil or fuel oil with the following maximum allowable working pressures:

Size			Maximum working pressures (bar)									
In	DN	DASH	T1D	T2D	RQP1	RQP2	BT1	TXA2D	H5000D	SRF	SRX	RTH1
¼”	6	-04	225	420	225	400	50	-	-	-	-	170
5/16”	8	-05	215	350	215	350	50	-	-	-	-	-
3/8”	10	-06	180	350	180	350	50	-	350	-	-	165
½”	12	-08	160	350	160	300	50	375	350	-	-	120
5/8”	16	-10	130	250	130	250	50	345	350	-	-	105
¾”	19	-12	105	215	120	215	50	313	350	21	21	85
1”	25	-16	90	175	90	167	50	225	350	17	17	55
1 ¼”	31	-20	65	140	-	150	-	175	350	14	14	-
1 ½”	38	-24	50	100	-	100	-	-	350	11	11	-
2”	51	-32	40	90	-	90	-	-	350	7	7	-

Scope of approval covers only the fire resistance capability of the hoses while the review of assembling of the approved hoses and end fittings for DNV Class approval are not covered under this certification.

Hose types RTH1 and SRF/SRX types shall be supplied with fire protection sleeves (FS1072).

APPENDIX
Product Description

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1) **T1D**

Inner tube	:	Oil resistant synthetic rubber
Reinforcement	:	One braid of high tensile steel wire
Cover	:	Type D (DIEHARD): Oil and extra abrasion resistant synthetic rubber (or)
End fittings	:	T2000 series

2) **T2D**

Inner tube	:	Oil resistant synthetic rubber
Reinforcement	:	Two braids of high tensile steel wire
Cover	:	Type D (DIEHARD): Oil and extra abrasion resistant synthetic rubber
End fittings	:	T2000 series for all variants (except for T232D for which T7000 series to be used)

3) **RQP1**

Inner tube	:	Synthetic rubber, compounded for temperature resistance and multi fluid resistant
Reinforcement	:	One braid of high tensile steel wire
Cover	:	Oil and abrasion resistant synthetic rubber
End fittings	:	T2000 series

4) **RQP2**

Inner tube	:	Synthetic rubber
Reinforcement	:	Two braids of high tensile steel wire
Cover	:	Oil and abrasion resistant synthetic rubber
End fittings	:	T2000 series (up to size -20) and T7000 series (for sizes -24 & -32)

5) **BT1**

Inner tube	:	oil resistant synthetic rubber
Reinforcement	:	One braid of high tensile steel wire
Cover	:	Oil and abrasion resistant synthetic rubber
End fittings	:	T2000 series

6) **TXA2D**

Inner tube	:	Oil resistant synthetic rubber
Reinforcement	:	Two braids of high tensile steel wire
Cover	:	Type D (DIEHARD): Oil and extra abrasion resistant synthetic rubber
End fittings	:	T2000 series

7) **H5000D**

Inner tube	:	Oil resistant synthetic rubber
Reinforcement	:	Four or six alternating layers of spiraled high tensile steel wires
Cover	:	Type D (DIEHARD): Oil and extra abrasion resistant synthetic rubber (or)
End fittings	:	T7000 series for all sizes up to -24; T9000 series for size -32

8) **DEFIANT SRF/ SRX**

Inner tube	:	Oil resistant synthetic rubber
Reinforcement	:	Textile reinforcement with spiral wire
Cover	:	Black, oil resistant and abrasion resistant synthetic rubber
End fittings	:	BITELOK NON-SKIVE ONE PIECE CRIMP T4000 series
Fire Protection	:	Fire Sleeve FS1072

Both types SRF and SRX have identical design/ construction except with the minimum bending radius (MBR), refer below:

Hose size (DN)	SRF		SRX	
	MBR (mm)	Part No.	MBR (mm)	Part No.
19	63	SRF12	40	SRX12
25	75	SRF16	45	SRX16
31	100	SRF20	60	SRX20
38	125	SRF24	65	SRX24
51	150	SRF32	100	SRX32

9) **RTH1**

Inner tube : Teflon (PTFE)
Reinforcement : One braid of high tensile grade 304 stainless steel wire
Flame protection : Type FS1072
End fittings : TT000 series

Hoses manufacturing location

Hose types	**Location**
T1D, T2D, RQP1, RQP2, BT1, TXA2D, H5000	MANULI RYCO Hydraulics Sdn. Bhd., Malaysia
RTH1	Kongsberg Automotive, West Yorkshire, U.K.
SRF/SRX	Wellcall Hose (M) Sdn. Bhd., Malaysia

Couplings manufacturing location

Manuli RYCO Hydraulics (DALIAN) Co., Ltd, P.R.China

Hose assembling location

Fluiconnecto Ryco Australia Pty. Ltd., Derrimut, Australia