

EC-TYPE EXAMINATION CERTIFICATE (MODULE B)

Certificate No:
MEDB00004KU

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)
HIPAC 2SC, KAIZEN 2SN, COFLEX® T3X

Issued to
COFI S.r.l.
Santa Margherita Ligure GE, GE, Italy

is found to comply with the requirements in the following Regulations/Standards:
Regulation (EU) 2022/1157,
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

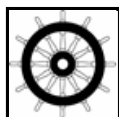
Further details of the equipment and conditions for certification are given overleaf.

This Certificate is valid until **2028-04-23**.

Issued at **Høvik** on **2023-04-24**

DNV local unit:
Genoa

Approval Engineer:
Maheshraja Venkatesan



Notified Body
No.: **0575**

for **DNV AS**

Sverre Olav Bergli
Head of Notified Body



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 This certificate remains valid unless suspended, withdrawn, recalled or cancelled.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 300,000 USD.



Product description

Three types of flexible hose assemblies with the following construction:

Hose (for all three types)

Tube	:	Synthetic and oil resistant rubber
Cover	:	Anti-abrasive synthetic, oil resistant and ozone resistant rubber
Reinforcement	:	Two high tensile steel wire braids

End fittings

Type	Ferrule design	Material grade	Insert design	Material grade
HIPAC 2SC	Ferrule code 001C	Carbon steel (CS) grade 11SMnPb37 from EN 10277-3	As per IMM catalogue	CS grade 11SMnPb37 from EN 10277-3, SS grades AISI 304 or AISI 316L
	Ferrule code X001C	Stainless steel (SS) grade EN 10088-3 1.4404 (AISI 316L)		
KAIZEN 2SN	Ferrule code 0022	Carbon steel (CS) grade 11SMnPb37 from EN 10277-3	As per COFI catalogue	Cu-Ni alloy grades CuNi10Fe1Mn and CuNi10Fe1.6Mn
	Ferrule code X0022	Stainless steel (SS) grade EN 10088-3 1.4404 (AISI 316L)		
COFLEX® T3X	Ferrule code 001C	Carbon steel (CS) grade 11SMnPb37 from EN 10277-3	As per COFI catalogue	Cu-Ni alloy grades CuNi10Fe1Mn and CuNi10Fe1.6Mn
	Ferrule code X001C	Stainless steel (SS) grade EN 10088-3 1.4404 (AISI 316L)		
	Ferrule code 0022	Carbon steel (CS) grade 11SMnPb37 from EN 10277-3		
	Ferrule code X0022	Stainless steel (SS) grade EN 10088-3 1.4404 (AISI 316L)		

Manufacturing locations

Type	End fittings	Hoses	Assembling location
COFLEX® T3X	COFI S.R.L., Santa Margherita Ligure, GE, Italy	I.M.M. Hydraulics S.p.A., Atessa CH, Italy	COFI S.R.L., Santa Margherita Ligure, GE, Italy
HIPAC 2SC	I.M.M. Hydraulics S.p.A., Atessa CH, Italy		
KAIZEN 2SN	I.M.M. Hydraulics S.p.A., Atessa CH, Italy		

Hose assemblies covered by this certificate are tested according to:

- 1) **ISO 15540:2016** Ships and marine technology - Fire resistance of non-metallic hose assemblies and non-metallic compensators - Test methods
- 2) **ISO 15541:2016** Ships and marine technology - Fire resistance of non-metallic hose assemblies and non-metallic compensators - Requirements for the test bench

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.

Hose assemblies covered by this certificate are suitable for conveying oil or fuel oil within a temperature range of -40°C to +100°C.

Maximum allowable working pressure (MAWP) rating:

Size		HIPAC 2SC - product code THE002K with both CS & SS end fittings			KAIZEN 2SN - product code THD0021 with both CS & SS end fittings		
ID		Part Number	MAWP		Part number	MAWP	
Inch	DN		psi	bar		psi	bar
3/16"	05	-	-	-	THD0021-03	6090	420
1/4"	06	THE002K-04	6235	430	THD0021-04	6090	420
5/16"	08	THE002K-05	5800	400	THD0021-05	5220	360
3/8"	10	THE002K-06	5075	350	THD0021-06	5075	350
1/2"	12	THE002K-08	4495	310	THD0021-08	5075	290
5/8"	16	THE002K-10	4060	280	THD0021-10	3625	250
3/4"	19	THE002K-12	3480	240	THD0021-12	3118	215
1"	25	THE002K-16	3045	210	THD0021-16	2538	175
1 1/4"	31	THE002K-20	2320	160	THD0021-20	2030	140

1 1/2"	38	THE002K-24	2175	150	THD0021-24	1813	125
2"	51	THE002K-32	1450	100	THD0021-32	1305	90
2 1/2"	63	THE002K-40	1160	80	-	-	-
3"	76	THE002K-48	943	65	-	-	-

Size		COFLEX® T3X with Cu-Ni fittings		
ID		Part Number	MAWP	
Inch	DN		psi	bar
1/4"	06	THE002K-04	6235	430
3/8"	10	THE002K-06	5075	350
1/2"	12	THE002K-08	4495	310
5/8"	16	THE002K-10	4060	280
3/4"	19	THE002K-12	3480	240
1"	25	THE002K-16	3045	210
1 1/4"	31	THD0021-20	2030	140
1 1/2"	38	THD0021-24	1813	125
2"	51	THD0021-32	1305	90
2 1/2"	63	THE002K-40	1160	80
3"	76	THE002K-48	943	65

Type Examination documentation

RINA fire test report for HIPAC 2SC DN6 dated 10/06/2021

Tests carried out

Fire test according to ISO 15540/15541

Marking of product

As a minimum, the final product to be marked with at least the following particulars:

- Hose manufacturer's name or trademark
- Date of manufacture (month/year)
- Designation type reference
- Nominal diameter
- Pressure & temperature rating
- 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.