Certificate No: **2606231437031247**
TL Project No: **26-1203**

TÜRK LOYDU

TYPE APPROVAL CERTIFICATE

This is to certify that the

The flexable hoses of metallic material with permanently fitted couplings with type

Manufacturer : **HACI AYVAZ ENDÜSTRİYEL MAMULLER SANAYİ VE TİCARET ANONİM ŞİRKETİ**

Address : **Hadımköy Mahallesi Mustafa İnan Cad. No: 44 Arnavutköy, İstanbul**

Product Type : **THF-002-027A, THF-002-027C, THF-001-986A, THF-001-986B, THF-001-986C, THF-002-031, THF-002-048, AYV-STD-FFFF , AYV-STD-FMH, AYV-STD-FMH**

Reference Rule : **TL Rules, Part E, Chapter 103 - Metallic Materials, Special Materials for Naval Ships, 01.01.2022**

TL Rules, Part E, Chapter 107 - Naval Ship Technology, Ship Operation Installations and Auxiliary System, 01.01.2022

TL Rules, Part A, Chapter 2, Material, 01.07.2024

ISO 10380:2012 Corrugated metal hoses and hose assemblies, 01.10.2012

TL Rules, Part B, Chapter 4 - Machinery, 01.01.2026

Subject to the conditions referred to in the following pages, this certificate is valid until **01.07.2031**
Surveyor: **Sezer Mahir TUĞCU**
-

Issued at **İSTANBUL** on **02.07.2026**

This document is electronically signed and does not require a manual signature

Click here for the verification website

Emrah SÖĞÜTÇÜ
New Building Division Manager
TÜRK LOYDU

Expire Date of Previous Certificate: -

For Information Only

This certificate is subject to terms and conditions described below:
Any significant change in design or construction may render this Certificate invalid. Certificate is not valid for equipment, the design or manufacture of which has been varied or modified from the specimen tested. This certificate is not valid for products without marking above mentioned. The manufacturer should notify TÜRK LOYDU of any modifications or changes to equipment in order to obtain valid certificate. This certificate shows that tested specimens as representative of the product complies of the TÜRK LOYDU rules, and relevant international instruments that apply to it.

Product	**: The flexable hoses of metallic material with permanently fitted couplings with type**
Product Description	**: Marine, offshore and industrial piping systems, as short joining lengths to accommodate relative movement between items of machinery connected to permanent piping systems.**
Approval No / Date	**: PAE-EPAS/025091/26-1203/FP, 15.06.2026**
Material of Pressure Vessel	**: Hose: AISI 316L (1.4404), Braid: AISI 304 (1.4301), Fittings: AISI 316 (1.4401)**
Performed Tests	**: - Quality Management System Audit - Controls According to Approved Drawings - Visual Inspection - Material Tests - Pressure Tests - Burst Tests - Endurnnce Tests - Tests according to EN ISO I0380 were found satisfactory.**
Test Place	**: HACI AYVAZ ENDÜSTRİYEL MAMULLER SANAYİ VE TİCARET ANONİM ŞİRKETİ, İSTANBUL**
Last Inspection Date	**: 29.06.2026**
Application/Limitation	**: The metallic hose assemblies manufactured in accordance with EN ISO 10380 are approved for use in fuel oil, lubricating oil, hydraulic oil, bilge, ballast, fresh water, sea water cooling, compressed air, Class III steam and similar auxiliary piping systems within the approved pressure and temperature ratings. The hose assemblies shall be used only where flexibility is required to accommodate vibration or relative movement and shall not be used as a substitute for permanent rigid piping. Installation shall be carried out in accordance with the manufacturer's instructions, including the specified minimum bending radius, and the assemblies shall remain readily accessible for inspection. The hose assemblies shall not be subjected to torsional loading, excessive pressure pulsations or service conditions beyond the approved design basis. Where installed in systems containing flammable media or adjacent to hot surfaces, suitable fire protection measures shall be provided. The hose assemblies shall not be used in permanent starting air systems, high-pressure fuel injection systems, or LNG/LPG/cryogenic applications unless specifically approved. Any modification to the approved hose construction, materials, pressure or temperature ratings, dimensions or end connections is outside the scope of this approval and shall be subject to separate approval.**

	Type of Product	Nominal Diameter	Nominal Pressure	Test Pressure
1	THF-002-027A	DN12 (1/2")	PN 50 bar	75 bar
2	THF-002-027C	DN32 (1-1/4")	PN 35 bar	53 bar
3	THF-001-986A	DN12 (1/2")	PN 50 bar	75 bar
4	THF-001-986B	DN25 (1")	PN 40 bar	60 bar
5	THF-001-986C	DN32 (1-1/4")	PN 35 bar	53 bar
6	THF-002-031	DN65 (2-1/2")	PN 40 bar	60 bar

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7	THF-002-048	DN25 (1")	PN 40 bar	60 bar
8	AYV-STD-FFFF	DN65 (2-1/2")	PN 17 bar	26 bar
9	AYV-STD-FFFF	DN80 (3")	PN 12 bar	18 bar
10	AYV-STD-FFFF	DN100 (4")	PN 10 bar	15 bar
11	AYV-STD-FMH	DN8 (3/8")	PN 140 bar	210 bar
12	AYV-STD-FMH	DN10 (3/8"- 1/2")	PN 60 bar	90 bar
13	AYV-STD-FMH	DN12 (1/2")	PN 55 bar	83 bar
14	AYV-STD-FMH	DN16 (3/4")	PN 50 bar	75 bar
15	AYV-STD-FMH	DN20 (3/4" - 1")	PN 45 bar	68 bar
16	AYV-STD-FMH	DN25 (1")	PN 40 bar	60 bar
17	AYV-STD-FMH	DN32 (1-1/4")	PN 35 bar	53 bar
18	AYV-STD-FMH	DN40 (1-1/2")	PN 30 bar	45 bar
19	AYV-STD-FMH	DN50 (2")	PN 27 bar	41bar

Approval Conditions : -

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