Certificate No.: 2507041357463740

TÜRK LOYDU

TYPE APPROVAL CERTIFICATE

This is to certify that the

Flexible Hoses of Non-Metallic Material with Permanently Fitted Couplings

TL Project No	**25-0955**
Manufacturer	**Hansa-Flex AG**
Address	**HANSA-FLEX AG, Sandgrube 12, 22525 Hamburg/ Germany**
Product Type	**HANSA-FLEX HD100-1SN**
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** **TL Rules, Part B, Chapter 4, Machinery, 01.07.2024**
Expire Date of Previous Certificate	**-**
Place and Date	**İSTANBUL / 17.07.2025**

Subject to the conditions referred to in the following pages, this certificate is valid until 12.06.2030.

Emrah SÖĞÜTÇÜ

New Building Division Manager

135506

This certificate is subject to terms and conditions described below:

- Any significant change in design or construction may render this Certificate invalid. Type Approval 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 revelant international instruments that apply to it.

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Product Description : Oil and fire resistant flexible synthetic rubber hoses. End fittings from carbon steel according to EN 10277-3 and stainless steel AISI 316 Ti / 316 L

Approval No / Date : PAE-EPAS/021584/25-0955/FP; 12.06.2025

Performed Tests : -Quality Audit
-Dimension control
-Pressure Test
-Burst Test
-Impulse Test
-Fire Resistance test acc. to ISO 15540/15541.

Test Place : HANSA-FLEX AG, Sandgrube 12, 22525 Hamburg/ Germany

Last Inspection Date : 12.06.2025

Application/Limitation : -Hose assemblies shall only be used to compensate for vibration or relative movement, and shall not replace permanent piping.
-Hose assemblies are allowed only in Clas III piping systems. They shall not be used in fuel injection lines, vacuum systems, or safety-relevant Class I/II systems.
-Operating temperature range shall be -40°C to 100°C. For water media, temperature must not drop below 0°C.
-Hose assemblies shall be routed away from hot surfaces (e.g., boiler fronts), or be adequately protected with thermal shielding.
-The hoses are not designed for use in cryogenic systems and shall not be applied in such installations.
-The hoses have been fire-tested in accordance with ISO 15540; however, their use near A-60 fire-rated divisions is only acceptable following class approval and with the implementation of appropriate thermal insulation and protective measures.
-Each hose shall be permanently marked with manufacturer name, nominal size, pressure rating, date/batch number and type approval reference.

	Type	Nominal Diameter	Nominal Pressure	Test Pressure
1	HD104	DN5	250 Bar	500 Bar
2	HD106	DN6	225 Bar	450 Bar
3	HD108	DN8	215 Bar	430 Bar
4	HD110	DN10	180 Bar	360 Bar
5	HD113	DN12	160 Bar	320 Bar
6	HD116	DN16	130 Bar	260 Bar
7	HD120	DN19	105 Bar	210 Bar
8	HD125	DN25	88 Bar	175 Bar
9	HD132	DN31	63 Bar	150 Bar
10	HD140	DN38	50 Bar	100 Bar

Surveyor Name : Onur KOCABEY

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11	HD150	DN51	40 Bar	80 Bar

Approval Conditions : -

Surveyor Name : Onur KOCABEY

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