DNV·GL

Certificate No:
TAP000020N

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Flexible Hoses of Non-Metallic Material with Permanently Fitted Couplings

with type designation(s)
Article no. 1115-10 Deltaflex 4CT, proprietary hose

Issued to
Hydroscand Group AB
Sköndal, Stockholms Län, Sweden

is found to comply with
DNV GL rules for classification – Ships Pt.4 Ch.6 Piping systems
DNVGL-OS-D101 – Marine and machinery systems and equipment, Edition January 2018
DNV GL class programme DNVGL-CP-0183 – Type approval – Flexible hoses

Application :

Product(s) approved by this certificate is/are accepted for installation on vessels classed by DNV GL.

Temperature range:	**-40°C to +100°C**
Max. working press.:	**250 to 350 bar**
Sizes:	**3/4", 1", 1 1/4", 1 1/2", 2"**

Issued at **Høvik** on **2020-07-06**

This Certificate is valid until **2023-06-30**.

for **DNV GL**

DNV GL local station: **Stockholm**

Approval Engineer: **Adel Samiei**

Zeinab Sharifi
Head of Section

This Certificate is subject to terms and conditions overleaf. Any significant change in design or construction may render this Certificate invalid.
The validity date relates to the Type Approval Certificate and not to the approval of equipment/systems installed.

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Job Id: **262.1-009988-3**
Certificate No: **TAP000020N**

Product description

The hose is made of oil and water resistant rubber tube, reinforced with 4 layers of steel wire spirals and cover made of oil and weather resistant synthetic rubber.
Hose manufacturer: Semperit Technische Produkte GmbH, Wimpassing, Austria
Couplings:

- Hydroscand 47- series / TIEFFE hose fittings "CS" series
  Material: 11SMnPb37 & 11SMnPb30 according to EN 10277-3:2000
- Hydroscand serie 44S PH Industrie-Hydraulik GmbH & Co
  Materials: 1.4571 / 1.4404 (AISI 316Ti / 316)
- Hydroscand serie 44 Tecnor S.r.l
  Materials: 11SMnPb37 & 11SMnPb30 according to EN 10277-3:2000

Assembling location: HYDROSCAND AS, Oslo, Norway

Application/Limitation

This certificate is valid for the specific assembly of hose and coupling type as specified, assembled and delivered by the assembling location mentioned in this certificate.

Hose assemblies covered by this certificate may be used in systems conveying:

- Petroleum based hydraulic fluid -40°C to +100°C
- Water based Hydraulic fluids and air -40°C to +85°C
- Fresh water 0°C to +70°C

Article number	Size			Max working pressure (bar)
	DN	inch	Dash	
1115-10-12	19	¾"	-12	350
1115-10-16	25	1"	-16	320
1115-10-20	31	1 ¼"	-20	345
1115-10-24	38	1 ½"	-24	290
1115-10-32	51	2"	-32	250

Flexible hoses are only to be used in short lengths where it is necessary due to vibrations or flexible mounting of the machinery. The hoses shall not replace/be used where permanent piping is possible/required.

The hose assemblies must only be fitted in places where they are always accessible. Flexible hoses of these types are not to be used on boiler fronts.

The hoses are to be mounted in accordance with the manufacturer's instructions.

The cover of hoses for gaseous applications shall be pin-pricked.

Production testing

All hose assemblies delivered under the DNV GL type approval scheme shall be subject to a pressure test at 1.5 times the maximum working pressure and shall be delivered with the pressure test report with reference to this type approval certificate.

Type Approval documentation

Tests carried out

Dimensional Check Test, Change in Length Test, Leakage test, vacuum test, Burst Test, Cold Flexibility Test, Ozone Resistance Test, fluid resistance Test and Fire Test.

Marking of product

For traceability to this Type Approval, the products are at least to be marked with:

- hose manufacturer's name or trademark;
- date of manufacture (month/year);
- designation type reference;

- nominal diameter;
- pressure rating;
- temperature rating.

Periodical assessment

For retention of the Type Approval, a DNV GL Surveyor shall perform periodical assessment after two years (+/- 90 days) and after 3.5 years (+/- 90 days) to verify that the conditions for the approval are complied with. Reference is made to DNVGL-CP-0338.