



Certificate no.:
TAP000032N

TYPE APPROVAL CERTIFICATE

This is to certify:

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

with type designation(s)
ProFlex

issued to

Gates UK Ltd
St. Neots, Cambridgeshire, United Kingdom

is found to comply with

DNV-OS-D101 – Marine and machinery systems and equipment, Edition July 2021
DNV class programme DNV-CP-0183 – Type approval – Flexible non-metallic hoses
DNV rules for classification – Ships Pt.4 Ch.6 Piping systems

Application:

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

Temperature range: -40°C to +100°C
Max. working press.: 165 to 400 bar
Sizes: -04, -05, -06, -08, -10, -12, -16

Issued at **Høvik** on **2025-10-09**

This Certificate is valid until **2030-10-08**.

for **DNV**

DNV local unit: **UK & Ireland CMC & VMC**

Approval Engineer: **Tobias Berntsen**

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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.

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

ProFlex non-metallic flexible hose with permanently fitted couplings, constructed according to SAE 100R16:

Tube	:	Black, oil resistant, synthetic rubber (NBR)
Reinforcement	:	One braided high tensile steel wire
Cover	:	Black, abrasion and ozone resistant, synthetic rubber (NBR/PVC)
End fittings	:	MegaCrimp Couplings (Type G)

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 of type ProFlex covered by this certificate are approved to be used in systems conveying:

- Petroleum based hydraulic fluid at temperature range of -40°C to +100°C
- Water based hydraulic fluids at temperature range of -40°C to +70°C
- Fresh water at temperature range of 0°C to +70°C

Pressure ratings:

Nominal size, ID			Maximum allowable working pressure (bar)
SAE	Inch	DN	
-04	1/4"	6	400
-05	5/16"	8	350
-06	3/8"	10	330
-08	1/2"	12	280
-10	5/8"	16	250
-12	3/4"	19	215
-16	1"	25	165

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 outer end of the pipe coupling (performing the connection to the fixed piping) is not covered by this certificate and shall follow the below requirements:

- Flanged ends shall be according to a recognized standard.
- Slip-on threaded joints having pipe threads where pressure-tight joints are made on the threads with parallel or tapered joints having pipe threads where pressure-tight joints are made on the threads. Limitations stated in DNV-RU-SHIP Pt.4 Ch.6 Sec.9 [5.2.6] to be followed.
- If these outer ends are going to be part of a mechanical joint as covered by DNV-RU-SHIP Pt.4 Ch.6 Sec.9 [Table 8], then they shall be separately type approved.

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The hose assemblies must only be fitted in places where they are always accessible.

Product testing

All hose assemblies delivered under the DNV type approval scheme shall be hydrostatically tested to a pressure of 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, Proof pressure test, Change in length test, Burst test, Leakage test, Cold flexibility test, Impulse test, Ozone resistance test, Volume change test, Oil resistance test, Cover adhesion test, Vacuum 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

This certificate is only valid if required periodical assessments are carried out with satisfactory results.

For retention of the Type Approval, a DNV 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 DNV-CP-0338.

To check the validity of this certificate, please look it up in <https://approvalfinder.dnv.com>

Manufactured by:

Hose manufacturing location

- (1) Gates India Private Limited, Ambala-Chandigarh Highway, Lalru, Punjab 140501
- (2) Gates Fluid Power Technologies (Changzhou) Co., Ltd., #11 Kohler Rd National Hi-tech District, Changzhou, China, 213022
- (3) Gates de México, S.A. de C.V., Calle 6 S/N, Parque Industrial Atlacomulco, Atlacomulco Estado de México 50450

End fittings manufacturing location

- (1) Gates India Private Limited, Plot No 133-134, Sector59, Phase 2, Industrial Area, Faridabad, Haryana 121006, India
- (2) Gates Fluid Power Technologies (Changzhou) Co., Ltd., #11 Kohler Rd National Hi-tech District, Changzhou, China, 213022
- (3) Gates Corporation, 1001 Petty Dr, Versailles, MO 65084, USA
- (4) Gates Hydraulics s.r.o., Dětmarovická 409/1, 733 01 Karviná, Czech Republic

Hose assembling location

- (1) Gates Fluid Power Technologies (Changzhou) Co., Ltd., #11 Kohler Rd National Hi-tech District, Changzhou, China, 213022