

TYPE APPROVAL CERTIFICATE

Certificate no.:
TAP00001YS
Revision No:
1

This is to certify:

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

with type designation(s)
MULTI MASTER™ GMV™ MEGAFLEX™

issued to

Gates UK Ltd
St. Neots, Cambridgeshire, United Kingdom

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 class programme DNV-CP-0183 – Type approval – Flexible non-metallic hoses

Application:

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

Temperature range: -40°C to +135°C
Max. working press.: 10.3 to 24 bar (see page 2)
Sizes: -12,-16,-20,-24,-32,-40,-48

Issued at **Høvik** on **2024-11-27**

This Certificate is valid until **2029-11-20**.

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

Approval Engineer: **Simen Stovner**

for **DNV**



Digitally Signed By:
Bosman van der Merwe
Location: **DNV Høvik, Norway**

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

Hose assemblies type Multi Master™ GMV™ MEGAFLEX™. Hoses are made of nitrile oil resistant tubes, reinforced with synthetic, high tensile textile with steel wire helix, and black, chloroprene, corrugated rubber as cover. Three different types (G/GL/GSP) of couplings:

Sizes	-12, -16, -20	-24, -32	-40, -48
Couplings	G/GL	GL/GSP	GL

Hoses manufacturer:

- Gates Corporation, Red Bay, AL, USA

Couplings manufacturer:

- Gates Karvina Fluid Power Plant, Karvina, Czech Republic.
- Gates Corp, Versailles, MO, USA
- Gates India Private Limited, Punjab, India
- Gates Fluid Power Technologies (Changzhou) Co., Ltd., Changzhou, China

Assembling location:

- Gates (U.K.) Limited, 5 Alpha Drive, Eaton Socon, St. Neots, Cambridgeshire, UK
- Gates Fluid Power Technologies (Changzhou) Co., Ltd., Changzhou, China

Application/Limitation

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

Hose size			Maximum working Pressure (bar)
in	DN	dash	
3/4"	19	-12	24.0
1"	25	-16	21.0
1 1/4"	31	-20	17.0
1 1/2"	38	-24	11.0
2"	51	-32	10.3
2 1/2"	63	-40	10.3
3"	76	-48	10.3

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

- petroleum based hydraulic fluid at temperature range of -40°C to +135°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
- air at temperature range of -40°C to +85°C

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.

Hose assemblies covered by this certificate shall not be used in system subject to pressure pulsation.

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

Type test reports on hoses issued by Gates Red Bay US

Multi Master™ GMV™ MEGAFLEX™ data sheet (dated 2018-09-11)

Fitting datasheet and catalogue

Fire test reports dated 2019-03-13 & 15

Renewal burst pressure test report LOCC13771 stamped by DNV China as witnessed, signed 2024-07-16

Renewal burst pressure test report LOCC13920 stamped by DNV China as witnessed, signed 2024-10-14

Tests carried out

Dimensional Check Test, Change in Length Test, Leakage test, Burst Test, Cold Flexibility Test, Ozone Resistance Test, Impulse 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

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>.