DNV·GL

Certificate No:
TAP00001F5

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Bulk Loading Hoses with Permanently Fitted Couplings

with type designation(s)
Multi-LPG White

Issued to
Gutteling B.V.
Rotterdam, Zuid-Holland, Netherlands

is found to comply with
DNV GL rules for classification – Ships Pt.5 Ch.7 Liquefied gas tankers
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:	**-50ºC to +50ºC**
Max. working press.:	**21 bar**
Sizes:	**1",1.5",2",2.5",3",4",6",8",10" (28 mm to 250 mm)**

Issued at **Høvik** on **2019-01-30**
This Certificate is valid until **2023-12-18**.
DNV GL local station: **Rotterdam**

for **DNV GL**

Approval Engineer: **Adel Samiei**

Marianne Spæren Marveng
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.

© DNV GL 2014. DNV GL and the Horizon Graphic are trademarks of DNV GL AS.

Product description

Flexible hose assemblies for transfer of LPG with the following constructional features:

Wire reinforced hoses constructed of inner wire of stainless steel AISI 316, inner cover of polyamide fabrics, inner layer of polyamide fabrics and polyester films, outer cover of polyamide and outer wire of stainless steel AISI 316 with permanently fitted couplings.

End connection (to the hose): according to manufacturer's drawing listed in this certificate.
End connection (to ship): Slip-on weld flange, lapped flange, weld neck flange and TTMA fixed flange (according tyo ASME B16.5 or EN1092-1)
Coupling material: Stainless steel AISI 316L
Hoses and couplings are manufactured by Gutteling B.V., Rotterdam, Netherlands

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.

The hoses may be used for loading/unloading on LPG ships.

The hoses may be used for temporary filling and discharge only. They are not to be permanently fitted.

The hoses covered by this certificate shall be used in accordance with manfacture's instruction manual.

The scope of approval does not cover the hose handling device(s) (padeye or lifting lugs, collars, etc.)

Hoses covered by this certificate shall not be subject to vacuum condition during operation.

Production testing

Each hose covered by this certificate shall be hydrostatically tested at ambient temperature to a pressure equal to 1.5 times maximum working pressure before being placed in service.

Type Approval documentation

Tests carried out

Vacuum test, proof pressure test, impulse test, cold flexibility test, IGC-Code test, oil resistance test, burst test, bend test and change in length test, electrical conductivity

Marking of product

Each end fitting shall bear a permanent identification, showing, as a minimum:

- name of manufacturer;
- hose assembly serial number;
- internal diameter of the hose;

The hose shall be permanently marked with:

- the date of the proof pressure testing,
- its specified MAWP,
- its maximum and minimum service temperature;

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.