


With the rapidly growing LNG bunker operations around the World, the risk of failure is also increasing. To ensure that these operations remain safe, International rules and guidelines must be continuously updated. Manufacturers must respect these rules & guidelines by implement them where necessary in their product and system design.

A good sample is the latest version of EN 1474-II for LNG transfer hoses in dynamic conditions. This document, which is published in 2020, has been revised by a group of highly experienced people working in this Industry for many years. The aim for this revision was to ensure safe and reliable LNG transfer operations. The knowledge of 15 years LNG Transfer experience has been added to this standard.

Gutteling Multi-LNG White STS hoses has been qualified to the latest EN 1474-II 2020 standard by DNV and ClassNK since the beginning of 2021.

This new qualification will ensure that LNG bunker operators are able to work with **fully certified** and reliable transfer hoses which are **100% in compliance with all new requirements** issued by the LNG Industry itself.



Certificate No:
TAP00001F4
Revision No:
1

TYPE APPROVAL CERTIFICATE

This is to certify:
That the Bulk Loading Hoses with Permanently Fitted Couplings
with type designation(s)
MULTILING WHITE STS

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


is found to comply with
DNV GL rules for classification – Ships PLS 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.

Temperature range: -196°C to +50°C
Max. working press.: 10 bar
Sizes: 4", 6", 8" and 10"

Issued at Havik on 2021-04-08

This Certificate is valid until 2023-06-30.
DNV local station: Netherlands FIS



Digitally signed by **DNV**
Location: DNV Havik, Norway
on behalf of


Zeinab Sharifi
Head of Section

Approval Engineer: Andreas Hansen

This Certificate is subject to terms and conditions outlined. 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 circumstances be limited to 300,000 USD.

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Job Id: 262.1-007657-5
Certificate No: TAP00001F4
Revision No: 1

Product description
Flexible hose assemblies for transfer of LNG designed and constructed according to EN 1474-2:2020 and tested as HQC A+B. The hoses are constructed of the following materials:

Part	Material
Inner wire	AISI 316
Inner cover	Polyamide fabrics HaTe C 10.241
Outer cover	Polyamide fabrics / film, HaTe C 10.241 / Mylar A 36
Outer wire	AISI 316
Coupling	AISI 316L

End connection (to the hose): according to manufacturer's drawing listed in this certificate.
End connection (to ship): Slip-on welded flange, lapped flange, weld neck flange and TTMA fixed flange (according to ASME B16.5 or EN1092-1).

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 ship to ship transfer of LNG (systems according to ISO16904:2016 & EN1474-3)

The hoses covered by this certificate shall not be used in floating or subsea assembly configurations.

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 manufacturer's instruction manual.

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. In addition, production tests as specified in clause 8.4.2 of EN 1474-2 shall be carried out.

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