DNV·GL

Certificate No:
TAP00001XC

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Bulk Loading Hoses with Permanently Fitted Couplings

with type designation(s)
Gassoflex Marine Heavy Duty type EGE, GGE, SSE and SST

Issued to
GASSO EQUIPMENTS S.A.
Sant Boi de Llobregat, Barcelona, Spain

is found to comply with
DNV GL rules for classification – Ships Pt.5 Ch.6 Chemical 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:	**-20°C to + 100°C**
Max. working press.:	**14 bar**
Sizes:	**6", 8" and 10"**

Issued at **Høvik** on **2020-01-15**
This Certificate is valid until **2024-06-30** .
DNV GL local unit: **Area NB/CMC Iberia**

for **DNV GL**

Approval Engineer: **Maheshraja Venkatesan**

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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Product description

Four types of thermoplastic multi-layer hose assemblies (GGE, EGE, SSE and SST) satisfying the requirements of IMO IBC Code Ch.5 [5.7].

Hoses construction:

Hose type	Inner wire spiral	Outer wire spiral	Inner lining
GGE	galvanized steel (1)	galvanized steel (1)	polypropylene
EGE	Polypropylene (2)	galvanized steel (1)	polypropylene
SST	stainless steel (3)	stainless steel (3)	PTFE
SSE	stainless steel (3)	stainless steel (3)	polypropylene

(1) in accordance with EN 13765 annex C
(2) with minimum wall thickness of 0.5 mm
(3) conforming to EN 10088-3:2005, Table 4, numbers 1.4306, 1.4401, 1.4404 or 1.4436

End Fittings are attached to the hose using a seal and metal ferrule which is crimped.

Material of fittings: stainless steel AISI 316

Application/Limitation

Hose assemblies covered by this certificate are designed as a "Bulk loading hose" and intended to be used for transfer of chemicals and solvents.

Manufacturer shall document suitability of inner tube material for the intended medium.

Hose assemblies covered by this certificate:
- shall not be subject to axial load during operation.
- shall not be subject to vacuum condition

Hose assemblies are to be mounted in accordance with the manufacturer's instructions.

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

200 pressure cycle test and burst test according to IMO IBC code

Marking of product

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.