TYPE APPROVAL CERTIFICATE

Certificate No:
TAP00000CS
Revision No:
1

This is to certify:

That the Bulk Loading Hoses with Permanently Fitted Couplings

with type designation(s)
COMPOHOSE Thermoplastic Composite Hose Standard Duty - GPG/PPG, COMPOHOSE Thermoplastic Composite Hose Heavy Duty - GPG/PPG

Issued to
Sharda Industrial Corporation
Mumbai, **India**

is found to comply with
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.

Type:	Temperature range:	Max. working press.:	Sizes:
COMPOHOSE Thermoplastic Composite Hose Standard Duty - GPG/PPG	**-30°C to +80°C**	**10 bar**	**1.5", 2", 2.5", 3", 4"**
COMPOHOSE Thermoplastic Composite Hose Heavy Duty - GPG/PPG	**-30°C to +80°C**	**14 bar**	**4", 6", 8", 10"**

Issued at **Høvik** on **2022-02-24**

This Certificate is valid until **2026-09-22**.
DNV local station: **Mumbai NB & CMC**

Approval Engineer: **Andreas Hansen**

for **DNV**

Digitally Signed By: Zeinab, Sharifi
Location: DNV Høvik, Norway

Zeinab Sharifi
Head of Section

Product description

Two types of thermoplastic multi-layer hose assemblies for transfer of hydrocarbons and solvents designed and tested according to EN 13765:2018 – Standard duty: Type 2 and Heavy duty: Type 3.

End fittings are attached to the hose by the use of a seal and metal ferrule which is swaged or crimped.
Hose and couplings are manufactured by Sharda Industrial corporation, India.

Standard Duty & Heavy Duty

Inner Wire:	GPG: High tensile strength galvanized carbon steel
	PPG: Polypropylene coated galvanized steel (in accordance with EN 13765 Annex B)
Outer Wire:	High tensile strength galvanized carbon steel (in accordance with EN 13765 Annex B)
Tube:	Multiple layers of polypropylene fabric, film and polyester barrier layers
Cover:	Abrasion resistance PVC impregnated fabric
End fittings:	As per drawing INSERT001 dated 2015-06-01

Application/Limitation

Hose assemblies are approved for below design conditions:

Maximum working pressure (Standard Duty):	10 bar
Maximum working pressure (Heavy Duty):	14 bar
Vacuum pressure:	0.9 bar

Temperature range: -30°C to +80°C

These hoses are not to be used for aircraft refueling, fuel dispensing, oil burners, LPG and LNG applications, firefighting, offshore LNG applications or refrigeration circuits.

Batch tests shall be performed for every 10000m manufactured or once a year as per EN 13765:2018 Point 8.

Routine tests (Dimensional check – Proof pressure - Change in length – Twist – Electrical resistance) shall be done for each hose assembly in accordance with EN 13765:2018 Table K.1.

Hoses covered by this certificate shall not be subject to axial loading.

Tensile strength of the wires shall be between 650 N/mm^2 and 850 N/mm^2.

Type Approval documentation

- Burst test report witnessed by DNV GL surveyor at Mumbai – Dated 2016-03-09 (sizes 1 ½" – 3" Type 2 & sizes 6" and 10" Type 3)
- Vacuum test report witnessed by DNV GL surveyor at Mumbai – Dated 2016-03-09 (sizes 1 ½" – 3" Type 2 & sizes 6" and 10" Type 3)
- Change in length test report at proof pressure witnessed by DNV GL surveyor at Mumbai – Dated 2016-03-09 (sizes 1 ½" – 3" type 2 & sizes 6" and 10" type 3)
- Flammability test report witnessed by DNV GL surveyor at Mumbai/Dated 2016-03-09 (sizes 1 ½" Type 2)
- Dimensional check test witnessed by DNV GL surveyor at Mumbai/Dated 2016-03-09
- Electrical continuity & resistance test witnessed by DNV GL surveyor at Mumbai/Dated 2016-03-09 (3")
- Minimum bend radius test report for type 3 witnessed by DNV GL surveyor at Mumbai/Dated 2016-03-09
- Leak tightness test report witnessed by DNV GL surveyor at Mumbai/Dated 2016-03-09 (Type 3 – 3")
- Fuel resistance test report Dated 2016-03-09 (Type 2 – 1 ½")
- Manufacturer's catalogue
- Proof pressure test (Type 2 & Type 3) dated 2016-06-27
- Twist at proof pressure (Type 2 & Type 3) dated 2016-06-27
- Bend Test (Type 2 & Type 3) dated 2016-06-27
- Electrical continuity and resistance test (Type 2 & Type 3) dated 2016-06-27
- Vacuum Test (4" - Type 2 & 4" - Type 3) dated 2016-06-27
- Change in length at proof pressure (4" - Type 2 & 4" - Type 3) dated 2016-06-27
- Flammability test (Type 2 & Type 3) dated 2016-06-27
- Fuel resistance test (Type 2 & Type 3) dated 2016-06-27
- Dimensional check (Type 2) dated 2016-06-27
- Crush Recovery Test (Type 2 & Type 3) dated 2016-06-27
- Cold flexibility test (Type 2 & Type 3) dated 2016-07-01

Tests carried out

Proof Pressure – Twist Pressure – Bend Test – Electrical resistance Test – Vacuum Test – Change in length – Flammability Test – Fuel Resistance Test – Dimensional Check Test – Crush Recovery Test – Cold flexibility Test – Leak tightness Test – Ozone resistance – Burst pressure – Fitting security -

Marking of product

For traceability to this Type Approval, each hose is at least to be marked with:

- Manufacturer's name or trademark
- Hose identification
- Internal diameter
- Maximum working pressure
- Maximum working temperature
- Other requirements of EN 13765 section 10.1

On the other hand, each hose assemblies at least to be marked with:

- The hose assembly serial number
- The last test date of the hose assembly
- Quarter and year of hose assembly manufacturer

Periodical assessment

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.