DNV·GL

Certificate No:
TAS00002EW

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Gangway

with type designation(s)
Offshore gangway type TAB-L 25-10-09

Issued to
SMST Designers & Constructors B.V.
Drachten, Netherlands

is found to comply with
DNV GL standard DNVGL-ST-0358 – Certification of offshore gangways for personnel transfer

Application :

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

Issued at **Høvik** on **2020-03-03**
This Certificate is valid until **2025-03-02**.
DNV GL local station: **Netherlands CMC**

Approval Engineer: **Florian Teica**

for **DNV GL**

Aldo Matteucci
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

Product: 25m telescopic Offshore gangway
Product Name: TAB-L 25-10-09, ref 13-01-02 *Product Arrangement*

Application/Limitation

Categorization: TYPE 2 Offshore gangway with motion compensating system.

Operational		
Configuration		supported at both ends (bumper/constant push mode, see #1)
Live Load (LL)		150 kg (1 person) or 650kg cargo + trolley* + 1 person (total 750kg)
Maximum operational length**		24 m
Minimum operational length**		14 m
Bumper/push force setting @ tip		between 400 - 800kg
Bumper/push force @ drives		up to 800kg per drive
Main cylinder pretension:		between 92 and 300bar, see #2
Wind speed (at gangway location)		25 m/s
Gangway Operating angle (from horizontal)		+17° / -15° (unrestricted personnel transfers)
Gangway max/min angles before disconnection (from horizontal)		+20° / -18°
Vessel accelerations***	Vertical (in addition to gravity)	±3,5m/s^2
	Longitudinal	±3,5m/s^2
	Transverse	±3,5m/s^2
Parked / Transit / Survival		
Configuration		Bridge supported in boom rest
Safe Working Load (Live Load)		-
Maximum Length**		15 m
Wind speed (at gangway location)		63 m/s
Gangway Operating angle		-
Vessel accelerations***	Vertical (in addition to gravity)	±10 m/s^2
	Longitudinal	±5 m/s^2
	Transverse	±10 m/s^2

Design temperature: -20°C

Self weight of components: see "Weight overview" 1700220-C-02 Rev B and "Mass and COG positions"

Usage: ref 1700220C-05-04 rev F

*) manually controlled trolley, load including trolley self-weight and cargo. It is the end user's responsibility to assess and accept the trolley suitability for the intended application considering the operational safety aspects (e.g. ability of trolley operator to evacuate the gangway during an emergency case, hazards related to emergency procedures - e.g. emergency disconnection, etc.)
**) measured from the center of the baseframe to outmost part of the gangway tip, excluding safety length = 1m.

***) relative to the vessel axis

The operational limitations defined above have been provided by SMST, data and procedures adopted for estimating which have not formed part of this review. It is the end user's responsibility to ensure that these are never exceeded during service.

It has been confirmed by the designer that the flow of people will be continuously monitored and regulated throughout the period in which the gangway is in operational / working condition, thus preventing the load on the gangway to exceed the above defined LL at any given time.

The control and monitoring system is covered by Type approval certificate TAS00001UG.

The Type Approval is not covering any mechanical, electrical or hydraulic components which, for certification, shall be provided with certificates as per DNVGL-ST-0358 tables 2-2 and sec 5.14, 5.15 and 5.17.

Approval limitations

1. The gangway structure has been evaluated for the static configuration (operational mode) where the gangway is in connected/push mode, as defined in the Functional description report, ref. doc no. 1700220-C-05-03 Rev A, under the following limitations:
    - the gangway shall always be supported in vertical (Z-axis) direction. It has been confirmed that the support condition will not be friction dependant
    - for unrestricted personnel transfer operations, the gangway shall always be supported in lateral (perpendicular to gangway longitudinal axis) direction to prevent any uncontrolled movement due to external loads (environmental or vessel accelerations).
      In absence of a lateral support, it is the end user's responsibility to ensure that the tip-support structure connection is adequate (e.g. with regards to contact surface conditions, environmental loads, vessel accelerations, connection angle, etc) for a safe personnel transfer operation
    - one person may be allowed on the gangway bridge during deployment/retrieval, however personnel transfers shall not be attempted prior to the gangway connection
    - during transit/survival/parked position, the TAB-L will be supported by a Bridge support structure/cradle. The bridge support structure and its foundation (underdeck strength) are not part of the Type approval.

2. The structural evaluation of the gangway is based on a static model assuming that the gangway main hinge and main cylinders will support between 80% of the entire gangway mass (self-weight and reactions due to associated overturning moment) @ gangway maximum operational length and 0 deg luffing angle from horizontal, ref 1700220-C-07-00 rev B sec. 5.3.3 and table 5. It is the end user's responsibility to ensure that the preload pressure in the main cylinders is adequate and within the values stated in the above Operational Limitations, to implementing the assumption into reality.

3. Crane mode
   The structural strength of the TAB-L has been assessed for the relevant load cases associated with the optional crane function of the equipment in accordance with DNVGL-ST-0378 requirements for Offshore cranes, however relevant control system documentation and testing programme have not been received, hence the crane function is not part of the Type approval.
    - Safe Working Load is dependent on boom tip position and lifting modes as specified in 1700220-B-00-13 Rev A.
    - Heel/trim: 5°/2°
    - Crane mode is not intended for lifting of personnel
    - The type approval is not covering the following:
        - Derating
        - Any mechanical, electrical or hydraulic components which, for certification, shall be provided with certificates as per DNVGL-ST-0378 tables 2-3

Type Approval documentation

Tests to be carried out

Each gangway shall be tested in accordance with DNVGL-ST-0358 Section 7 and TAS00001UG in the presence of a DNVGL Surveyor.

The gangway enhanced slip resistant features/treads suitability @ min/max gangway operating angles shall be assessed, tested and approved by the attending DNVGL surveyor.

Marking of product

Each gangway shall be marked in accordance with DNVGL-ST-0358 Section 7.4.

Periodical assessment

For retention of the Type Approval, a DNVGL 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.

End of certificate