



Certificate No:
TAS000041F

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Gangway

with type designation(s)
8.5m Four Sections Aluminium Telescopic Gangway

Issued to

Undertun Industri AS
SKODJE, Norway

is found to comply with
DNV standard DNV-ST-0358 – Offshore gangways

Application :

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

Issued at **Høvik** on **2023-11-01**

This Certificate is valid until **2028-10-31**.

for **DNV**

DNV local unit: **Mid-North Norway FIS**

Approval Engineer: **Paulo Correia**

Per Esvall
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.

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 circumstance be limited to 300,000 USD.



Form code: TA 251

Revision: 2022-12

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Product description

The drawings for the ship to shore gangway are approved with respect to structural strength and material in accordance with DNV-ST-0358 "Offshore gangways" Ed. Sept. 2017 Amended Oct. 2021.

Type **:	Type 4, ship to shore gangway supported at both ends.
Configuration:	Four sections telescopic gangway
Live Load (LL):	400kg/m ²
Gangway length *:	8475m (ref. doc. 22063004 and Design basis rev0)
Max. working angle (from horizontal):	45 deg.
Max. telescopic stroke on each part:	2.03m
Minimum Design Temperature:	-20°C
Self-weight of gangway bridge:	734kg (ref. doc. 22063004)
Max, load on one step:	71.5kg (701,5N ref. doc. Design basis rev0 #5.1.2)

*) measured from pivoting hinges to outmost part of the gangway tip. Minimum overlap between telescopic parts 415mm (ref. doc. Design basis rev0 #5.1.4).

**) gangway bridge in other supported modes such as suspended, or cantilever is not covered by this approval.

Approval limitations

Below listed drawings for doors or any swivel/supporting platform and components pertaining luffing system and telescoping system, or slewing system are not covered by this approval and must be approved separately. Connection to any support structure is not covered by this approval.

Type Approval documentation

100178-FE-001-ANL		Finite element analysis	FI For Inf.
16042203		Slide block internal	FI For Inf.
16042204		Slide block external	FI For Inf.
16042208		Bolt Ø20 L=72 C-C=44	FI For Inf.
16060353		Outer Frame Hinge - Side	FI For Inf.
16081050		Wheel 1 - TP Nordic	FI For Inf.
16083150	A	Portable Handrail C-C 410	FI For Inf.
16083151	A	Swivel Platform 1 - Wheel Plate	FI For Inf.
16083152		Swivel Platform 1 - Wheel	FI For Inf.
16090751	A	Bolt Ø40 L=172 C-C=82	FI For Inf.
16090951	A	Bolt Ø40 L=132 C-C=82	FI For Inf.
16101350		Boss Ø40_Ø30,5 L=26 PL=8	FI For Inf.
17021650	A	Bolt Ø40 L=165 C-C=82	FI For Inf.
17021752		Outer Frame Hinge Plate - Bottom	FI For Inf.
17021753		Outer Frame Cylinder Plate 1	FI For Inf.
17021756		Outer Frame Plate 1	FI For Inf.
17021757		Outer Frame Plate 2	FI For Inf.
17021758		Outer Frame Plate 3	FI For Inf.
17032250		Door Hinge 2	FI For Inf.
17040601	A	Bolt Ø30 L=66 C-C=82	FI For Inf.
17111402	B	Top assembly 8,5m Left	FI For Inf.
18102601	A	Fixing plate door cove	FI For Inf.
19013015		Bolt Ø40 L=148 C-C=82	FI For Inf.
20041602		Bolt Ø30 L=68	FI For Inf.
20062505		Bolt Ø30 L=152 C-C=82	FI For Inf.
20070302		Pipe Ø12x1.5 L=132 mm	FI For Inf.
22062801	29.06.2022	Step 1 - 45 deg	AP Approved
22062802	28.06.2022	UIN5209 Aluminium profile	AP Approved
22062803	28.06.2022	UIN5209_mir aluminium profile	AP Approved
22062804	A	Walkway-01	AP Approved
22062807		Cyl bolt to UIN5209	FI For Inf.

22062808		Handrail part_01	FI For Inf.
22062809		Handrail part_02	FI For Inf.
22062810		Handrail part_03	FI For Inf.
22062811	A	Handrail foot UIN5209 part-01	FI For Inf.
22062812		Handrail foot UIN5209 part-02	FI For Inf.
22062813	A	Handrail foot UIN5209	FI For Inf.
22062814		Handrail	FI For Inf.
22062816	A	Telescope-01	AP Approved
22062901	29.06.2022	Step 2 - 45 deg	AP Approved
22062902	A	Walkway-02	AP Approved
22062903	29.06.2022	Step 3 - 45 deg	AP Approved
22062904	A	Walkway-03	AP Approved
22062905	29.06.2022	Step 4 - 45 deg	AP Approved
22062906	29.06.2022	End Step 1 - 45 deg	AP Approved
22062907	A	Walkway-04	AP Approved
22062910	29.06.2022	Telescope-03	AP Approved
22062911		Wheel holder plate-01	FI For Inf.
22062912		Wheel holder plate-02	FI For Inf.
22062913	29.06.2022	Wheel holder	AP Approved
22063001	30.06.2022	Telescope-04	AP Approved
22063004	30.06.2022	Telescope assembly	AP Approved
22101201	A	Handrail part_01_04	FI For Inf.
22101202	A	Handrail_04	FI For Inf.
22101203	A	Handrail_04_mir	FI For Inf.
23050401		Door Outer Plate - Left	FI For Inf.
23050402		Door Inner Plate - Left	FI For Inf.
23050403		Pad Eye on Door	FI For Inf.
23050404		Door - Telescope fastening plate	FI For Inf.
23050405		Door Stiffener	FI For Inf.
23050406		Boss Ø50_Ø40,5 L=45 PL=12	FI For Inf.
23050407		Boss Ø50_Ø40,5 L=35 PL=12	FI For Inf.
23050408		Door Lock Plate-01_02	FI For Inf.
23050409		Door Lock plate-02	FI For Inf.
23050410		Door Lock plate-02_mir	FI For Inf.
23050411		Door lock-welding-01	FI For Inf.
23050412		Door Lock plate-03	FI For Inf.
23050413		Door Lock Plate-01	FI For Inf.
23050414		Door lock-welding-02	FI For Inf.
23050415		Door blade assembly	FI For Inf.
23050416		Clamping plate telescope-01	FI For Inf.
23050417		Bolt for handrail extension	FI For Inf.
23050419		Door and telescope	FI For Inf.
23050420		Outer Frame Welding - Base_01	FI For Inf.
23050504		Outer Frame Welding - Base_02	FI For Inf.
23050505		Outer Frame Welding - Base_03	FI For Inf.
23050506		Outer Frame Welding - Base_04	FI For Inf.
23050507		Outer Frame Welding - Base_05	FI For Inf.
23050508		Outer Frame Welding - Base_06	FI For Inf.
23050509		Outer Frame Welding - Base_07	FI For Inf.
23050510		Outer Frame Welding - Base_08	FI For Inf.
23050511		Outer Frame Welding - Base_09	FI For Inf.
23050512		Outer Frame Welding - Base_10	FI For Inf.
23050513		Outer Frame Welding - Base	FI For Inf.
23050801		Outer Frame Welding - Left_01	FI For Inf.

23050802		Boss Ø50_Ø40,5 L=35 PL=16	FI For Inf.
23050803		Outer Frame Welding - Left	FI For Inf.
23050903		Outer Frame - Assembly - Left	FI For Inf.
23050904		Inner Frame Profile 6 - Left	FI For Inf.
23050905		Inner Frame Profile 7 - Left	FI For Inf.
23050906		Inner Frame Profile 8 - Left	FI For Inf.
23050907		Inner Frame Profile 9 - Left	FI For Inf.
23050908		Inner Frame Profile 10 - Left	FI For Inf.
23050909		Inner Frame Corner Plate	FI For Inf.
23050910		Inner Frame-hinge plate-01	FI For Inf.
23050911		Inner Frame-hinge plate	FI For Inf.
23051001		Boss Ø40_Ø30,5 L=69 PL=8	FI For Inf.
23051002		Inner Frame Plate 7	FI For Inf.
23051204		Inner Frame Welding - Left	FI For Inf.
23051509		Inner Frame Welding - Left	FI For Inf.
23051510		Swivel Platform 3_01	FI For Inf.
23051511		Swivel Platform 3_02	FI For Inf.
23051601		Swivel Platform 3_03	FI For Inf.
23051602		Swivel Platform 3_04	FI For Inf.
23051603		Swivel Platform 3_05	FI For Inf.
23052201		Swivel Platform 3_06	FI For Inf.
23052202		Swivel Platform 3- Plate 3	FI For Inf.
23052203		Swivel Platform 3 - Plate 2	FI For Inf.
23052204		Swivel Platform 3 - Plate 1	FI For Inf.
23052205		Swivel Platform 3 Welding - Left	FI For Inf.
23052206		Swivel Platform 3 Assembly - Left	FI For Inf.
23052208		Top assembly 8,5m Left	FI For Inf.
23052501		Design basis 8,5m compact door gangway	FI For Inf.
Drawing list		Drawing list for DNV ST-358 of 8,5m compact door gangway	FI For Inf.
84784	27.06.2017	UIN5209 Aluminium profile - 6082	AP Approved
23102407	0	Additional strength calculations for 85m compact door	FI For Inf.
23061307		Outer Frame Welding - Base_10	FI For Inf.

Certification

This Type Approval covers design(s) only, i.e., the Type Approval is not valid for the final product, but may be used as basis for obtaining a product certificate.

If a DNV Product Certificate is required, the following shall apply:

- The manufacturing survey shall be followed-up by a DNV Surveyor
- Each gangway shall be tested in accordance with DNV-ST-0358 Section 7
- The gangway enhanced slip resistant features/treads suitability @ min/max gangway operating angles shall be assessed, tested, and approved by the attending DNV surveyor.

Marking of product

Each product shall be marked in accordance with DNV-ST-0358 Section 7.4 and DNV-ST-0378 sec 14.5.

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

This certificate is only valid if required periodical assessments are carried out with satisfactory results. To check the validity of this certificate, please look it up in <https://approvalfinder.dnv.com>

End of certificate