



Certificate no.:
TAS000053J

TYPE APPROVAL DESIGN CERTIFICATE

This is to certify:

that the offshore container

with type designation(s)
Hose reeler frame

issued to

R.B. Ross Steel Fabrications Limited
Aberdeen, United Kingdom

is found to comply with

DNV standard DNV-ST-E271 – 2.7-1 Offshore containers, March 2023 (Amended December 2024)
ISO 10855-1:2024 Offshore containers and associated lifting sets – Part 1: Design, manufacture and marking of offshore containers
IMO/MSC Circular 860

Application:

Max. gross mass (kg)	9000
Max. payload (kg)	6500
Max. sling leg angle	45
Enhancement factor	1.567

Issued at **Aberdeen** on **2025-12-11**

This Certificate is valid until **2030-12-10**.

DNV local unit: **Aberdeen**

for **DNV**

Approval Engineer: **Elisabeth Legg**

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.

Product description

Tare (maximum)	:	2500 kg
Length (maximum)	:	2600 mm
Width (maximum)	:	1830 mm
Height (maximum)	:	2725 mm
Design temperature	:	-20 °C
Number of sling legs	:	4
Shackle size	:	8.5 t

Primary structure material specification (DNV-ST-E271 section 3)

<u>Material grade</u>	<u>Minimum Yield Strength</u>	<u>Charpy</u>
S355 (or equivalent)	355MPa for $0 < t \leq 16\text{mm}$ 345MPa for $16 < t \leq 40\text{mm}$ 335MPa for $40 < t \leq 63\text{mm}$	36J @ -10°C for $6 \leq t \leq 12\text{mm}$ 36J @ -20°C for $12 < t \leq 25\text{mm}$ 36J @ -40°C for $t > 25\text{mm}$
ASTM A320 L7 (or equivalent)	725 MPa	42J @ -20°C

Pad eye baseplates $\geq 15\text{mm}$ thick shall be manufactured from 'Z' grade material (EN 10164) with quality Z25 (or greater) or have verified through thickness properties (tensile and ultrasonic testing) in accordance with DNV-RU-SHIP Pt.2 Ch.2 Sec.2 [6.4].

Application/Limitation

Minimum lifting set requirements (DNV-ST-E271 section 8)

<u>[Symmetrical]</u>	<u>WLL (t)</u>	<u>Fibre core (mm)</u>	<u>Steel core (mm)</u>	<u>Chain (mm)</u>
Master link (quad assembly), Forerunner (if applicable)	14.10	36	36	22
Shackles and sling leg components	6.65	24	24	16
Minimum required breaking load (forerunner)		769 kN		
Minimum required breaking load (sling legs)		362 kN		
Minimum shackle pin diameter		28.3 mm		

The above lifting set requirements have been provided for information purposes only. This type approval is not valid for the design, manufacture and certification of lifting sets.

Conditions

1. This type approval certificate is not valid for designs, components, equipment, systems or products which are subject to classification by DNV.
2. 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.
3. DNV surveyor shall witness production and testing event and issue a certificate for each container. The certificate is only valid when the container is fitted with a DNV certified lifting set.
4. The connecting items associated with the removable primary beam shall be checked for damage prior to transportation and lifting activities.

Should any signs of significant wear or damage be evident, these items shall be replaced with equivalent fasteners.

The connecting items shall be permanently secured to the structure by means of a chain or equivalent.

This information shall be transferred to the DNV offshore container certificate.

Type Approval documentation

Tests carried out

To be carried out in accordance with DNV-ST-E271 section 4.6 and Table 5-4.

Marking of product

- Data and inspection plates
- DNV emblem for offshore containers
- NV mark to be hard stamped on the data plate
- Manufacturer's Serial Number to be welded on frame and removable beam
- Additional markings to the effect of "removable items shall be fitted during all lifting and transportation activities".

Periodical assessment

In order to maintain the validity of the type approval certificate, periodical assessments should be carried out according to DNV-SE-0284 at 2 and 3.5 year intervals. Periodical assessments will, when possible, be harmonised with other surveys and audits carried out.

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>