



| 标记 | 数量 | 修改单号 | 签字 | 日期 | 330'x 100' x 20' DECK CARGO BARGE | | | |
|------|-----------|----------|-----------|------|--------------------------------------|---------------------|------------------|-----------------|
| MARK | QUNT | REV. NO. | SIGNATURE | DATE | FULL SPECIFICATION | | 图号 DWG NO.: | |
| 编制 | DESIGNED | | | | FULL SPECIFICATION | | TMXXXX-100-01SM | |
| 校对 | CHECKED | | | | | | | |
| 审核 | APP'VED1 | | | | | | | |
| 标检 | CERTIFIED | | | | 总面积 AREA | 0.54 m ² | 共PAGE TOTAL: 9 页 | 第 PAGE NO.: 1 页 |
| 审定 | APP'VED2 | | | | | | | |
| 描打 | COPIED | | | | | | | |

Section 1 – General

1.1 Intent & Definition

This Specification together with relevant drawings to describe the construction and equipment of unmanned deck cargo barge with double swim ends suitably equipped for carrying deck cargos for unrestricted service.

The following terms are used in the specification:-

i) Seller/Builder:

ii) Class :

1.2 General Description

The vessel to be of all welded steel construction with flush deck and twin skegs.

The hull to be divided by seven (7) transverse watertight bulkheads and three(3) longitudinal watertight bulkheads into thirty-two (32) compartments.

1.3 Principal Particulars

| | | |
|-----------------|---|--------------------------|
| Length Overall | : | 330' 0" (100.584m) |
| Breadth Moulded | : | 100' 0" (30.48m) |
| Depth Moulded | : | 20' 0" (6.10m) |
| Draft designed | : | (4.5m) |
| Deck Loading | : | 25 tonnes/m ² |

1.4 Classification

The vessel to be designed suitably for registration as a deck cargo barge and constructed in accordance with the latest rules and regulations of ABS (hereinafter referred to as Classification) for unrestricted service and to their special survey to hull for Class for Unmanned Deck Cargo Barge, with scantlings reviewed and approved by ABS. In addition, all internal tanks of the vessels to be of complete full welded construction.

Notation Symbol : ✕A1 Barge

1.5 Certificates & Registration

The following original certificates are to be supplied to the Owner at the time of delivery of the

vessel. If the original and the duplicated copies unavailable at that time, certified true copies will be acceptable. However, the originals to be submitted later on:

- Transmitted original drawings relevant to the barge
- Insurance policy for 110% of the purchase price for towing
- Bill of lading (in care of exercising option)
- Protocol of completion
- Protocol of inventory
- Declaration of warranty
- Commercial invoice
- Zinc anode certificate
- Paint warranty letter
- All classification test certificate for hull steel plate
- Survey report for load line

- i) Builder Certificate (notarized & legalized)
- ii) Classification Certificate
- iii) Safety Construction Certificate
- iv) Tonnage Certificate
- v) Loadline Certificate
- vi) Stability Booklet
- vii) Deratting Certificate
- viii) Navigation Lights Certificate
- ix) Wire Rope, Birdles, Shackle Test Certificate
- x) Hand winch and Anchor Chain Certificate (minimum manufacturer's certificate) with manual +English Translated version

1.6 Welding

Except where specified otherwise, electric welding shall be employed in the construction of the vessel. All welded constructions shall be in accordance with the approved plans and the requirements of the Classification Society for construction of steel vessels. The entire internals shall be fully welded both sides. All electrodes used shall be of type approved by the Classification Society.

Automatic welding method to be used as far as possible throughout construction, where possible, structure should be pre-fabricated in assemblies and sub-assemblies to give the maximum possible amount of down hand welding, associated with accurate alignment

fairness, edge preparation and gap width. Welding schedules to meet Classification requirement/standard.

1.7 Materials & Workmanship

All materials and workmanship to be of good quality. All steel plates, section, full forging and castings shall meet Classification requirements and supplied with test certificates where required by Classification. All rough edges to be ground smooth.

1.8 Inspection

Throughout the construction period and at anytime prior to the delivery, the Classification Surveyors' and Owner's representatives to be given free access, within normal working hours, to the builder's yard for supervision and inspection.

1.9 Test

Prior to the delivery, the hull and other fittings are to be thoroughly tested to the satisfaction of the classification's attending surveyor.

1.10 Stability

A lightweight Measurement, which ascertain the ship weight and the vertical centre of gravity at lightship condition to be carried out by the Builder with the presence of the Classification Surveyor. Based on these results, a Stability Report to be prepared and submitted.

1.11 Delivery

Delivery of the vessel to be taken afloat at a mutually agreed site after completion.

Section 2 – Structure

2.1 General

The steel hull and deck erection to be of all welding construction. Longitudinal framing system to be used. The deck scantlings to be designed to suit for deck loading of 10 tonnes/sq. metres. Any units not specially specified to be mm.

2.2 Plating

| | | |
|----------------------------------|---|------|
| Deck | : | 20mm |
| Bottom | : | 14mm |
| Sides | : | 14mm |
| Longitudinal/Transverse Bulkhead | : | 12mm |

2.3 Longitudinals

| | | |
|-----------------------|---|------------------|
| Deck Longitudinals | : | L 180 x 100 x 12 |
| Bottom Longitudinals | : | L 150x 90 x 12 |
| Side Longitudinals | : | L 150 x 90 x10 |
| C/Bulkhead stiffeners | : | L 125 x 80 x 10 |

2.4 Girder :

| | | |
|---------------|---|-------------------|
| Deck | : | 600 x12 + 200 flg |
| Bottom | : | 550 x 10+ 150 flg |
| BHD Stringer | : | 550 x 10 + 150flg |
| Side Stringer | : | 550x10 + 150flg |

2.5 Web Frame

| | | |
|------------------|---|---------------------|
| Deck web beam | : | 600 x 15 + 200 Flag |
| Bottom web floor | : | 550 x 10+ 150 flg |
| Side web frame | : | 550 x 10+ 150 flg |
| BHD vertical | : | 550 x 10+ 150 flg |

2.6 Pillars

| | | |
|-----------|---|------------------|
| Verticals | : | H10"x10" 68lb/ft |
| Diagonals | : | L200 x 200X18 |

2.7 Skegs

Skegs shall be fitted port and starboard. The internal hull shall be suitably stiffened to provide good protection if the vessels runs aground.

2.8 Hull Markings

The barge name and Port of Registry shall be welded to the stern & both sides of the bow. They shall be of 8mm plate for the barge name letters with the height of 300mm and Port of

Registry 125mm.

2.9 Draft Marks & Loadline

8mm plate shall be welded to the hull in accordance with the authority.

2.10 Steel fenders

Steel fenders shall consist of one(1)row 350mm width, 14mm thick doublers strip all around the vessel. Only minimum break to be allowed in way of boarding step.

Section 3 – Deck Machinery & Equipment

3.1 General

All deck machinery and equipment to be supplied and installed as per Classification's requirements.

3.2 Deck Fittings

Mooring Bollards

Twelve (12) mooring bollards of 300 N.B. heavy pipe are fitted on main deck as shown on drawing. 14mm doublers plate to be fitted.

Lugs

Suitable no. of small lugs with doublers for lashing of portable tyre fenders welded to deck to be provided along the sides of the vessel at approximately 3.6m apart.

Towing Brackets with Fairleads plus Padeye

Four (4) Smit towing brackets of 80T SWL are fitted on main deck with doublers at the Class approved locations. Another will supplied by the towing company.

Hand winch

One unit of hand winch to be supplied by the Builder to be fitted onboard and 200m x 1" dia. galvanized wire rope supplied by the Owner.

Anchor

One unit of 2100kg Stockless Bower Anchor supplied by the Builder with connection to 6m of 46mm stud link chain.

Tyre Fender

Suitable number of tyres c/w 20mm dia Galvanised chain, plastic cover and shackles to be provided. Heavy duty truck tyres x 70 pcs.

Manhole

Each tank and void compartment to be provided with one (1) manhole, size of which to be 600mm x 400mm clear opening oval flush type, studs and nuts to be of 316 stainless steel.

Navigation Lights

A complete set of battery operated navigation lights fitted c/w stands and battery boxes to be provided including:

*Stern Light

* Bow Light (P&S) (Solar Type)

Batteries are suitable for 21 days automatic operation

Section 4 – Painting & Cathodic Protection

4.1 Surface Preparation

All new plate surface (on both side) are to be shot blasted to S.A 2.5 ISO 8501-1 and primed before fabrication with one (1) coat of shop primer. After fabrication, all weld seams, damage, burnt areas to be spot blasted to 2.5 Swedish Standard for external steel surfaces, or power tool cleaned to ST 3 Standard where appropriate, ensuring all areas are rendered clean. Free of oil/grease and residual dirt, and to be dry prior to painting. All new steel plating to be painted shall be shot blasted to near metal or its equivalent to Swedish standard SA2.5 with angle profit of between 30 to 70 degrees and primed immediately with 1X20 microns Zinc primer Z 2001 Grey or Red

4.2 Painting

All paint use to be of "International" make or equivalent and shall be applied according to the manufacturer's recommendations.

4.3 After Fabrication /Assembly

All external hull seams, damaged part, burnt areas to be fully grit-blasted to Swedish standard SS2, subject to approval by paint suppliers. Only small internal damaged areas are to be repaired by power cleaned to ST3 grade.

All deteriorating shop primer to be blasted or grit swept in accordance with paint manufacturer's recommends.

All external steel to be coated with two (2) coats of plastic epoxy base coating. One (1) coat of finishing coating, color to Owner's desire, to be painted for Main Deck & top side, and anti-fouling to be added for the underwater surface for a two (2)-year docking interval.

Two coats of coal tar paint, 100 micron each, to be coated for internal of tanks/void after fabrication in accordance with ABS requirement.

4.4 Cathodic Protection

Appropriate number and size of zinc anodes to be welded onto the immersed hull as cathodic protection with a lifespan of three (3) years. Anodes, 25kg per piece to be arranged so as to prevent dislodging due to grounding.

Section 5 – Outfitting

5.1 Ladders

Ladders to be fitted from all manholes to all void space below. Access ladder shall be fabricated of 100 x 10 F.B with double rungs of 19 x 19 square. All ladders to be hot dipped. Bolts and Nut to be of stainless steel.