



BASIC DESIGN		250' X 80'X16' DECK CARGO/TANK BARGE		OWNER:			
				CLASS:		ABS	
DESIGNED		SPECIFICATION		HULL No.			
CHECKED				DWG No.		G-100-01SPEC	
APPROVED				PAGE		REV.	SCALE
CHK OF STD.				1/6		1	NTS
VERIFIED				BUILDER:			
DATE	07 Apr. 2014						

SECTION 1 - GENERAL

1.1 Intent & Definition

This specification together with the drawing is to describe the construction of a double swing end unmanned deck cargo and ballast tank barge suitably equipped for carrying deck for unrestricted services.

1.2 General Description

The Barge shall be constructed as a steel deck cargo and ballast tank barge for unrestricted ocean service. The hull shall be arranged with a shaped bow, anchor rack, raked stern with skags. The hull is to be divided by 7 transverse watertight bulkheads and 2 longitudinal watertight bulkheads into 24 ballast compartments.

1.3 Principal Particulars

Length overall	250'-0" (76.20m)
Beam moulded	80'-0" (24.384m)
Depth moulded	16'-0" (4.877m)
Deck Loading	20.0 T/M ²

1.4 Classification

The vessel is designed suitable for registration as a deck cargo and ballast tank barge and constructed in accordance with the latest rules and regulations of ABS (hereinafter referred to as Classification or Class) for Unrestricted Services and to their special survey to hull for class for Unmanned deck cargo and ballast tank barge.

Notation Symbol: +A1 BARGE

1.5 Certification & Registration

The following Original certificates should be supplied to the Owner in duplicate before the delivery of the vessel in Shanghai for the Buyer's registration purposes. Should original and the duplicated copies not available, certified true copy is not acceptable:

- 1) Builder Certificate;
- 2) Class Certificate;
- 3) Safety Construction Certificate;
- 4) Tonnage Certificate;
- 5) Loadline Certificate;
- 6) Stability Booklet.

1.6 Welding

Except where specified otherwise, electric welding shall be employed in the construction of the vessel. All welded constructions shall be shown on the approved plans and in accordance with the requirements of the Classification Society for construction of steel vessels. The entire internals

shall be fully continuous welded both sides. All electrodes used shall be of approved by the Classification Society.

1.7 Materials & Workmanship

All material and workmanship are of the good quality .All steel plates, section, full forging and castings are to meet ABS Classification.

1.8 Inspection

Throughout the construction period and at anytime prior to the delivery, the classifications Surveys and Owner's representatives are 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 be satisfaction of the classification's attending surveyor.

1.10 Stability

A lightship measurement will be conducted which will ascertain the lightship weight and the vertical centre of gravity at lightship condition, is to be carried out by the Builder's with the presence of the classification surveyor. Based on these results, a stability report is to be prepared by Consultant.

1.11 Delivery

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

1.12 List of Drawings

The below listed drawings and documents to be sent to Class for approval. The original approved plans and documents to be provided to owner.

- i). General Arrangement;
- ii). Specification
- iii). Construction Drawing;
- iv). Skeg Details;
- v). Welding Schedule;
- vi). Stability booklet;
- vii). Draft Marks;

SECTION 2 - STRUCTURE

2.1 General

The steel hull and deck erection are of all welded construction. Longitudinal framing system is used. The deck scantlings are to be designed to suit 20T/M² loading.

2.2 Scantlings

Deck plate	16mm
Bottom plate	12mm
Side shell	12mm
Longitudinal BHD	10mm
Transverse BHD	10mm
Deck longitudinal	L150X90X10
Bottom longitudinal	L125X75X10
Side longitudinal	L125X75X10
Long. BHD longitudinal	L125X75X10
Transverse stiffener	L125X75X10
Deck transverse	FL500X12/150
Deck girder	FL500X12/150
Bottom transverse (floor)	L400X10/150
Bottom girder	L400X10/150
Side web frame	L500X10/100
Long.BHD web	L400X10/150
Stanchion	H200X200X8/12
Diagonals	L160X 160X15/L180X180X16
Bilges chine	Φ50 round bar

SECTION 3 –Outfitting

3.1 General

All deck machinery and equipment are supplied and installed by Seller.

3.2 Deck Fittings

Mooring Bollards

8 Twin bits, 10” N.B. Pipe recessed mooring bollards are to be fitted on main deck as shown on the GENERAL ARRANGEMENT PLAN.

Towing Brackets

Towing bracket with SWL of 40T each at bow and aft of portside and starboard to be installed.

Anchor winch

One (1) diesel-driven anchor winch of approximately 10 tons capacity, the drum shall be capable of stowing 150m x 36mm dia. galvanized wire rope.

Anchor

One (1) 1590kg Stockless bower anchor.

Manhole

1 manholes is to be provided for each tank, size of manhole to be 600mm x 400mm clear opening and flush type. Studs and nuts to be 316 stainless steel.

Fender

Two (2) rows of 6" Φ, Sch. 80 half round pipe to be fitted on port and starboard sides

Navigation Lights

A complete set of navigation lights are to be provided as follows:

*stern light *Bow light (p&s)

SECTION 4 – PAINTING & CATHODIC PROTECTION**4.1 Raw Material – Plates, Angles, I beams, etc. (all steel) at shop (before fabrication)**Surface preparation

If necessary, degreasing and washing down with freshwater to remove oil/grease contamination.

Abrasive blasting to SA 2.5 Swedish Standard

Ensure that substrate is free from dust, dirt, salt, oil, other contamination.

<u>Coating system</u>	<u>D.F.T</u>	<u>Recoating Time</u>
1 F/C MUKL Z No. 2001 FW	30 microns	1 hour

At site (after fabrication)

Surface preparation

If necessary, degreasing with A-410 heavy duty alkaline cleaner and washing down with freshwater to remove oil/grease and salt contamination.

Allow surface to dry thoroughly prior to mechanical power cleaning welding seams and damages areas to ST3 Swedish Standard. Thereafter, wipe clean with solvent using cloth/rags.

Ensure that substrate is free from dust, dirt, salt, oil, other contamination.

4.2 Painting schedule

All steel surfaces (on both sides) are to be shot blasted SA2.5 and primed before fabrication with one (1) coat of shop primer as above.

Paint in ballast tanks to be one year anti-rust guarantee.

Paint of out side below light weight water line to be three years anti-fouling guarantee.

Paint maker to be of JOTUN, IP, HEMPEL or other equivalence.

4.3 CATHODIC PROTECTION

50 pcs, 15Kg each, aluminum anodes to be welded on the immersed loaded hull as cathodic protection. 2 pcs , 15Kg each, aluminum anodes to be welded in each ballast tank.