S P E C I F I C A T I O N

F O R

282’ X 90’ X 18’
DECK CARGO/BALLAST TANK BARGE

(Deck Loading : 20t/m2)

MRY MARINE CO.,LIMITED

282' x 90' x 18' DECK CARGO/BALLAST TANK BARGE

Section 1 – General

1.1 Intent & Definition

This specification is to describe the construction of a double swim end unmanned deck cargo barge suitably equipped for carrying general cargo on deck for unrestricted service.

The following terms are used in this specification :-

i)	Owners	:	
ii)	Builder	:	
iii)	Classification	:	American Bureau of Shipping

1.2 General Description

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

The hull is 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	:	282'-0
Beam Moulded	:	90'-0
Depth Moulded	:	18'-0
Draft Loaded About	:	~ 4.331m
Deadweight	:	~ 7800t
Deck Loading	:	20Tonnes/M^2

1.4 Classification

The vessel is designed suitable for registration as a deck cargo/tank barge and constructed in accordance with the latest rules and regulations of American bureau of shipping (hereinafter referred to as Classification) for Unrestricted Services and to their special survey to hull for class for Unmanned Deck Cargo Barge.

Notation Symbol : ABS + A1 Steel Deck Barge

Class Description : Deck Cargo and Ballast Tank Barge

1.5 a) Certification & Registration

The following one (1) set of Original certificates are to be supplied to the Owner at the time of delivery of the vessel. Should original and duplicated copies not available, certified true copy is acceptable:-

i) Builder Certificate
ii) Classification Certificate
iii) Safety Construction Certificate
iv) Tonnage Certificate
v) Loadline Certificate
vi) Stability Booklet (Approved)
vii) Tank Calibration
viii) Anti Fouling Certificate
ix) Sloshing Analysis
x) Any other certificates and reports issued by Class.

b) List of Drawings

On completion, following drawings approved and/or reviewed by the Classification Society are to be supplied.

i) Specification
ii) General Arrangement
iii) Lines Plan
iv) Equipment Number Calculation
v) Trim and Intact Stability Report
vi) Longitudinal Strength Calculation
vii) Hydrostatics Data and Curves (Mld)
viii) Tank Calibration Report
ix) Tank Capacity Plan
x) Scantling Sections
xi) Structural Plans and Profile
xii) Structural Sections and Bhds
xiii) Skeg Drawings
xiv) Welding Schedule
xv) Bollard Details
xvi) Towing Bracket Details
xvii) Towing Fairlead Details
xviii) Manhole Cover Details
xix) Tank Access Ladder Details
xx) Draft Mark Details
xxi) Pilot Ladder Details

c) Other Documents and Certification

The following list of document and certificates shall be handed over to the Buyer at the time of delivery

i) Still Water Shear Force and Bending Moment
ii) Point Loading Analysis
iii) Towing Bracket Certification
iv) Paint Specification and Guarantee
v) Anti Fouling Certificate
vi) Mill Certificates of Steel Plates, Angle Bar, “H” Beam, etc
vii) QC and ABS Inspection Report
viii) Anchor Winch Certificate
ix) Anchor Certificate
x) X-Ray Report of Weld Joints

xi) Air Test/Leak Test Report

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

1.7 Materials & Workmanship

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

1.8 Inspection

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

1.10 Stability

A stability booklet is to be prepared based on estimated lightship weight and finalized with results from lightship survey as required by the Classification and/or by Buyer.

Section 2 - Structure

2.1 General

The steel hull and deck erection are of all welding construction. Longitudinal framing system is used. The deck scantlings are to be designed to suit 20 tonnes/M^2 loading.

2.2 Plating

Deck	:	18.0mm
Bottom	:	12.0mm
Sides	:	14.0mm
Longitudinal/Transverse Bulkhead	:	10.0mm

2.3 Longitudinal

Deck Longitudinals	:	150x 90x12mmO.A.
Bottom Longitudinals	:	150 x 90x9mm O.A
Side Longitudinals	:	125 x75 x9mm O.A
Bulkhead Longitudinals	:	125 x 75 x 9mm O.A.
Transverse BHD stiffener	:	150 x 90 x9mm O.A

2.4 Transverse Webs

Deck Transverse	:	600x 12mm/150flanged plate
Bottom Transverse	:	500 x10mm/125flanged plate

Side Transverse	:	500 x 10mm/100 flanged plate
Long. Bulkhead Transverse	:	500 x 10mm/125 flanged plate

2.5 Stanchions

Vertical	:	340x 250x9/14mm"H"Beam
Diagonals		L180x180x16mm

Section 3 – Deck Machinery & Equipment

3.1 General

All deck machinery and equipment are supplied and installed to meet Classification's requirements.

3.2 Deck Fittings

- Mooring Bollards
  Eight (8) double bitts, mooring bollards of 10" N.B. heavy pipe are fitted on main deck as shown on drawing.

- Towing Brackets
  Four (4) 100 SWL Schmit towing brackets are fitted on main deck Fwd and Aft (2 at the Fwd and 2 at the Aft). One (1) additional Schmit towing bracket (100 Ton SWL) to be welded at the Fwd Centre. The Schmit Brackets must be ceritified by ABS.
  All towing brackets must be have proper fairleads.

- Anchor Winch
  One (1) diesel operated winch of 10 ton capacity and 1500kg anchor. The drum shall be capable of stowing 70m*28mm diameter wire rope.

- Tyre Fender
  Approx Forty-six (46) pieces of tyres approx 900mm dia.200mm thick in size. Dia.18mm galvanised chain and shackle are to be provided.

- Steel Fender
  16mm x 400mm x 1pieces double plate c/w slot welds to be fitted all round.

- Manhole
  One (1) manhole is to be provided for each tank, size of manhole to be 600 x 400mm clear opening oval flush type, studs and nuts to be of stainless steel.

- Navigation Lights
  A complete set of electrical (battery & solar operated) navigation lights fitted c/w stands and battery boxes are to be provided as follows.
  - Bow lights (port and starboard)
  - Stern light

Section 4 – Painting & Cathodic Protection

The paint will be used “JOTUN” paint.
All steel plate / steel material is to be grit blasted to Sa2.5 on both sides of the steel plate and all round on all other steel material and cleaned to as high a standard as possible in order to removed all the dust and mill scale prior to painting with one coat of marine primer. All steel surface are to be free from grease and free from moisture coats are applied all coats are to thoroughly dry before further coats are applied on top.

The paint supplier shall provide 3 years quality guarantee for hull/ tank to Buyer through the builder. Details see the painting specification.

4.1 Cathodic Protection

Sixty-eight (68) zinc anode (15kg/pc) are to be fitted to protect the external hull below the waterline. Against corrosion with lifespan of three(3) years