

## SPECIFICATION

### DAMEN STAN PONTOON® 4113

### Heavy Duty Deck Cargo Pontoon



*Image of Stan Pontoon 6313*

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## 000 General description

### 000.1 Intention of the specification

The layout of the following specification is based on the Damen system codes which can be found in the table of contents.

The general arrangement plan as mentioned on the front page of this specification is considered as a part of this specification.

In case of inconsistency or contradiction between the specification and the general arrangement plan, the specification shall prevail.

In case of inconsistency or contradiction between the contract and the specification, the contract shall prevail.

The Builder retains all rights on the specification, plans and working drawings, the technical descriptions, calculations, test results and other data information and documents concerning the design and construction of the Vessel.

The owner will not bring them to the knowledge of third parties, without the prior written consent of the Builder.

The builder has the liberty to modify constructions and/or designs, provided such modifications do not affect the intent of this specification.

The Builder shall not unreasonably deny showing of these plans and drawings if it is necessary for carrying out repairs to the Vessel.

### 000.2 Lay-Out

The Damen Stan Pontoon is a heavy constructed modern non-propelled Pontoon for deck cargo built to standard design under full class. The Damen Stan Pontoon can be used for various operations on inland waters, in harbours, estuaries and deep sea. The Pontoon is designed for the transport of general cargo on deck.

The construction of the Pontoon is based on a longitudinal framing system in combination with a transverse web frame system. Due to the utilisation of the Pontoon, a special strong construction with extra local strengthening in bottom fore and aft ship, deck and sheer strake and a heavy welding system are used. Except the bollards, the Pontoon has a flush steel deck from fore to aft.

Double bollards are provided on PS and SB according GA plan. The flat bottom hull is of an all welded steel construction. The hull is divided into watertight compartments according to the General Arrangement Plan. All drawings, nameplates and markings will be written in English.

## 000.3 Principal Dimensions (Approx.)

Length moulded	41,40	m
Beam moulded	13,00	m
Depth moulded	3,00	m
Draught max.	2,40	m
Deadweight max.	980	ton
Deck load	10	ton/m2

## 000.4 Design conditions

For the design of the systems the following design conditions shall be used:

- Seawater temperature : 0° to +35° C.
- Outside air temperature : -5° to +45° C.

It is explicitly understood that this barge is not designed as an ice classed vessel and no equipment for heating is installed

## 000.5 Definitions

This specification describes the hull and equipment of the below mentioned Pontoon.

The following words and/or expressions used herein shall have the meaning as defined hereinafter:

"Pontoon"	The Damen Stan Pontoon as described in this specification.
"Owner"	The corporate body or legal person who shall have ownership of the Pontoon.
"Builder"	Damen Shipyards
"Builder's standards"	Way of construction and/or outfitting as customary at builder's yard.
"Standard execution"	The execution of the Pontoon, built and equipped with the materials, fittings and items as described in this specification.
"Or equal"	Substitution by equivalent equipment of different manufacturer as may be regulated by availability.
"S"	Standard equipment, fitting or item which can be replaced by an optional (Ø).
"Ø"	Extra optional equipment, fitting or item, which can be ordered separately to suit the intended function of the Vessel.

## 000.6 Workmanship and quality of materials and fittings

The workmanship on the hull and fittings throughout shall be of good marine practice. Care shall be taken to ensure fair lines, smooth surfaces and neat welding. All materials and equipment installed in, or delivered with the Pontoon shall be new and of good marine quality.

Trade names and names of specific manufacturers mentioned in the specifications are intended to describe the desired quality and/or construction of the equipment and materials and not to exclude any other makes of similar quality or construction.

## 000.7 Quality policy

By applying a Total Quality Management Program (TQM) to every facet of our operations we continue to maintain and upgrade the quality of our products and organisation.

The Quality Management system of the Builder has been approved by Lloyd's Register Quality Assurance Limited to the ISO 9001: 2008 standards. This is applicable to design, construction and delivery of ships, including after-sales services and the delivery of prefabricated shipbuilding kits.

## 000.8 Health and safety

At Damen, we are committed to conducting ourselves in a responsible manner, to protect people in every area of the world in which we operate.

The following Health & Safety principles guide all of our decisions on products, services, facilities and for our business in general. Damen people are expected to incorporate health and safety considerations into their daily activities.

Health and Safety above anything

Everyone engaged & Everyone responsible

Openness and transparency

Each individual is important to us

Continuous improvement based on facts & risks

Proactive individual involvement, personal responsibility, accountability, and continuous improvement are expected of all employees and subcontractors.

The Occupational Health and Safety Management System of Damen Shipyards Gorinchem has been approved by Lloyd's Register according OHSAS 18001:2007.

## 000.9 Environmental awareness

Damen Shipyards Gorinchem is committed to ensure continuous improvement of the products and production methods with the objective to reduce the environmental impact. Damen is duly focussing on optimizing its design and constantly working on environmentally relevant product innovations. In addition progressive actions have been taken to reduce the environmental impacts of our facilities and to bring awareness to our employees in relation to every day's activities. Damen Shipyards Gorinchem has been approved by Lloyd's Register Quality Assurance to the ISO 14001: 2004 standards.

## 031 Classification

The hull construction meets the classification rules of Lloyd's Register with the following notation:

+100 AT, Pontoon, IWS

For non-propelled and unmanned vessels.

*Descriptive note:*

- Loading/unloading bottom aground

## 032 Flag state

The pontoon will be registered under Norwegian flag.

## 033 Certificates

The following certificates will be supplied to the owner upon delivery:

- Builders certificate
- Certificate of Class
- Load Line Certificate
- International Tonnage Certificate
- Certificate of Survey

## 043 Trials

Before final painting all the watertight compartments inside the ship steel structure will be pressure tested in accordance with Class.

All equipment will be tested in accordance with the manufactures requirements and Class as may be required.

A comprehensive series of Trials will be carried out to ensure the correct functioning of all pontoon items, deck machinery and all services associated therewith.

## 070 Delivery

The Pontoon will be delivered to the Owner complete with equipment, tools and optional extra equipment as per contract.

## **071 Manuals and documentation**

Upon delivery of the barge the Builder will supply to the Owner a set of as-built drawings, documents and manuals in the English language in twofold (paper copy) and a digital copy on CD/DVD.

### **071.1 Documents and manuals**

The following documents will be delivered:

- Trim, Stability and longitudinal strength manual
- Sounding tables booklet
- Manuals for equipment, as far as applicable and available
- Paint maintenance manual
- Electrical diagrams, as far as applicable and available
- List of equipment on board

All remaining necessary manuals and official documents as required by the Class and/or Statutory Bodies will be supplied at delivery of the Vessel.

### **071.2 Delivered drawings**

Drawings as built and Class approved (if applicable):

- General arrangement plan
- Construction plan
- Main frame
- Void arrangement
- Deck load plan
- Docking plan
- Arrangement of manholes, steps, docking plugs and ladders inside
- Ramp arrangement
- Fender arrangement
- Cathodic protection plan
- Towing arrangement

## **075 Owner's supply**

In the event the Owner is supplying components, equipment and/or any other materials to be incorporated in the Pontoon, the additional work for bringing on board and/or for installation on board the Pontoon is not included in this Specification.

## 100 Hull

### 110 Hull general description

The rectangular shaped hull has a flat bottom and a sloped stern and bow. Bow and stern have rounded reinforced corners. The hull is made of steel plates, accepted by Class. The scantlings of the hull are in accordance with the relevant rules of the classification society.

Four transverse watertight bulkheads and one longitudinal watertight bulkhead divide the hull into 10 void spaces.

<i>Position</i>	<i>Plate thickness [mm]</i>
Deck plating	12
Shear strake	14
Shell plating	9
Bulk heads	9 / 8
Bilge plate	10
Round bars at chine	50
Plate keel	11
Bottom plating	10

The main deck is completely flush without any obstacles except for the bollards.

The after body shall be fitted with 1 skeg at centreline that provide excellent course stability and have sufficient strength for grounding. The skeg shall be double plated, welded to the hull structure.

All welding will be performed in accordance with the classification requirements. On the inside and outside of the hull the welding will be continuously.

### 132 Manholes

Each void space is fitted with two round, flush single point opening manholes in the main deck. Four special tools for opening the manholes are provided.



## 134 RoRo Ramp connections

A recess at the stern and the bow will be provided for the connection of ramps. The recess has a width of max. 9 meter. The recesses are prepared for max. six standard ramp panels of 1,5 m width and various lengths.

Six removable steel ramp panels of 12 m length and 1,5 m width are provided.

Six steel flaps are provided for an optimized run over the ramps.

## 139 Drain plugs

All voids in the bottom of the hull are provided with drain plugs. All drain plugs are made of brass. Close to the drain plugs the void numbers are marked with welding beads.

## 141 Stairs, ladders and climbing steps

All voids are provided with fixed hot dip galvanized ladders.

Four boarding ladders are fitted in recesses to the vessels hull, 2 on SB and 2 on PS.

At deck a hand railing is provided in line with the boarding ladders.

## 142 Railings

### 142.1 Base Plates

Breech bases are welded on deck in order to use them for removable stanchions of the optional railing. They also can be used for other purposes, like lashing eyes.



### 142.2 Removable railing

Seventy removable stanchions with wire guardrails are installed at base plates in the main deck at 100 mm from the edge. The railing will only be provided on PS and SB. In way of boarding ladders in between the stanchions galvanized 1/2" chains provided for easy access. Guard wire rails and stanchions will have a minimum height of 1 meter. All stanchions will be hot dip galvanized.

The stanchions are all executed with lugs.

## 151 Fenders

Double plates on deck and on the shell are provided for optional 8 tyre fenders on each side of the vessel.

On each side of the vessel 8 used airplane tyre fenders (approx. 600 mm) are provided, fitted with chains.

## 153 Bollards

Double bollards are fitted on insert plates on the main deck according GA plan. The bollards have internal reinforcements.

Bollard dimensions: Pipe ca. 323 mm outside diameter x 12,5 mm wall thickness.

## 156 Lashing material

Ten lashing eyes are provided which can be used in the base plates.

## 159 Markings hull and superstructure

### 159.1 Draught marks

Draught marks are welded on starboard and portside at fore, mid and aft ship, every 20 cm. The draught marks are made of 5 mm cut steel plates.

### 159.2 Load line mark

At port and starboard of the hull a load line mark is welded. The load line mark is made of 5 mm cut steel plates.

### 159.3 Ship's name, owner and port of registration

The name of the ship, the port of registration and owners name are painted and the IMO number is made of 5 mm cut steel plate and mounted on the vessel.

Vessels' name: JERN ERNA

Homeport: KRISTIANSUND

### 159.4 IWS marking

The outside of the hull is provided with marking according In Water Survey regulations. The markings will be executed with welding beads.

## 161 Painting

The hull plates are cleaned and cleared of mill scale by blast cleaning grade SA 2½ and coated with a primer (Interplate 317, 13 mu) prior to fabrication.

The primer has no deteriorative effect on subsequent welding work and is compatible with paints or other coatings subsequently applied. All welds and damaged areas will be hand-painted with a "pre-layer" before spraying.

Damaged paint work will be repainted in original colours and quality. Paint specifications based on "International Paint". The paint and the application of the paint is checked by an inspector of the paint manufacturer.

Attention will be paid to avoid sharp edges and other paint unfriendly construction details in order to optimise the protection and maintainability of the paint system.

For future maintenance Builder will supply a Painting Manual of the complete Vessel, including maintenance procedures, materials to use and further relevant recommendations and information.

161.1	<u>Hull outside below waterline flat bottom</u>	<u>Thickness (µm)</u>
	Intergard 7600 KUA760/A, Aluminium	150
	Intergard 7600 KUA763/A, Grey	150
161.2	<u>Hull outside below waterline sides</u>	<u>Thickness (µm)</u>
	Intergard 7600 KUA760/A, Aluminium	150
	Intergard 7600 KUA763/A, Grey	150
	Intergard 740 ECY999/A, Black	50
161.3	<u>Hull outside above waterline</u>	<u>Thickness (µm)</u>
	Intergard 7600 KUA760/A, Aluminium	150
	Intergard 7600 KUA763/A, Grey	150
	Interthane 990 PHY999/A, Black	50
161.4	<u>Hull outside deck</u>	<u>Thickness (µm)</u>
	Intergard 7600 KUA760/A, Aluminium	150
	Intergard 7600 KUA763/A, Grey	150
	Interthane 990 PHW399/A, traffic grey B RAL 7043	50
161.5	<u>Bollards, De-aerations, Winches, Ramps</u>	<u>Thickness (µm)</u>
	Intergard 7600 KUA760/A, Aluminium	150
	Intergard 7600 KUA763/A, Grey	150
	Interthane 990 PHY999/A, Black	50
161.6	<u>Hull inside</u>	<u>Thickness (µm)</u>
	Intergard 7600 KUA760/A, Aluminium	150
	Intergard 7600 KUA763/A, Grey	150
161.7	<u>Galvanised and aluminium surfaces in- and outside</u>	<u>Thickness (µm)</u>
	Intergard 269 EGA088/A, Red	40
161.8	<u>Removable stanchions for railing</u>	<u>Thickness (µm)</u>
	Intergard 269 EGA088/A, Red	40
	Intergard 7600 KUA761/A, Red	150
	Interthane 990 PHC261/A, Traffic Orange RAL 2009	50

## 163 Cathodic protection

The underwater parts of the hull have cathodic zinc anode protection welded on double plates at the bilge strake, and sufficient for 5 years operation. The double plates are of sufficient size to fit several types of zinc anodes.

## 500 Deck equipment

### 520 Anchor / Mooring system

#### 520.1 Spud pole foundations

The pontoon will be provided with 4 vertical pipe foundations with adequate stiffening for future instalment of optional delivered spud poles.

### 550 Towing equipment

#### 550.1 Towing brackets

On the fore deck, two class approved towing brackets are fitted at deck, one on SB and one on PS. Towing brackets are of 'Smit type'.

#### 550.2 Emergency towing pin

An emergency towing pin connection is made in a recess in the bow.

## 800 Nautical, navigation and communication equipment

### 810 Navigation lights

A navigation light stand and mast will be provided on double plates on fore and aft part of the barge for optional installation of navigation lighting according to the standard for international towage.

## Appendix A: Makers list

Steel	Class accepted steel plates and profiles
Manholes	Damen standard
Bolts, nuts, hinges	Stainless steel A4 / Hot Dip Galvanised
Paint	International paint
Towing Brackets	“Smit type”, including Class certificate