

Full-ship Load Out in Skid Berth

Yeong-Hwan Kim*, Hoe-Yong Kim* and Kyoung-Hyuk Kang†*

STX Shipbuilding.Co.Ltd.*

Abstract

For complying with the increasing number of ships construction, it's required that not only for minimizing the period of construction in Skid Berth also maximizing application proportion of Skid Barge, The full-ship load out construction method required indispensably.

※Keywords: Skid Berth, Skid Barge, Full-ship Load Out

1. Introduction

Since apply the ring p.e.(pre-erection) construction method to SLS (Skid Launching System, Ground Construction Method) construction method, application ratio of skid barge have increased from 12 to 15 batch this year. For more ship construction in Skid Berth, No.2 Skid Berth formation construction starts next year and this required epochal increasing application ratio of skid barge.

Since create and apply the SLS construction method until Sep. this year all load out process system of skid berth was divided into two steps. That's forward body load out (1st

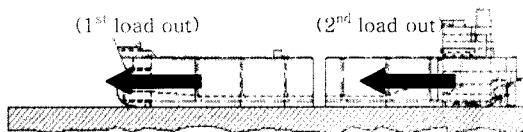


Fig.1 Half-ship Load out

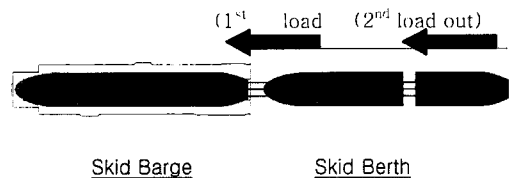


Fig. 2 Half-ship Load out Profile

load out) and after body load out (2nd load out). Call it Half-ship load out.

2. Full-ship Load out

Simply speaking, the concept of this construction method is that change two steps load out to one step's it.

Applying to this, the period of working in skid berth increase equivalent to working time, about 10day for joint welding, painting and etc. of forward and after body, consequently.

On the contrary, the amount of working time of skid berth reduced in skid barge (25 days -> 15 days) and it increase the application ratio of skid barge.

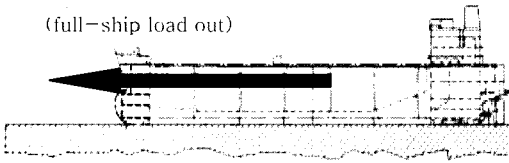


Fig. 3 Full-ship Load out

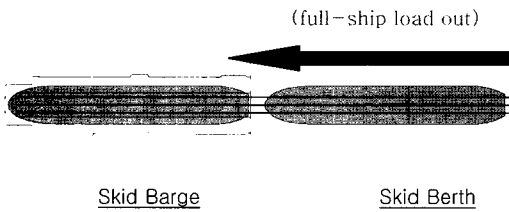


Fig. 4 Full-ship Load out Profile



Fig. 5 S2017(47KPC) Full-ship Load out

3. Full-ship Load out Facilities

For applying this method, a several of items, investment and capacity increment of facilities, must be changed suitable for capacity of full-ship load out in skid berth and barge, respectively.

The items changed in skid berth & skid barge

1) Pulling winch

This is a facility pulls a ship from berth to barge, and it operated until the ship positioned on position to set.

The first, generally, the weight of full-ship is twice as many that of half-ship, according to that the pulling force of winch enhanced from 120 ton to 240 ton.

The second, according to the increment of pulling wire length, a size of wire drum and a capacity of motor are increased.

2) Carriage

This is the facility lifting a ship during moving from berth to barge.

It' s required twice as many quantity of half ship' s that. The capacity of that is same the original one has 500 ton lifting ability of 2 strokes has a 250 ton, respectively.

3) Trestle

This is the equipment located between bottom of ship and carriage, support the all ship weight. It has a 400 ton sustainable.

The length of it changed longer than old one as increase of frame space according to apply the CSR.

4. Full-ship Load out Sequence

(1) Preparation

1) Wire rope rigging

It's the 1st step that connecting a foremost trestle, call it TRE(trestle located on end) and pulling winch.

2) Pulling & Braking Winch test and check.

3) Carriage & Power Pack setting

For Lifting and moving to setting position on Skid Barge, it set on position located in trestle.

4) Hydraulic Hose & data cable Connection

5) Power Pack Working, system check.

6) Hydraulic working test (Jack up 150 mm)

(2) Load Out

1) Power Pack Warm up (abt.1 hr)

2) Jack up (220 mm)

3) Skid Barge Setting (Keel Block)

4) Bridge Beam installation (6 sets)

It connect by force the Skid Berth & Skid Barge, installed when even level between berth & barge, and have a upper rail that same in berth & barge to move a ship. It weighs abt.3ton and installed and removed by folk lifter.

5) Load Out

It's the main procedure move from berth to barge. When ship is moving, the level of rail on berth and barge must have an even condition.

The time of load out takes abt.3 hr.

As ship move to barge, the ballast of barge controlled for keeping an even condition during load out.

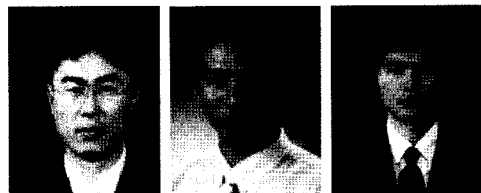
After end of load out of the final carriage, bridge-beams must remove for making barge to free from the fixed point of quay.

6) Facilities checking.

5. Conclusion

Changing half-ship load out to full ship's one, it become takes more ship construction on skid barge and increment of application ratio of skid barge.

For more and more construction of ships that have a various size and types, it's essential that increase the application ratio of barge and use it to another berth (No.2 Skid Berth). To make it possible, full-ship load out construction method is indispensable.



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