



Establishment of All-Weather Berth Network



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Synopsis:

Kawasaki Steel established an integrated network comprising a total of six all-weather berths for loading and unloading at its Mizushima Works, Chiba Works, Chita Works and Osaka Service Center to improve transportation efficiency by the domestic vessels on which the company depends for approximately 70% of its steel product transportation. The Osaka Service Center, because it is located on a public wharf, has adopted the retractable vessel housing method for the first time in Japan. With a fixed shed equipped with both a ceiling crane and a movable shed which moves on an overhanging guard, the facility can be used in the shut down condition, and is possible to operate in both good and inclement weather. In addition, a multipurpose semi-automatic crane was adopted to improve loading and unloading efficiency.

1 Introduction

transportation improvement by achieving labor saving.

Table 1. Specifications of Kawasaki Steel All-weather berths

Item	Specification
1. Berth length	100 m
2. Berth width	10 m
3. Berth height	1.5 m
4. Berth material	Steel
5. Berth structure	Open
6. Berth location	Offshore
7. Berth orientation	Parallel to the coast
8. Berth foundation	Reinforced concrete
9. Berth mooring	Mooring system
10. Berth access	Access system
11. Berth lighting	Lighting system
12. Berth communication	Communication system
13. Berth safety	Safety system
14. Berth maintenance	Maintenance system
15. Berth operation	Operation system



departing and arriving in the morning and evening, and at the front of the quay, ordinary ships, wood-carrying ships, barges and tug boats are briskly coming in and

time of completing the cargo handling.

The present facilities are of the retractable vessel

cargo-handling.”

3.3.1 Fixed shed

mechanism is of the sheet winding drum type. The side shutter is lowered directly below the overhanging girder to prevent the rain from blowing in by way of the front

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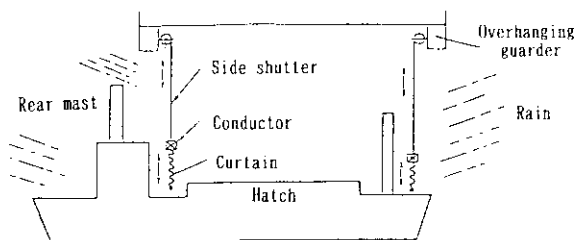
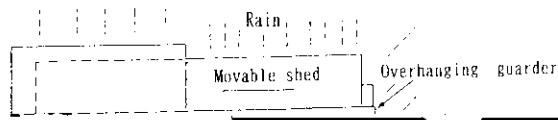


Fig. 3 Condition of movable shed

Table 3 Distance affected by rain (m)	
Max. instantaneous	

the facilities have a covering mechanism selective according to the structure of the ship, its vertical fluctuations and the blowing directions of the rain

4.1 Outline of Crane Operation

ever, since automatic loading is difficult owing to the oscillation of the ship, manual operation is car-

ing operation and unloading steps and the scope of (2) (3) (4) (5) (6) (7) (8) (9) (10) (11) (12) (13) (14) (15) (16) (17) (18) (19) (20) (21) (22) (23) (24) (25) (26) (27) (28) (29) (30) (31) (32) (33) (34) (35) (36) (37) (38) (39) (40) (41) (42) (43) (44) (45) (46) (47) (48) (49) (50) (51) (52) (53) (54) (55) (56) (57) (58) (59) (60) (61) (62) (63) (64) (65) (66) (67) (68) (69) (70) (71) (72) (73) (74) (75) (76) (77) (78) (79) (80) (81) (82) (83) (84) (85) (86) (87) (88) (89) (90) (91) (92) (93) (94) (95) (96) (97) (98) (99) (100)

automation are shown in Fig. 4 and Table 5. The semi-

At Fig. 4 (b) ①, select the plate to be cargo-handled

Electric room in crane garter

(8) Material distribution costs such as the shipping cost and cargo-handling cost have been widely relieved.