

Subject

Steel coil loading methods of existing dry cargo ships

ClassNK

Technical Information

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To whom it may concern

Loading methods for steel coils carried by dry cargo vessels, i.e. weight, size, tiers, and number of dunnages, have been verified with regards to the concentrated forces affecting inner bottoms and summarized in the onboard loading manual. These summarized loading methods aim to keep the number of dunnages to a minimum and may not always correspond to maximum quantities for loaded steel coils.

However, steel coil loading methods that are not summarized in the onboard Loading Manual are also acceptable, provided that the number of dunnages is increased and they are verified properly with regard to inner bottom strength.

Our Rules clearly specify that, in cases where 6 or more dunnages are laid under a steel coil, the inner bottom may be considered as loaded by a uniform distributed load. In this case the loading method may be evaluated by using “inner bottom designed load (kN/m^2)” or “cargo hold designed specific gravity (t/m^3)” as specified in the onboard Loading Manual.

We are developing a calculation program to evaluate steel coil loading methods with less than 6 dunnages per steel coil, which are not currently summarized in the onboard Loading Manual. When the program is ready to be released, we will inform you in another Technical Information.

In the meantime, whenever you have any questions on evaluating steel coil loading methods, please feel free to contact our Hull Department.

Please refer to the attached figures, which show outlines for “concentrated force” and “uniform distributed load”.

(To be continued)

NOTES:

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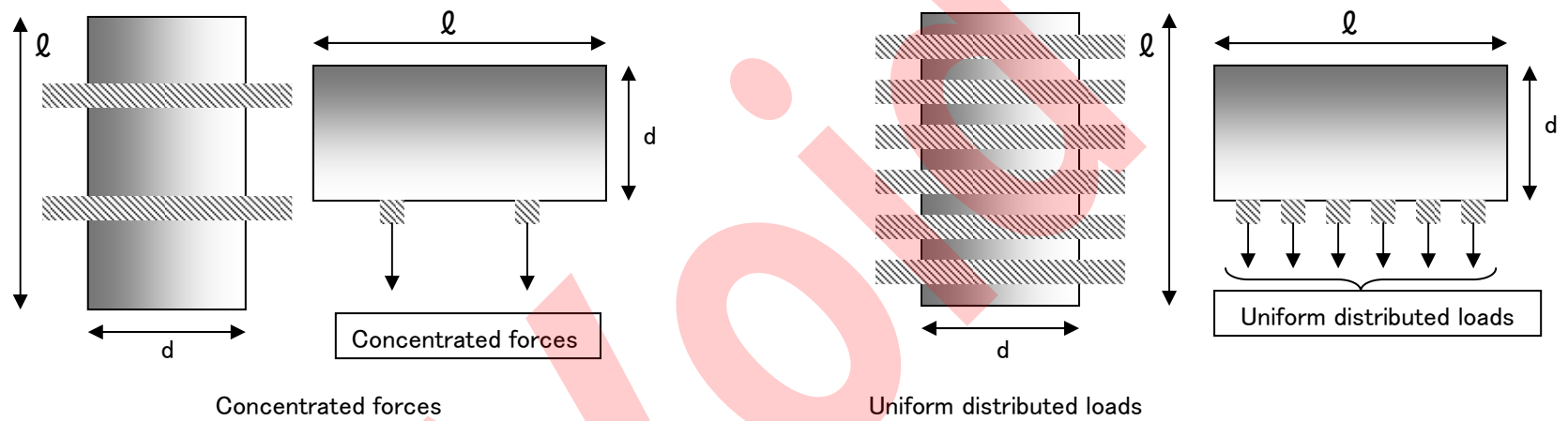
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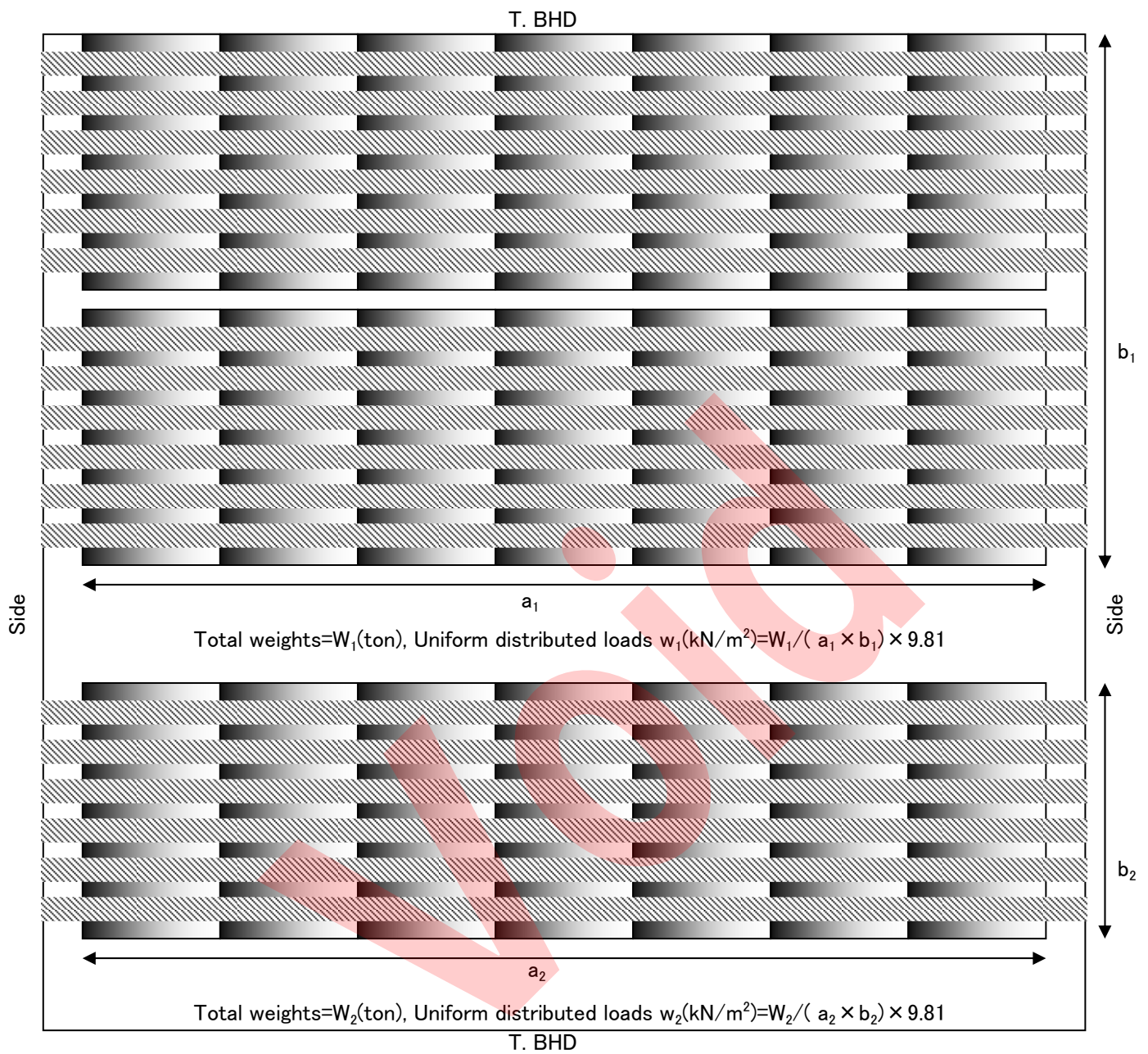
Attachment:

1. Fig 1: outlines of steel coil loads
2. Fig 2: outlines of uniform distributed loads



Uniform distributed loads
 (6 or more dunnages are laid under a steel coil, and l :length of a steel coil is less than a space of double bottom transverse floors.)

Fig 1: outlines of steel coil loads



Cargo Hold plan

$$w \leq h \text{ (kN/m}^2\text{),}$$

Where h (designed load of inner bottom) is given in Loading Manual.

$$w \leq 9.81 \times H \times \gamma \text{ (t/m}^3\text{),}$$

Where γ (designed specific gravity of each cargo hold) is given in Loading Manual.

H (m): Distance between inner bottom and upper deck at the center line. (Camber is included)

Fig 2: outlines of uniform distributed loads