

# Comprehensive Review of the Rules for Cargo Handling Appliances

## Amended Rules and Guidance

Rules for Cargo Handling Appliances

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## Reason for Amendment

The ClassNK Rules for Cargo Handling Appliances prescribes requirements related to the design, testing, inspection, assignment of safe working loads and identification markings of “derrick systems”, “cranes”, “cargo fittings”, “loose gear”, “machinery”, “electrical installations”, “control engineering systems”, “cargo lifts” and “cargo ramps” of cargo handling appliances.

Among these requirements, the ones related to design load and strength for derrick systems and cranes are specified in reference to certain Japanese Industrial Standards (such as JIS B 8821, JIS B 8831, etc.), and these standards have been recently revised.

Accordingly, relevant requirements were amended as a part of comprehensive review of the ClassNK Rules in order to harmonize them with the latest versions of the JIS standards JIS B 8821, JIS B 8831, etc., and to add and clarify provisions considered necessary.

## Outline of Amendment

- (1) Added wind loading to the loads required to be considered with respect to the design loads of derrick systems.
- (2) Amended provisions for buckling strength and combined compressive stress in order to apply them to derrick posts and stays subjected to compressive stress.
- (3) Changed the name of the coefficient used in calculations of impact loads for cranes from “additional impact load coefficient” to “impact load coefficient; in addition, amends relevant provisions in order to make the impact load coefficient calculated from the hoisting speed of the winch applicable.
- (4) Amended relevant provisions in order to make the work coefficient calculated from the frequency of use of cranes applicable.
- (5) Amended the allowable stress of cranes in order to allow them to be calculated from tensile strength in addition to yield point stress or proof stress.
- (6) Added a provision for the fleet angle with respect to the winding of a wire rope into a winch drum.

## Amended Requirements

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1.1.1, 2.2.1, 2.2.2, 2.4.5, 2.5.1, 3.2.1, 3.2.4, 3.2.5, Title of 3.3, 3.3.1, 3.3.2, 3.3.10, 3.3.11, Table 3.1, Table 3.2, Title of 3.4, 3.4.1, 3.4.2, 3.4.3, 3.4.4, 3.4.5, 3.4.6, 3.4.7, 3.5, 3.6, 4.2.1, 4.2.2, Table 4.1, 4.2.4, 4.2.5, Table 4.3, 4.2.9, 4.3, Table 4.5, 4.4.2, 5.2.2, Table 5.3, 7.2.2, 7.4.2, 7.4.3, 8.3.2, Table 8.2, 9.5.1

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1.3.2, 1.3.4, 1.3.5, 2.5.1, 4.2.2, 4.2.9, Table 4.2.9-1, 6.5.1, 7.2.2, Fig. 7.2.2-1, Fig. 7.2.2-2, 7.3.1, 7.4.3