

RULES FOR THE SURVEY AND CONSTRUCTION OF STEEL SHIPS

Part Q

Steel Barges

Rules for the Survey and Construction of Steel Ships
Part Q **2021 AMENDMENT NO.1**

Rule No.61 27 December 2021
Resolved by Technical Committee on 28 July 2021

ClassNK
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An asterisk (*) after the title of a requirement indicates that there is also relevant information in the corresponding Guidance.

“Rules for the survey and construction of steel ships” has been partly amended as follows:

Part Q STEEL BARGES

Chapter 19 EQUIPMENT

19.1 Anchors, Chain Cables and Ropes

Paragraph 19.1.5 has been amended as follows.

19.1.5 Mooring Lines

~~1~~ As for wire ropes and fibre ropes used as mooring lines, the breaking test load specified in ~~Chapter 4 or 5, Part L~~ is not to be less than the breaking load given in ~~Table Q19.2 or 3~~ respectively.

~~2~~1 The number of mooring lines for barges whose with equipment numbers do not exceed of 2,000 ($EN \leq 2,000$) is to be in accordance with **Table Q19.2**. However, for barges having the at ratio of A to EN above that is greater than 0.9 ($A/EN > 0.9$), the following number of ropes should is to be added to the number required by **Table Q19.2** for mooring lines.

Where A/EN is above greater than 0.9 upto but 1.1 or less: 1

Where A/EN is above greater than 1.1 upto but 1.2 or less: 2

Where A/EN is above greater than 1.2: 3

EN : Equipment number

A : Value specified in **19.1.3(2)**

~~3~~2 The number and strength of mooring lines for barges whose with equipment numbers exceed greater than 2,000 ($EN > 2,000$) are to be in accordance with the following ~~(1) to (4)~~. **Chapter 27, Part C of the Rules.**

~~(1)~~ Minimum breaking strength (MBL) is not to be less than that obtained from the following formula:

$$MBL = 0.14A + 350 \text{ (kN)}$$

~~A : Barge side projected area specified in 5.~~

~~(2)~~ Head lines, stern lines, breast lines or spring lines in the same service are to be of the same characteristics in terms of strength and elasticity. The strength of spring lines is to be the same as that of the head, stern and breast lines.

~~(3)~~ The total number of head, stern and breast lines is to be obtained from the following formula and rounded to the nearest whole number:

$$n = 8.3 \times 10^{-4} A + 6$$

~~(4)~~ The total number of spring lines is to be not less than two.

~~4~~ Notwithstanding the requirement in ~~3~~, the number of head, stern and breast lines may be increased or decreased in conjunction with an adjustment to the strength of the lines. The adjusted strength, MBL^* , is to be taken as:

$$MBL^* = 1.2MBL \cdot n/n^* \leq MBL \text{ (kN)} \text{ for an increased number of lines}$$

$$MBL^* = MBL \cdot n/n^* \text{ (kN)} \text{ for a reduced number of lines}$$

n^* : The increased or decreased total number of head, stern and breast lines

n : The number of lines calculated by the formulae specified in ~~3(3)~~ without rounding.

~~In the same manner, the strength of head, stern and breast lines may be increased or decreased in conjunction with an adjustment to the number of lines. If the number of head, stern and breast lines is increased in conjunction with an adjustment to the strength of the lines, the number of spring lines is to be likewise increased, but rounded up to the nearest even number.~~

~~5 The barge side projected area A_L is to be obtained from the same formula specified in 19.1.3(2). However, following (1) to (4) are to be considered.~~

~~(1) The lightest draft of usual loading conditions is to be considered if the ratio of the freeboard in the lightest draft and the full load condition is equal to or above two.~~

~~(2) Wind shielding of the pier can be considered for the calculation of the side projected area A_L unless the barge is intended to be regularly moored to jetty type piers. A height of the pier surface of 3 m over waterline may be assumed; in other word, the lower part of the side projected area with a height of 3 m above the waterline for the considered loading condition may be disregarded for the calculation of the side projected area A_L .~~

~~(3) Deck cargo is to be included for the determination of side projected area A_L . Deck cargo may not need to be considered if a usual light draft condition without cargo on deck generates a larger side projected area A_L than the full load condition with cargo on deck. The larger of both side projected areas is to be chosen as side projected area A_L .~~

~~(4) Usual loading conditions mean loading conditions as given by the trim and stability booklet that are to be expected to regularly occur during operation and, in particular, excluding light weight conditions, propeller inspection conditions, etc.~~

~~6 The mooring lines specified in 3 and 4 are based on the following environmental conditions:~~

~~(1) Maximum current speed: 1.0 m/s~~

~~(2) Maximum wind speed v_w : 25.0 m/s~~

~~7 Among the environmental conditions specified in 6, the maximum wind speed v_w may be increased and decreased in conjunction with an adjustment to the strength of the lines as the acceptable wind speed v_w^* . In this case, the acceptable wind speed v_w^* is to be obtained from the following formula:~~

$$v_w^* = v_w \sqrt{\frac{MBL^*}{MBL}}$$

MBL^* : The adjusted strength of mooring lines (kN)

~~However, the maximum wind speed v_w can be decreased where maximum breaking strength, MBL , specified in 3(1) is more than 1,275 kN. The acceptable wind speed v_w^* is to be not less than 21 m/s.~~

~~8 The length of mooring lines for barges whose equipment numbers are less than or equal to 2,000 is to be in accordance with Table Q19.2. For barges whose equipment numbers exceed 2,000, the length of mooring lines is to be taken as 200 m.~~

~~9 Application of fibre ropes for mooring lines is to be as deemed appropriate by the Society.~~

~~103 For mooring lines connected with powered winches where the rope is stored on the drum, steel cored wire ropes of suitable flexible construction may be used instead of fibre cored wire ropes subject to the approval by the Society.~~

~~114 The length of individual mooring lines may be reduced by up to 7 % of the lengths given in 8, provided that the actual total length of the stipulated number of mooring lines is not less than that obtained from multiplying the required total length by the number given in 21 or 32.~~

EFFECTIVE DATE AND APPLICATION

1. The effective date of the amendments is 1 January 2022.
2. Notwithstanding the amendments to the Rules, the current requirements apply to ships for which the date of contract for construction* is before the effective date.
* “contract for construction” is defined in the latest version of IACS Procedural Requirement (PR) No.29.

IACS PR No.29 (Rev.0, July 2009)

1. The date of “contract for construction” of a vessel is the date on which the contract to build the vessel is signed between the prospective owner and the shipbuilder. This date and the construction numbers (i.e. hull numbers) of all the vessels included in the contract are to be declared to the classification society by the party applying for the assignment of class to a newbuilding.
2. The date of “contract for construction” of a series of vessels, including specified optional vessels for which the option is ultimately exercised, is the date on which the contract to build the series is signed between the prospective owner and the shipbuilder.
For the purpose of this Procedural Requirement, vessels built under a single contract for construction are considered a “series of vessels” if they are built to the same approved plans for classification purposes. However, vessels within a series may have design alterations from the original design provided:
 - (1) such alterations do not affect matters related to classification, or
 - (2) If the alterations are subject to classification requirements, these alterations are to comply with the classification requirements in effect on the date on which the alterations are contracted between the prospective owner and the shipbuilder or, in the absence of the alteration contract, comply with the classification requirements in effect on the date on which the alterations are submitted to the Society for approval.The optional vessels will be considered part of the same series of vessels if the option is exercised not later than 1 year after the contract to build the series was signed.
3. If a contract for construction is later amended to include additional vessels or additional options, the date of “contract for construction” for such vessels is the date on which the amendment to the contract, is signed between the prospective owner and the shipbuilder. The amendment to the contract is to be considered as a “new contract” to which **1.** and **2.** above apply.
4. If a contract for construction is amended to change the ship type, the date of “contract for construction” of this modified vessel, or vessels, is the date on which revised contract or new contract is signed between the Owner, or Owners, and the shipbuilder.

Note:

This Procedural Requirement applies from 1 July 2009.