# Amendments of the Guidance for Floating Structures

(External Development Review-External Opinion Inquiry)


2024.01.

Hull Rule Development Team

# Main Amendments

## (1) Background of Amendment

1) Deleted of Grade 1/2 for fibre rope and amended to apply the breaking test loads for fibre ropes as an industry standard according to Rules Part 4. (ch.8 sec.6)

## (2) Effective date : ships contracted for construction on or after 1 July 2024

| Present | Amendment | Note |
|---|---|---|
| **CHAPTER 4 MOORING AND ANCHORING, ETC.** | **CHAPTER 4 MOORING AND ANCHORING, ETC.** | |
| **Section 1 Standard for Ship's Facilities** | **Section 1 Standard for Ship's Facilities** | |
| **101. Assessment of total resistances** 〈omitted〉 | **101. Assessment of total resistances** 〈same as present〉 | |
| **102. Standard and provisions for anchor, etc.** | **102. Standard and provisions for anchor, etc.** | |
| **1.** The floating structures are to be provided with anchors, anchor chains, etc. of which strength are not less than total resistance according to **101.** In this case, safety factor, tensile force acting on the anchor chain and mass of anchor are as follows:<br>(1) ~ (4) 〈omitted〉<br>(5) The specification, etc. of the wire rope and fibre rope are to be given in **Table 4.1.3** to **Table 4.1.6.**<br>〈omitted〉 | **1.** The floating structures are to be provided with anchors, anchor chains, etc. of which strength are not less than total resistance according to **101.** In this case, safety factor, tensile force acting on the anchor chain and mass of anchor are as follows:<br>(1) ~ (4) 〈same as present〉<br>(5) The specification, etc. of the wire rope and fibre rope are to be given in **Table 4.1.3** to Table 4.1.5.<br>〈same as present〉 | |
| **Table 4.1.5 Kind of fibre ropes** | **Table 4.1.5 Kind of fibre ropes** | |

| Kind of fibre rope | | | Filament (material) |
|---|---|---|---|
| Hemp rope | | | Manila hemp |
| Synthetic fibre rope | Vinylon rope | Grade 1<br>Grade 2 | Vinylon |
| | Polyethylene rope | Grade 1<br>Grade 2 | Polyethylene |
| | Polyester rope | | Polyester |
| | Polypropylene rope | Grade 1<br>Grade 2 | Polypropylene |
| | Polyamide rope | | Polyamide |

| Kind of fibre rope | | Filament (material) |
|---|---|---|
| Hemp rope | | Manila hemp |
| Synthetic fibre rope | Vinylon rope | Vinylon |
| | Polyethylene rope | Polyethylene |
| | Polyester rope | Polyester |
| | Polypropylene rope | Polypropylene |
| | Polyamide rope | Polyamide |

(NOTES)
1. Fibre ropes not includedin this Table may be in accordance with the relevant industry standard. Industry standard means international standard(ISO etc.) or standards issued by national association(KS, DIN, JMSA etc.) which are recognized in the country where the ship is built.
2. The requirements of breaking tests load for fibre ropes are to comply with **Pt 4, Ch 8, 607.** of the Rules.

Deleted of Grade 1/2 for fibre rope and amended to apply the breaking test loads for fibre ropes as an industry standard according to Rules Part 4. (ch.8 sec.6)

| Present | Amendment | Note |
|---|---|---|

**Table 4.1.6 Breaking test load for fibre ropes (unit : kN)**

| Diameter of rope (mm) | Hemp rope[1] | Synthetic fibre rope | | | | | | | Polyamide[1] |
|---|---|---|---|---|---|---|---|---|---|
| | | Vinylon[1] | | Polyethylene[2] | | Polyester[1] | Polypropylene[2] | | |
| | | Grade 1 | Grade 2 | Grade 1 | Grade 2 | | Grade 1 | Grade 2 | |
| 10 | 7.06 | 9.32 | 15.7 | 9.71 | 12.7 | 15.6 | 10.8 | 12.7 | 18.1 |
| 12 | 9.90 | 13.4 | 21.8 | 13.9 | 17.7 | 22.0 | 15.7 | 17.7 | 27.5 |
| 14 | 13.1 | 17.9 | 28.4 | 18.6 | 23.5 | 29.2 | 20.6 | 23.5 | 36.6 |
| 16 | 16.9 | 22.9 | 36.3 | 23.8 | 29.4 | 37.5 | 26.5 | 29.4 | 46.9 |
| 18 | 21.0 | 28.6 | 45.1 | 29.7 | 37.3 | 46.7 | 32.4 | 37.3 | 58.3 |
| 〈omitted〉 | | | | | | | | | |

(NOTES)
[1] Breaking load at room temperature in dried condition
[2] Breaking load at room temperature after having been immersed in warm water at 35 ± 2 °C for more than 30 minutes

~~**Table 4.1.6 Breaking test load for fibre ropes (unit : kN) 〈deleted〉**~~

| ~~Diameter of rope (mm)~~ | ~~Hemp rope[1]~~ | ~~Synthetic fibre rope~~ | | | | | | | ~~Polyamide[1]~~ |
|---|---|---|---|---|---|---|---|---|---|
| | | ~~Vinylon[1]~~ | | ~~Polyethylene[2]~~ | | ~~Polyester[1]~~ | ~~Polypropylene[2]~~ | | |
| | | ~~Grade 1~~ | ~~Grade 2~~ | ~~Grade 1~~ | ~~Grade 2~~ | | ~~Grade 1~~ | ~~Grade 2~~ | |
| ~~10~~ | ~~7.06~~ | ~~9.32~~ | ~~15.7~~ | ~~9.71~~ | ~~12.7~~ | ~~15.6~~ | ~~10.8~~ | ~~12.7~~ | ~~18.1~~ |
| ~~12~~ | ~~9.90~~ | ~~13.4~~ | ~~21.8~~ | ~~13.9~~ | ~~17.7~~ | ~~22.0~~ | ~~15.7~~ | ~~17.7~~ | ~~27.5~~ |
| ~~14~~ | ~~13.1~~ | ~~17.9~~ | ~~28.4~~ | ~~18.6~~ | ~~23.5~~ | ~~29.2~~ | ~~20.6~~ | ~~23.5~~ | ~~36.6~~ |
| ~~16~~ | ~~16.9~~ | ~~22.9~~ | ~~36.3~~ | ~~23.8~~ | ~~29.4~~ | ~~37.5~~ | ~~26.5~~ | ~~29.4~~ | ~~46.9~~ |
| ~~18~~ | ~~21.0~~ | ~~28.6~~ | ~~45.1~~ | ~~29.7~~ | ~~37.3~~ | ~~46.7~~ | ~~32.4~~ | ~~37.3~~ | ~~58.3~~ |
| ~~〈omitted〉~~ | | | | | | | | | |

~~(NOTES)~~
~~[1] Breaking load at room temperature in dried condition~~
~~[2] Breaking load at room temperature after having been immersed in warm water at 35 ± 2 °C for more than 30 minutes~~

deleted due to decision to follow industry standards