財團法人驗船中心
CR CLASSIFICATION SOCIETY

RULES FOR THE CONSTRUCTION AND CLASSIFICATION OF COAST GUARD SHIPS 2026

AMENDMENT

June 2026

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The following Parts have been amended and the effective dates are:	
Part	**Effective date**
I	1 January, 2027
II	1 January, 2027
III	1 January, 2027

This Amendment and *the Rules for the Construction and Classification of Coast Guard Ships 2026* are to be consolidated and published as *January 2027 Edition*.

AMENDMENT TO "THE RULES FOR THE CONSTRUCTION AND CLASSIFICATION OF COAST GUARD SHIPS 2026"

PART I CLASSIFICATION AND SURVEY

List of major changes in Part I from 2026 edition

1.10.1~1.10.2	Revised
2.6.4(a)	Revised
2.7.2	Revised

Rules for the Construction and Classification of Coast Guard Ships 2026 have been partly amended as follows:

Chapter 1
Classification of Coast Guard Ships

1.10 Suspension and Withdrawal of Class

Paragraphs 1.10.1~1.10.2 have been amended as follows:

1.10.1 In any of the following cases, the class of a ship is liable to be withheld or if already granted, may be withdrawn or expunged from the Register:

(a) The wording, symbols or marks on the certificate ~~is~~ are altered, defaced or obliterated.

(b) Any damage or casualty is done to the hull or machinery to such an extent as affecting her class in the Register and the damage so sustained has been un-repaired or not been repaired to the satisfaction of the Society.

(c) The structure or arrangement of the hull, equipment and machinery have been altered without approval of the Society.

(d) The loading of the ship exceeds the load line assigned by the Society or the freeboard marks have been placed higher on the ship's sides than the positions assigned by the Society.

(e) The applicant fails to pay any survey fees or expenses.

(f) The applicant fails to fulfill the Society's requirements.

(g) The Owner so requests.

~~(h) If the annual survey or intermediate survey is not complete within 3 months of the due date of the survey.~~

1.10.2 Class suspension and cancellation

(a) Class will be suspended automatically ~~in~~ under the following conditions unless the vessel is under attendance for completion of the required survey.

(i) If the ~~a~~ class periodical survey is overdue (Special Survey is to be completed prior to resuming trading).

(ii) If ~~MCS survey or HCS survey~~ Continuous Survey items which are due or overdue at the time of annual survey are not completed and no extension has been granted ~~is over-due~~.

(iii) If other required survey in the Rules is over-due and no extension has been granted. However, over-due of required survey of environmental protection notation as listed in Table I 1-7 will not cause the suspension of class.

(iv) ~~(ii)~~ If any outstanding recommendation is over-due and no extension has been granted.

Class will be reinstated automatically from the date of satisfactory completion of the over-due surveys or the over-due recommendations.

(b) If the Owners failed to apply for a survey on any casualty, damage, operational failure or any repair upon the first opportunity, class may be suspended until ~~the date before~~ the repair survey has been ~~is~~ completed satisfactorily.

(c) Class Maintenance Certificate is not to be issued during the period of class suspension and before the required survey is completed satisfactorily.

(d) Class suspended for over 3 months may result in cancellation of class.

Chapter 2
Survey Requirements of Coast Guard Ships

2.6 Intermediate Surveys

Paragraph 2.6.4(a) has been amended as follows:

2.6.4 Intermediate Survey – machinery

(a) At each Intermediate Survey, all ~~the~~ applicable requirements for Annual Survey are to be complied with.

2.7 Special Surveys

Paragraph 2.7.2 has been amended as follows:

2.7.2 Special Survey–machinery
All applicable requirements for Intermediate Survey are also to be complied with.

AMENDMENT TO "THE RULES FOR THE CONSTRUCTION AND CLASSIFICATION OF COAST GUARD SHIPS 2026"

PART II HULL CONSTRUCTION AND EQUIPMENT

List of major changes in Part II from 2026 edition

25.1.1	Revised
25.1.3	Revised
25.5	Revised
25.5.1(a)	Revised
25.5.2	Revised
25.5.4~25.5.6	Revised
25.5.7~25.5.12	New
Fig. II 25-4	New
25.8.2(b)	Revised
Fig. II 25-4	Renumbered
25.8.3(b)	Revised
Table II 25-1	Revised
30.6.1(b)	Revised
32.2.2(d)(i)	Revised
32.2.2(d)(ii)	Revised
32.2.2(d)(iii)	New

Rules for the Construction and Classification of Coast Guard Ships 2026 have been partly amended as follows:

Chapter 25
Equipment

25.1 General

Paragraph 25.1.1 has been amended as follows:

25.1.1 All ships are to be provided with ~~a~~ complete equipment ~~of~~ including ~~the~~ anchors, ~~the~~ chain cables, ~~the~~ towlines and ~~the~~ mooring ~~rope~~lines in accordance with the following requirements. The letter **E** will be placed after the symbol of classification of hull in the Register Book as **CR100 ✠ E**.

Paragraph 25.1.3 has been amended as follows:

25.1.3 The number and mass of anchors and the length and the size of the chain~~,~~ and the towline~~, and the mooring rope~~ for a classed ship are to be determined from Table II 25-1. The number and length of the mooring line for a classed ship with an equipment number of less than or equal to 2000 (EN ≤ 2000) are to be determined from Table II 25-1, and the number and length of the mooring line for a classed ship with an equipment number greater than 2000 (EN > 2000) are to be determined from 25.5.2 and 25.5.10 to 25.5.12. For ships having equipment numbers not more than 50 or more than 16,000, the number and mass of anchors~~,~~ and chain cables~~ and mooring lines~~ are to be determined by the Society. The total length of chain given in Table II 25-1 is to be divided in approximately equal parts between the two bower anchors.

Section 25.5 has been amended as follows:

25.5 Towlines and Mooring ~~Ropes~~Lines

25.5.1 Material

Paragraph 25.5.1(a) has been amended as follows:

(a) Towlines and mooring ~~ropes~~lines may be of steel wires, natural fibre or synthetic fibre ropes. The breaking strength of the towline ~~and the mooring rope~~ is given in Table II 25-1. The ship design minimum breaking load and number of the mooring lines for ships with an equipment number of less than or equal to 2000 (EN ≤ 2000) are given in Table II 25-1. The ship design minimum breaking load and number of the mooring lines for ships with an equipment number greater than 2000 (EN > 2000) are defined in 25.5.7 to 25.5.12.

(b) Irrespective of the breaking strength, the diameter of the fibre rope is not to be less than 20 mm.

(c) Where it is proposed to use the synthetic fibre rope, the size and construction are to be specially considered.

Paragraph 25.5.2 has been amended as follows:

25.5.2 The lengths of mooring lines for ships with an equipment number of less than or equal to 2000 (EN ≤ 2000) are to be in accordance with Table II 25-1. For ships with an equipment number greater than 2000 (EN > 2000), the length of mooring lines may be taken as 200 m. The length of the individual mooring ~~rope~~line may be reduced by 7% of the ~~Table length~~above given lengths, provided that the actual total length of the stipulated number of the mooring ~~rope~~line is not less than ~~that obtained from the Table~~the required total length.

25.5.3 Towlines are not ~~be~~ required as a condition of classification. The towlines listed in Table II 25-1 are intended as a guide.

Paragraph 25.5.4~25.5.6 have been amended as follows:

25.5.4 Steel wire ropes used for the towline or mooring ~~rope~~line are to be of a flexible construction. Where wire ropes in construction of 6 × 12 and 6 × 24 are used, the diameter of the rope is not to be more than 25 mm and 33 mm respectively, however, the construction of 6 × 30 and 6 × 37, any diameter is permitted.

25.5.5 For ships with an equipment number of less than or equal to 2000 (EN ≤ 2000) having an A/EN ratio greater than 0.9, the number of mooring ~~ropes~~lines given in Table II 25-1 is to be increased by the number given below:

A/EN Ratio	Increase No. of Mooring ~~Rope~~Line
1.1 ≥ A/EN > 0.9	1
1.2 ≥ A/EN > 1.1	2
A/EN > 1.2	3

where:

A = The profile area defined in 25.2 of this Chapter.

EN = Equipment number determined by 25.2 of this Chapter.

25.5.6 It is the responsibility of the owner to replace or make good towlines and mooring ~~ropes~~lines as opportunity occurs.

Paragraph 25.5.7~25.5.12 have been added as follows:

25.5.7 The ship design minimum breaking load of mooring lines and the number of head, stern and breast lines (see Fig. II 25-4) for ships with an equipment number greater than 2000 (EN > 2000) are based on the side-projected area A_1. Side-projected area A_1 is to be calculated similar to the side-projected area A according to 25.2.1 but considering the following conditions:

(a) The lightest ballast draft is to be considered for the calculation of the side-projected area A_1. For ship types having small variation in the draft, the side-projected area A_1 may be calculated using the summer load waterline.

(b) Wind shielding of the pier can be considered for the calculation of the side-projected area A_1 unless the ship is intended to be regularly moored to jetty-type piers. A height of the pier surface of 3 m above the waterline may be assumed, i.e. 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_1.

(c) Deck cargoes as given by the nominal capacity condition (see note) are to be included for the determination of side-projected area A_1. For the condition with cargo on deck, the summer load waterline may be considered. Deck cargoes may not need to be considered if ballast draft condition generates a larger side-projected area A_1 than the full load condition with cargoes on deck. The larger of both side-projected areas is to be chosen as side-projected area A_1.

Note:

The nominal capacity condition is defined as the theoretical condition where the maximum possible deck cargoes are included in the ship arrangement in their respective positions.

25.5.8 The mooring lines for ships with an equipment number greater than 2000 (EN > 2000) as given hereunder are based on a maximum current speed of 1.0 m/s and the following maximum wind speed v_w, in m/s:

$v_w = 25$

The wind speed is considered representative of a 30 second mean speed from any direction and at a height of 10 m above the ground. The current speed is considered representative of the maximum current speed acting on bow or stern (±10°) and at a depth of one-half of the mean draft. Furthermore, it is considered that ships are moored to solid piers that provide shielding against cross current.

Additional loads caused by, for example, higher wind or current speeds, cross currents, additional wave loads, or reduced shielding from non-solid piers may need to be particularly considered. Furthermore, it is to be observed that unbeneficial mooring layouts can considerably increase the loads on single mooring lines.

Notes:

The following is defined with respect to the purpose of mooring lines, see also Fig. II 25-4:

1. Breast line: A mooring line that is deployed perpendicular to the ship, restraining the ship in the off-berth direction.
2. Spring line: A mooring line that is deployed almost parallel to the ship, restraining the ship in fore or aft direction.
3. Head/Stern line: A mooring line that is oriented between longitudinal and transverse direction, restraining the ship in the off-berth and in fore or aft direction. The amount of restraint in fore or aft and off-berth direction depends on the line angle relative to these directions.

Fig. II 25-4 has been added as follows:

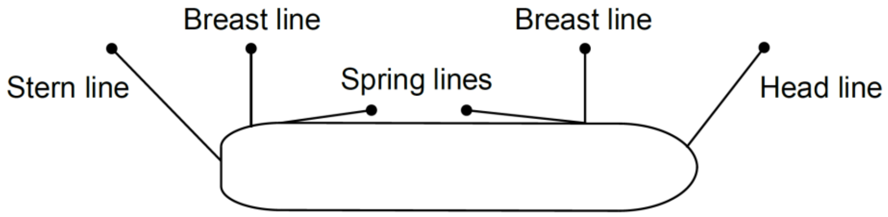

Fig. II 25-4
Breast Line, Spring Line, Head/Stern Line

25.5.9 The ship design minimum breaking load, in kN, of the mooring lines for ships with an equipment number greater than 2000 (EN > 2000) is to be taken as:

$$MBL_{SD} = 0.1 \cdot A_1 + 350 \quad kN$$

The ship design minimum breaking load may be limited to 1275 kN (130 t). However, in this case the moorings are to be considered as not sufficient for environmental conditions given in 25.5.8. For these ships, the acceptable wind speed v_w^*, in m/s, can be estimated as follows:

$$v_w^* = v_w \cdot \sqrt{\frac{MBL_{SD}^*}{MBL_{SD}}}$$

where:

v_w	=	wind speed as per 25.5.8
MBL_{SD}^*	=	ship design minimum breaking load of the mooring lines intended to be supplied
MBL_{SD}	=	ship design minimum breaking load according to the above formula

However, the ship design minimum breaking load is not to be taken less than corresponding to an acceptable wind speed of 21 m/s:

$$MBL_{SD}^* \geq \left(\frac{21}{v_w}\right)^2 \cdot MBL_{SD}$$

If lines are intended to be supplied for an acceptable wind speed v_w^* higher than v_w as per 25.5.8, the ship design minimum breaking load is to be taken as:

$$MBL_{SD}^* = \left(\frac{v_w^*}{v_w}\right)^2 \cdot MBL_{SD}$$

25.5.10 The total number of head, stern and breast lines for ships with an equipment number greater than 2000 (EN > 2000) is to be taken as:

$n = 8.3 \cdot 10^{-4} \cdot A_1 + 6$

The total number of head, stern and breast lines is to be rounded to the nearest whole number.

25.5.11 The number of head, stern and breast lines may be increased or decreased in conjunction with an adjustment to the ship design minimum breaking load of the lines. The adjusted ship design minimum breaking load, MBL_{SD}^{**}, is to be taken as:

$MBL_{SD}^{**} = 1.2 \cdot MBL_{SD} \cdot n/n^{**} \leq MBL_{SD}$ for increased number of lines

$MBL_{SD}^{**} = MBL_{SD} \cdot n/n^{**}$ for reduced number of lines

where MBL_{SD} is MBL_{SD} or MBL_{SD}^{*} specified in 25.5.9, as appropriate; n^{**} is the increased or decreased total number of head, stern and breast lines, and n is the number of lines as calculated according to 25.5.10 without rounding.

The ship design minimum breaking load of head, stern, and breast lines may be increased or decreased in conjunction with an adjustment to the number of lines.

25.5.12 The total number of spring lines is not to be taken less than:

two lines where the equipment number is less than 5000 (EN < 5000); and

four lines where the equipment number is 5000 or greater (EN ≥ 5000).

The ship design minimum breaking load of spring lines is to be the same as that of the head, stern and breast lines. If the number of head, stern and breast lines is increased in conjunction with an adjustment to the ship design minimum breaking load of the lines, the number of spring lines is to be taken as follows, but rounded up to the nearest even number:

$n_S^{*} = MBL_{SD} \ / \ MBL_{SD}^{**} \cdot n_s$

where MBL_{SD} is MBL_{SD} or MBL_{SD}^{*} specified in 25.5.9, as appropriate; MBL_{SD}^{**} is the adjusted ship design minimum breaking load of lines as specified in 25.5.11; n_s is the number of spring lines as given in 25.5.12 and n_S^{*} is the increased number of spring lines.

25.8 Towing and Mooring Fittings

25.8.2 Towing Fittings

Paragraph 25.8.2(b) has been amended as follows:

(b) Design Load

Design loads, see Fig. II 25-~~4~~5, for towing fittings and their supporting structures are to be as specified in (i) to (vi) below:

(i) For normal towing operations (e.g. harbour / manoeuvring), the design load on the line (see Fig. II 25-~~4~~5) is to be 1.25 times the intended maximum towing load.

(ii) For other types of towing (e.g. escort), the design load on the line is to be the breaking strength of the towing line specified in Table II 25-1 according to the equipment number determined in 25.2 of this Chapter.

(iii) The design load on fittings is to take into account all acting loads.

(iv) The point where the towing force acts on towing fittings is to be taken as the attachment point of the towing line.

(v) The design load on fittings is to take into account the total design load on the line specified in (i) and (ii), but need not exceed twice the design load on the line.

(vi) If the design load on fittings specified in (ii) to (v) is less than the intended towing load stipulated in the construction specifications for the towing fittings and their supporting structures used for towing operations specified in (ii), the design load on fittings is to be not less than the intended towing load.

Fig. II 25-4 has been renumbered as follows:

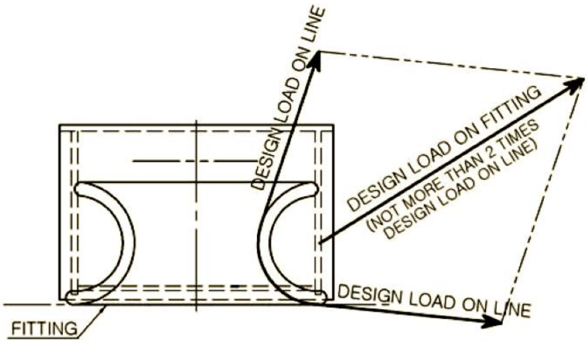

Fig. II 25-~~4~~5
Design Load

25.8.3 Mooring Fittings

Paragraph 25.8.3(b) has been amended as follows:

(b) Design Load

Design loads, see Fig. II 25-~~4~~5, for mooring fittings and their supporting structures are to be as specified in (i) to (vii) below:

(i) The design load on the line (see Fig. II 25-~~4~~5) is to be ~~1.25~~ 1.15 times the ~~breaking strength~~ship design minimum breaking load of the mooring line specified in ~~Table II 25-1~~ 25.5 according to the equipment number determined in 25.2.

(ii) The design load on fittings is to take into account all acting loads.

(iii) The point where the mooring force acts on mooring fittings is to be taken as the attachment point of the mooring line.

(iv) The design load on fittings is to take into account the total design load on the line specified in (i) (see Fig. II 25-~~4~~5), but need not exceed twice the design load on the line.

(v) If the design load on fittings specified in (i) to (iv) is less than 1.25 times the intended mooring load stipulated in the construction specifications for the mooring fittings and their supporting structures used for mooring operations specified in (i), the design load on the fittings is to be at least 1.25 times the intended mooring load.

(vi) The design load applied to supporting hull structures for mooring winches is to be 1.25 times the intended maximum brake holding load.

(vii) The design load applied to supporting hull structures for capstans is to be 1.25 times the intended maximum hauling-in force.

Table II 25-1 has been amended as follows:

Table II 25-1
Anchor, Chain Cable and Ropes

Equipment number		Equipment numeral	Bower anchor		Stream anchor		Stud link chain cable for bower anchors				Wire rope or chain for stream anchor		Tow line (1 length per ship)		Mooring ~~ropes~~lines[1]		
			Number	Mass per anchor	Number	Mass per anchor	Total length	Nominal diameter (mm)			Length	Breaking strength	Length	Breaking Strength	Number	Length of each line ~~rope~~	~~Breaking strength~~Ship design minimum breaking load
Over	Up to			kg		kg	m	Grade E1	Grade E2	Grade E3	m	kN	m	~~K~~kN		m	kN
50	70	E51	2	180	1	60	220	14	12.5		80	65	180	98	3	80	~~34~~37
70	90	E52	2	240	1	80	220	16	14		85	74	180	98	3	100	~~37~~40
90	110	E53	2	300	1	100	247.5	17.5	16		85	81	180	98	3	110	~~39~~42
110	130	E54	2	360	1	120	247.5	19	17.5		90	89	180	98	3	110	~~44~~48
130	150	E55	2	420	1	140	275	20.5	17.5		90	98	180	98	3	120	~~49~~53
150	175	E56	2	480	1	165	275	22	19		90	108	180	98	3	120	~~54~~59
175	205	E57	2	570	1	190	302.5	24	20.5		90	118	180	112	3	120	~~59~~64
205	240	E58	2	660			302.5	26	22	20.5			180	129	4	120	~~64~~69
240	280	E59	2	780			330	28	24	22			180	150	4	120	~~69~~75
280	320	E60	2	900			357.5	30	26	24			180	174	4	140	~~74~~80
320	360	E61	2	1020			357.5	32	28	24			180	207	4	140	~~78~~85
360	400	E62	2	1140			385	34	30	26			180	224	4	140	~~88~~96
400	450	E63	2	1290			385	36	32	28			180	250	4	140	~~98~~107
450	500	E64	2	1440			412.5	38	34	30			180	277	4	140	~~108~~117
500	550	E65	2	1590			412.5	40	34	30			190	306	4	160	~~123~~134
550	600	E66	2	1740			440	42	36	32			190	338	4	160	~~133~~143
600	660	E67	2	1920			440	44	38	34			190	~~371~~370	4	160	~~147~~160
660	720	E68	2	2100			440	46	40	36			190	406	4	160	~~157~~171
720	780	E69	2	2280			467.5	48	42	36			190	441	4	170	~~172~~187
780	840	E70	2	2460			467.5	50	44	38			190	~~480~~479	4	170	~~186~~202
840	910	E71	2	2640			467.5	52	46	40			190	518	4	170	~~201~~218
910	980	E72	2	2850			495	54	48	42			190	559	4	170	~~216~~235
980	1060	E73	2	3060			495	56	50	44			200	603	4	180	~~230~~250
1060	1140	E74	2	3300			495	58	50	46			200	647	4	180	~~250~~272
1140	1220	E75	2	3540			522.5	60	52	46			200	691	4	180	~~270~~293
1220	1300	E76	2	3780			522.5	62	54	48			200	738	4	180	~~284~~309
1300	1390	E77	2	4050			522.5	64	56	50			200	786	4	180	~~309~~336

Table II 25-1
Anchor, Chain Cable and Ropes (continued)

Equipment number		Equipment numeral	Bower anchor		Stream anchor		Stud link chain cable for bower anchors				Wire rope or chain for stream anchor		Tow line (1 length per ship)		Mooring ~~ropes~~lines[1]		
			Number	Mass per anchor	Number	Mass per anchor	Total length	Nominal diameter (mm)			Length	Breaking strength	Length	Breaking strength	Number	Length of each line ~~rope~~	~~Breaking strength~~Ship design minimum breaking load
								Grade E1	Grade E2	Grade E3							
Over	Up to			kg		kg	m				m	kN	m	kN		m	kN
1390	1480	E78	2	4320			550	66	58	50			200	836	4	180	~~324~~352
1480	1570	E79	2	4590			550	68	60	52			220	888	5	190	~~324~~352
1570	1670	E80	2	4890			550	70	62	54			220	941	5	190	~~333~~362
1670	1790	E81	2	5250			577.5	73	64	56			220	1024	5	190	~~353~~384
1790	1930	E82	2	5610			577.5	76	66	58			220	1109	5	190	~~378~~411
1930	2080[1]	E83	2	6000			577.5	78	68	60			220	1168	5[2]	190[2]	~~402~~437[2]
2080	2230	E84	2	6450			605	81	70	62			240	1259	~~5~~[2]	~~200~~[2]	~~422~~[2]
2230	2380	E85	2	6900			605	84	73	64			240	1356	~~5~~[2]	~~200~~[2]	~~451~~[2]
2380	2530	E86	2	7350			605	87	76	66			240	1453	~~5~~[2]	~~200~~[2]	~~480~~[2]
2530	2700	E87	2	7800			632.5	90	78	68			260	1471	~~6~~[2]	~~200~~[2]	~~480~~[2]
2700	2870	E88	2	8300			632.5	92	81	70			260	1471	~~6~~[2]	~~200~~[2]	~~490~~[2]
2870	3040	E89	2	8700			632.5	95	84	73			260	1471	~~6~~[2]	~~200~~[2]	~~500~~[2]
3040	3210	E90	2	9300			660	97	84	76			280	1471	~~6~~[2]	~~200~~[2]	~~520~~[2]
3210	3400	E91	2	9900			660	100	87	78			280	1471	~~6~~[2]	~~200~~[2]	~~554~~[2]
3400	3600	E92	2	10500			660	102	90	78			280	1471	~~6~~[2]	~~200~~[2]	~~588~~[2]
3600	3800	E93	2	11100			687.5	105	92	81			300	1471	~~6~~[2]	~~200~~[2]	~~618~~[2]
3800	4000	E94	2	11700			687.5	107	95	84			300	1471	~~6~~[2]	~~200~~[2]	~~647~~[2]
4000	4200	E95	2	12300			687.5	111	97	87			300	1471	~~7~~[2]	~~200~~[2]	~~647~~[2]
4200	4400	E96	2	12900			715	114	100	87			300	1471	~~7~~[2]	~~200~~[2]	~~657~~[2]
4400	4600	E97	2	13500			715	117	102	90			300	1471	~~7~~[2]	~~200~~[2]	~~667~~[2]
4600	4800	E98	2	14100			715	120	105	92			300	1471	~~7~~[2]	~~200~~[2]	~~677~~[2]
4800	5000	E99	2	14700			742.5	122	107	95			300	1471	~~7~~[2]	~~200~~[2]	~~686~~[2]
5000	5200	E100	2	15400			742.5	124	111	97			300	1471	~~8~~[2]	~~200~~[2]	~~686~~[2]
5200	5500	E101	2	16100			742.5	127	111	97			300	1471	~~8~~[2]	~~200~~[2]	~~696~~[2]
5500	5800	E102	2	16900			742.5	130	114	100			300	1471	~~8~~[2]	~~200~~[2]	~~706~~[2]
5800	6100	E103	2	17800			742.5	132	117	102			300	1471	~~9~~[2]	~~200~~[2]	~~706~~[2]
6100	6500	E104	2	18800			742.5		120	107					~~9~~[2]	~~200~~[2]	~~716~~[2]
6500	6900	E105	2	20000			770		124	111					~~9~~[2]	~~200~~[2]	~~726~~[2]
6900	7400	E106	2	21500			770		127	114					~~10~~[2]	~~200~~[2]	~~726~~[2]
7400	7900	E107	2	23000			770		132	117					~~11~~[2]	~~200~~[2]	~~726~~[2]

Table II 25-1
Anchor, Chain Cable and Ropes (continued)

Equipment number		Equipment numeral	Bower anchor		Stream anchor		Stud link chain cable for bower anchors				Wire rope or chain for stream anchor		Tow line (1 length per ship)		Mooring ~~ropes~~lines(1)		
			Number	Mass per anchor	Number	Mass per anchor	Total length	Nominal diameter (mm)			Length	Breaking strength	Length	Breaking strength	Number	Length of each line ~~rope~~	~~Breaking strength~~Ship design minimum breaking load
Over	Up to			kg		kg	m	Grade E1	Grade E2	Grade E3	m	kN	m	kN		m	kN
7900	8400	E108	2	24500			770		137	122					~~11~~(2)	~~200~~(2)	~~735~~(2)
8400	8900	E109	2	26000			770		142	127					~~12~~(2)	~~200~~(2)	~~735~~(2)
8900	9400	E110	2	27500			770		147	132					~~13~~(2)	~~200~~(2)	~~735~~(2)
9400	10000	E111	2	29000			770		152	132					~~14~~(2)	~~200~~(2)	~~735~~(2)
10000	10700	E112	2	31000			770			137					~~15~~(2)	~~200~~(2)	~~735~~(2)
10700	11500	E113	2	33000			770			142					~~16~~(2)	~~200~~(2)	~~735~~(2)
11500	12400	E114	2	35500			770			147					~~17~~(2)	~~200~~(2)	~~735~~(2)
12400	13400	E115	2	38500			770			152					~~18~~(2)	~~200~~(2)	~~735~~(2)
13400	14600	E116	2	42000			770			157					~~19~~(2)	~~200~~(2)	~~735~~(2)
14600	16000	E117	2	46000			770			162					~~21~~(2)	~~200~~(2)	~~735~~(2)

Note:

(1) The mooring lines are to be selected only for ships with an equipment number less than or equal to 2000 (EN $\le$ 2000).

(2) For ships with an equipment number greater than 2000 (EN > 2000), see 25.5.2 and 25.5.7 to 25.5.12.

Chapter 30
Intact Stability

30.6 Stability Criteria in Wind and Waves

Paragraph 30.6.1(b) has been amended as follows:

30.6.1 Stability curves and wind-heeling moment lever curves of ships are to comply with the following requirements in Fig. II 30-2.

(b) Area "b" is not to be less than area "a".

where:

l_{w1} = Heeling moment lever caused by steady wind (m) given by the following formula:

$= \dfrac{0.0514AZ}{W}$

A = Projected lateral area of hull and cargoes on deck above waterline (m^2).

Z = Vertical distance between the centre of "A" and the centre of underwater projected lateral area of hull (m). In general, the centre of underwater projected lateral area may be approximated to locate at half the draught.

W = Displacement (ton).

l_{w2} = Heeling moment lever caused by gust (m) given by the following formula:

$= 1.5 l_{w1}$

a = Area encircled by stability curve, l_{w2} and θ_r (m · rad).

b = Area encircled by stability curve, l_{w2} and θ_2 (m · rad).

θ_r = Angle of rolling stop motion (degree). In general, it may be given by the formula $(\theta_0 - \theta_1)$.

θ_c = Heeling angle at the second intersection between heeling moment lever (l_{w2}) and stability curve (degree).

θ_2 = Heeling angle (degree) to be taken of whichever is the least, down flooding angle, θ_c or 50°.

θ_0 = Angle of heel under action of steady wind (degree).

θ_1 = Angle of roll to windward due to wave action (degree) given by the following formula :

$= 109 x_1 x_2 k \sqrt{rs}$

x_1 = Values obtained from Table II 30-1 according to the value of B/d. In case the value of B/d becomes intermediate, values are to be determined by interpolation.

x_2 = Values obtained from Table II 30-2 according to the value of C_b. In case the value of C_b becomes intermediate, values are to be determined by interpolation.

C_b = Block coefficient given by the following formula:

$= \dfrac{W}{1.025LBd}$

L = Length of the ship at waterline (m)

k = Values determined as follows;

= 1.0 for round-bilged ships having neither bilge keels nor bar keels,

= 0.7 for ships with sharp bilges,

For ships with bilge keel and/or bar keels: Values obtained from Table II 30-3 according to the value of $\frac{100A_k}{LB}$.

In case $\frac{100A_k}{LB}$ becomes intermediate, values are to be determined by interpolation.

A_k = Total area of bilge keels, projected lateral area of bar keels or sum of those areas (m^2).

r = Values obtained from the following formula.
~~However, the value of r need not be taken over 1.0.~~

$= 0.73 + 0.6\frac{OG}{d}$

OG = Distance between the centre of gravity and the waterline (m), and is taken as positive when the centre of gravity is above waterline.

s = Values obtained from Table II 30-4 according to the value of T. In case T becomes intermediate, values are to be determined by interpolation.

T = Rolling period (seconds) obtained from the following formula,

$$= \frac{2B}{\sqrt{G_0M}}\left(0.373 + 0.023\frac{B}{d} - 0.043\frac{L}{100}\right)$$

G_0M = As specified in 30.5.

Chapter 32
Pollution Prevention Notations For Ships

32.2 PP Notation

32.2.2 Control of discharges into the Air

This section addresses requirements aimed towards the prevention of pollution ~~to~~ of the air environment ~~discharged~~ from ships.

(d) Ozone depleting substances (ODS)

This subsection is aimed towards the prevention of pollution to the air environment by ozone depleting substances from ships.

Ships are to comply with the requirements of Regulation 12 of MARPOL Annex VI.

Paragraph 32.2.2(d)(i) has been amended as follows:

(i) Refrigerant Systems

The requirements of this subsection are applicable to refrigerant systems onboard ships, excluding permanently sealed equipment, where there are no refrigerant charging connections or potentially removable components containing ozone depleting substances. Refrigerant systems are to be provided with environmentally friendly refrigerants in accordance with the requirements of Regulation 12 of MARPOL Annex VI. ~~Furthermore, the use of refrigerants with global warming potential (GWP) greater than 3000 are prohibited.~~ Annual refrigerant leakage is to be not more than 10% of the total refrigerant charge of each system. An appropriate leak detection system is to be provided to continuously monitor spaces into which the refrigerant could leak. Further, an alarm is to be given in a manned location when the refrigerant concentration exceeds a predetermined limit (for example, 25 ppm for ammonia or 300 ppm for halogenated fluorocarbons).

(1) In addition to complying with the requirements of 32.2.2(d)(i), vessels that meet the following requirements regarding the Global Warming Potential (GWP) of the refrigerants used may be assigned the additional notation **GWP(R2000)**, affixed after the environmental protection notation **PP**, e.g.: **PP+GWP(R2000)**.

a) The refrigerants used in the refrigerant system shall have an Ozone Depleting Potential (ODP) of zero and a Global Warming Potential (GWP) of less than 2000. At the initial review, the details and documents related to refrigerants used on board ships are to be submitted to demonstrate compliance with these requirements.

Paragraph 32.2.2(d)(ii) has been amended as follows:

(ii) Fire-fighting Systems

This subsection addresses requirements aimed at reducing the potential adverse effects on the air environment by fire-fighting systems onboard ships. The use of Halons or perfluorocarbon mediums is not permitted in fixed fire extinguishing systems or portable fire extinguishers. ~~Alternative mediums to Halons or perfluorocarbons may be acceptable, provided they contain no ozone depleting substances or have a GWP less than 4000.~~

(1) In addition to complying with the requirements of 32.2.2(d)(ii), vessels that meet the following requirements regarding the Global Warming Potential (GWP) of the extinguishing agents used may be assigned the additional notation **GWP(F2000)**, affixed after the environmental protection notation **PP**, e.g.: **PP+GWP(F2000)**.

a) The extinguishing agents used in fixed fire extinguishing systems and portable fire extinguishers shall have an Ozone Depleting Potential (ODP) of zero and a Global

Warming Potential (GWP) of less than 2000. At the initial review, the details and documents related to extinguishing agents used on board ships are to be submitted to demonstrate compliance with these requirements.

Paragraph 32.2.2(d)(iii) has been added as follows:

(iii) Where the vessel complies with both the requirements of 32.2.2(d)(i)(1) and 32.2.2(d)(ii)(1), the additional notations **R2000** and **F2000** will be placed within parentheses and separated by a comma ",", e.g.: **PP+GWP(R2000, F2000)**.

AMENDMENT TO "THE RULES FOR THE CONSTRUCTION AND CLASSIFICATION OF COAST GUARD SHIPS 2026"

PART III HULL CONSTRUCTION AND EQUIPMENT FOR HIGH-SPEED CRAFT

List of major changes in Part III from 2026 edition

2.2.1(a)	Revised
2.2.7(c)	Revised
2.2.8(a)(ii)	Revised
2.4.1(b)(ii)	Revised
2.11.4	Revised
Table III 2-33	Revised

Rules for the Construction and Classification of Coast Guard Ships 2026 have been partly amended as follows:

Chapter 2
Hull Structures and Arrangements

2.2 Design Pressures

Paragraph 2.2.1(a) has been amended as follows:

2.2.1 Monohulls

The bottom and side pressures are to be checked using the displacement (Δ), speed (V), draft (d), and running trim (τ) in the full load, half load, and light load conditions. If the craft is receiving a freeboard assignment, the parameters used in the full load condition are to coincide with the assigned freeboard. If the craft is not receiving a freeboard assignment, the parameters used in the full load condition are to correspond to the condition of the craft with the maximum operating deadweight. The parameters used in the half load condition are to correspond to the condition of the craft with 50% of the maximum operating deadweight, and the parameters used in the light load condition are to correspond to the condition of the craft with 10% of the maximum operating deadweight plus the maximum speed of the craft.

(a) Bottom Design Pressure

The bottom design pressure is to be the greater of those, as given in the following equations, for the location under consideration. Bottom structure design pressures are dependent upon the service in which the craft operates. The bottom design pressure applies to hull bottoms below the chines or the upper turn of the bilge.

(i) Bottom Slamming Pressure

$$P_{bcg} = \frac{N_1 \Delta}{L_w B_w}\left[1 + n_{cg}\right] F_D \qquad \text{kN/m}^2$$

$$P_{bxx} = \frac{N_1 \Delta}{L_w B_w}\left[1 + n_{xx}\right]\left[\frac{70 - \beta_{bx}}{70 - \beta_{cg}}\right] F_D \qquad \text{kN/m}^2$$

(ii) Bottom Slamming Pressure for Craft Less Than 61 meters~~,~~. The design pressure may be:

$$P_{bxx} = \frac{N_1 \Delta}{L_w B_w}\left[1 + n_{cg}\right] F_D F_V \qquad \text{kN/m}^2$$

(iii) Hydrostatic Pressure

$$P_d = N_3 (0.64\text{H} + \text{d}) \qquad \text{kN/m}^2$$

where:

P_{bcg}	=	bottom design pressure at LCG	kN/m^2
P_{bxx}	=	bottom design pressure at any section clear of LCG	kN/m^2
P_d	=	bottom design pressure based on hydrostatic forces	kN/m^2
n_{cg}	=	the vertical acceleration of the craft as determined by a model test, theoretical computation, or service experience (see 1.3 of this Part). If this information is not readily available during the early stages of design, the following formula utilizing the average 1/100 highest vertical accelerations at LCG can be used:	

$$n_{cg} = N_2\left[\frac{12h_{\frac{1}{3}}}{B_w} + 1.0\right]\tau[50 - \beta_{cg}]\frac{V^2(B_w)^2}{\Delta} \quad \text{g's}$$

note that g's are the dimensionless ratio of the acceleration at sea level (9.8m/s^2)
The vertical acceleration, n_{cg}, is typically not to be taken greater than the following:

$$n_{cg} = 1.39 + 0.256\frac{V}{\sqrt{L}} \quad \text{g's}$$

for speeds greater than $18\sqrt{L}$, the maximum n_{cg} is 6.0 g (7.0 g for search and rescue type craft)
The vertical accelerations are typically not to be taken less than 1.0 g for craft lengths less than 24 m and 2.0 g for craft lengths less than 12 m. Intermediate values can be determined by interpolation. The vertical acceleration will need to be specially considered for craft fitted with seat belts or special shock mitigation seats
In addition to the above, the n_{cg} is to comply with 2.2.7 of this Chapter.

n_{xx} = average of the 1/100 highest vertical accelerations, at any section clear of LCG can be determined by the following equation:

= $n_{cg}K_V$ g's

N_1 = 0.1

N_2 = 0.0078

N_3 = 9.8

Δ = displacement at design waterline kg

L_w = craft length on the waterline with the craft at the design displacement and in the displacement mode m

B_w = maximum waterline beam m

H = wave parameter, 0.0172L + 3.653, generally not to be taken less than the maximum survival wave height for the craft m

$h_{1/3}$ = significant wave height, see Table III 2-3 of this Chapter m

τ = running trim at V, in degrees, but generally not to be taken less than 4° for craft L < 50 m, nor less than 3° for L > 50 m. Special consideration will be given to~~,~~ designers' values predicted from model tests. °

β_{cg} = ~~D~~deadrise of bottom at LCG, in degrees, generally not to be taken less than 10° nor more than 30° °

β_{bx} = deadrise of bottom at any section clear of LCG, in degrees, not to be taken less than 10° nor greater than 30°, see Fig. III 2-5 of this Chapter °

V = craft design speed in knots, see Table III 2-3 of this Chapter knot

F_D = design area factor given in Fig. III 2-7 of this Chapter for given values of A_D and A_R
Generally not to be taken less than 0.4. See Table III 2-4 of this Chapter for minimum values of F_D for craft less than 24 m in length

F_V = vertical acceleration distribution factor given in Fig. III 2-9 of this Chapter

K_V = vertical acceleration distribution factor given in Fig. III 2-8 of this Chapter

A_D = design area. For plating it is the actual area of the shell plate panel but not to be taken as more than 2.5s^2. For longitudinals, stiffeners, transverses and girders it is the shell area supported by the longitudinal stiffener, transverse or girder; for transverses and girders the area used need not be taken less than 0.33l^2. cm^2

A_R = reference area, 6.95Δ/d cm^2

s = spacing of longitudinals or stiffeners cm

l = unsupported span of internals, see 2.4.1.(b)(i) of this Chapter cm

d = stationary draft. Vertical measured from baseline to design waterline at middle of design waterline length, but generally not to be taken as less than 0.04L. m

Paragraph 2.2.7(c) has been amended as follows:

2.2.7 Vertical acceleration at LCG

(a) The design vertical acceleration at LCG, n_{cg}, is defined by the designer and corresponds to the average of the 1/100 highest accelerations in the most severe sea conditions expected, in addition to the gravity acceleration. Generally, it is to be not less than:

$$n_{cg} = Tsc \cdot Sac \cdot \frac{V}{\sqrt{L}} \qquad g's$$

where:

Tsc = 1.333

Sac = In general, Sac for significant wave heights (Hs) ≥ 4.0 m should not be lower than:

$$0.2 + \frac{0.6}{V/\sqrt{L}}$$, but not less than 0.32.

Note: Other than above Tsc and Sac are subject to special consideration by the Society.

(b) Lower n_{cg} values may be accepted at the Society's discretion, if justified, on the basis of model tests and full-scale measurements.

(c) In general, ~~A~~an acceleration greater than $n_{cg} = 1.5 \cdot Tsc$ may not be adopted for the purpose of defining limit operating conditions.

Paragraph 2.2.8(a)(ii) has been amended as follows:

2.2.8 Assessment of limit operating conditions

(a) General

(i) It is the designer's responsibility to specify the format and the values of the limit operating conditions. Their format may be for example a relation between speed and significant wave height which ~~ascertains~~ ensures that actual loads are less than ~~the one~~ those used for structural design. They must include the maximum allowed significant wave height H_{sm} consistent with the structural strength. H_{sm} is not to be greater than the value calculated according to 2.2.8(a)(ii) below.

(ii) It is assumed that, on the basis of weather forecast, the craft does not encounter, within the time interval required for the voyage, sea states with significant wave heights, in m, greater than the following:

$$H_{sm} = 5 \cdot \frac{n_{cg}}{V/\sqrt{L}} \cdot \frac{L}{6 + 0.14 \cdot L}$$

where ~~vertical acceleration~~ n_{cg} and V ~~is~~are defined in 2.2.1(a) of this Chapter.

2.4 Framing

Paragraph 2.4.1(b)(ii) has been amended as follows:

2.4.1 Aluminum and Steel

(b) Strength and Stiffness

(ii) Moment of Inertia

The moment of inertia of each longitudinal, stiffener, transverse web, stringer or girder, including the plating to which it is attached, is to be not less than that given by the following equation:

$$I = \frac{260psl^3}{K_4E} \qquad \cancel{mm}cm^4$$

where

K_4 = 0.0015 for shell and deep tank girders, stringers and transverse webs, constructed of steel.
= 0.0011 for deck girders and transverses constructed of steel.
= 0.0021 for shell and deep tank stringers and transverse webs constructed of aluminum.
= 0.0018 for deck girders and transverses constructed of aluminum.

E = 2.06×10^5 for steel N/mm^2
= 6.9×10^4 for aluminum N/mm^2

p, s and *l* are as given in 2.4.1(b)(i) of this Chapter.

2.11 Bulwarks, Rails, Ports, Portlights, Windows, Ventilators, Tank Vents and Overflows

Paragraph 2.11.4 has been amended as follows:

2.11.4 Windows

(a) Construction

Windows are defined as being rectangular openings generally, or oval, openings with an area exceeding 0.16 m^2.

Windows to spaces within enclosed superstructure and deckhouses are to be fitted with strong steel, aluminum or other approved material, storm shutters. Windows are not to be fitted below the freeboard deck. Windows are not to be fitted in the first tier end bulkheads or sides of enclosed superstructures. Windows are not to be fitted in first tier deckhouses considered buoyant in the stability calculations or protecting openings leading below. Window frames are to be of steel or other approved material and are to be attached by through bolts or equivalent.

Windows on the second tier above the freeboard deck may not require deadlights depending upon the arrangement of the craft. Window frames are to be metal or other ~~approval~~ approved material, and effectively secured to the adjacent structure. Windows are to have a minimum of a 1/4 inch radius at all corners. The glazing is to be set into the frames in a suitable, approved packing or compound. Special consideration is to be given to angled house fronts.

For externally fitted storm covers an arrangement for safe and easy access is to be provided.

For craft limited in service range and weather conditions and not receiving a Load Line Certificate, consideration will be given to the omission of deadlights depending on the location, type and thickness of the windows.

In addition to the above, where the craft is assigned a load line in accordance with the International Convention on Load Lines, 1966 (as amended), windows and storm shutters are to meet the requirements of Regulation 23 of the Convention.

The thickness of the window is not to be less than that obtained from 2.11.4(a)(i), 2.11.4(a)(ii) or 2.11.4(a)(iii) below, whichever is greater.

(i)

$$t = s\left(\sqrt{\frac{pk}{1000\sigma_a}}\right) \quad \text{mm}$$

(ii)

$$t = s\left(\sqrt[3]{\frac{pk_1}{20E}}\right) \quad \text{mm}$$

(iii) Minimum Tempered Monolithic Glass Thicknesses:

t = 9.5 mm for front windows

t = 6.5 mm for side and end windows

where

t = required window thickness, in mm ~~(in.)~~

s = lesser dimension of window, in mm ~~(in.)~~

p = pressure head for window location as determined by 2.2.4

k = factor given in Table III 2-32 of this Chapter

k_1 = factor given in Table III 2-32 of this Chapter

σ_a = $0.30\sigma_f$

σ_f = material flexural strength; see Table III 2-33 of this Chapter

E = material flexural modulus; see Table III 2-33 of this Chapter

Table III 2-32

l/s	k	k_1
>5	0.750	0.142
5	0.748	0.142
4	0.741	0.140
3	0.713	0.134
2	0.610	0.111
1.8	0.569	0.102
1.6	0.517	0.091
1.4	0.435	0.077
1.2	0.376	0.062
1	0.287	0.044

Note: *s* = lesser dimension of window panel, in mm
l = greater dimension of window panel, in mm

Intermediate values may be determined by linear interpolation.

Table III 2-33 has been amended as follows:

Table III 2-33

Glazing	Flexural Strength	Flexural Modulus
Tempered Monolithic**	119 MPa	73,000 MPa
~~Laminated Glass~~	~~69 MPa~~	~~2,620 MPa~~
Polycarbonate*	93 MPa	2,345 MPa
Acrylic (PMMA)*	110 MPa	3,000 MPa

* Special considerations will be made with regard~~s~~ to design, manufacture and testing of glass specimens.

** As an alternative, mechanical properties may be determined in accordance with 2.11.4(b)(ii).

(iv) Laminated Glass

(1) For laminated toughened safety glass, when it is used for windows, the equivalent offered thickness (t_0) is to be determined from the following formula:

$$t_0 = \sqrt{t_{L1}^2 + t_{L2}^2 + \ldots t_{Ln}^2}$$

where

t_0 = equivalent offered thickness of laminated glass

t_{Li} = thickness of glass laminate

n = number of laminates

The equivalent offered thickness of laminated glass is not to be less than required by 2.11.4(a)(i), (ii) or (iii), whichever is greater, obtained from the monolithic panel equation using the mechanical properties reported in Table III 2-33.

The laminated construction and glazing is to meet the requirements outlined in ISO 12543-1.

(2) For laminated toughened safety glass, the verified flexural strength and flexural modulus recognized in accordance with 2.11.4(b)(ii) may, as an alternative, be used in the calculation formulas of 2.11.4(a)(i) or (ii) to determine the required thickness.

(b) Testing

(i) Tightness Test After Installation

All windows are to be hose tested in position under a water pressure of at least 2 bar at the time of construction and, if considered necessary, at subsequent surveys in case of modifications or repairs.

(ii) Glazing Material Mechanical Properties

The flexural strength of ~~the~~monolithic glass is to be verified by compliance with the proof load ~~in~~and markings in accordance with ISO 614.

Where it is intended to utilize higher flexural strength and moduli for glazing design than those listed in Table III 2-33, a satisfactory destructive test plan is to be submitted to the Society. Glazing specimens are to be tested using a four-point bend test to a recognized standard (such as ISO 1288). A minimum of 10 specimens of each material thickness and glazing configuration type are to be tested to validate the use of alternative mechanical properties for design. A statistical assessment is to be applied to determine a lower bound estimate for flexural strength. The flexural strength value used for calculation is to be two standard deviations from the mean of the test results.

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