

1972/184

THE SHIPPING (ANCHORS AND CHAIN CABLES) RULES 1972

ARTHUR PORRITT, Governor-General

ORDER IN COUNCIL

At the Government House at Wellington this 21st day of August 1972

Present:

HIS EXCELLENCY THE GOVERNOR-GENERAL IN COUNCIL

PURSUANT to the Shipping and Seamen Act 1952, His Excellency the Governor-General, acting by and with the advice and consent of the Executive Council, hereby makes the following rules.

ANALYSIS

- | | |
|--|---|
| <ol style="list-style-type: none"> 1. Title and commencement 2. Interpretation 3. Application 4. Testing establishments 5. Requirements for testing machines 6. Application for testing anchor or chain cable 7. Tests for anchors 8. Tests for chain cables | <ol style="list-style-type: none"> 9. Method of testing chain cables 10. Tests for chain cable accessories 11. Marking of anchors and chain cables 12. Certification of anchors and chain cables 13. Exemptions 14. Fees Schedules |
|--|---|

RULES

1. Title and commencement—(1) These rules may be cited as the Shipping (Anchors and Chain Cables) Rules 1972.

(2) These rules shall come into force on the 31st day of August 1972.

2. Interpretation—(1) In these rules, unless the context otherwise requires,—

“The Act” means the Shipping and Seamen Act 1952:

“Certifying authority” means the Marine Department; and includes any person or organisation duly authorised by the Minister of Marine to be a certifying authority for the purposes of these rules:

“Lugless shackle” means a device used for joining cables which in use has an outline in shape and dimensions similar to the links of the cables which it joins:

“Minister” means the Minister of Marine:

“Open link” or “short link cable” means cable constructed of links not having studs:

“Secretary” means the Secretary for Marine; and includes his deputy:

“Stud link cable” means cable in which the links are fitted with studs or a similar component for minimising deformation of the links when the cable is under load:

“Supervisor of Tests” means an officer of a certifying authority who is competent to supervise tests of anchors and chain cables in accordance with these rules:

“Surveyor” means a Surveyor of Ships appointed under the Act:

“Testing establishment” means any premises complying with the requirements of rule 4 (1) hereof:

“Tonne” means a metric ton of 1000 kilogrammes:

“Verified testing machine” means a testing machine complying with and verified in accordance with the requirements of rule 5 hereof:

Other expressions defined in the Act have the meanings so defined.

(2) The weight of any anchor shall, for the purposes of these rules, be taken to be—

- (a) For stockless anchors, the weight of the anchor including its shackle, if any:
- (b) For stocked anchors, the weight of the anchor including its shackle, if any, but excluding the stock.

3. Application—These rules shall apply to all anchors and chain cables for use in New Zealand ships, except—

- (a) Anchors of 76 kilogrammes or less in weight:
- (b) Chain cables of less than 12.5 millimetres in diameter:
- (c) Anchors or chain cables manufactured outside New Zealand before the date of the commencement of these rules and taken on board a New Zealand ship as part of its equipment:
- (d) Anchors or chain cables in respect of which a certificate of examination and test has been issued by an overseas authority recognised by the Secretary:
- (e) Anchors or chain cables exempted from these rules by the Minister.

4. Testing establishments—(1) Testing machines used for testing anchors and chain cables in accordance with these rules shall be installed in premises having proper protection from weather, handling facilities for the articles to be tested, adequate lighting, and facilities for proper inspection of the anchors and chain cables after testing.

(2) No person shall use a testing establishment for testing anchors or chain cables unless there is in force a certificate issued by a Surveyor, or by such other person as the Minister may authorise for the purpose, to the effect that he has inspected and approved the establishment for such use. The person making the inspection shall send a copy of the certificate to the Secretary. A certificate issued under this rule shall remain in force for 2 years, but may be revoked if the establishment ceases to be approved as a result of a further inspection by a Surveyor or other person authorised by the Minister for the purpose.

5. Requirements for testing machines—(1) Testing machines used for proof load test of anchors or for tensile breaking load test or for tensile proof load test of chain cables and their accessories shall comply with the following:

- (a) Every tensile testing machine used in a testing establishment shall be of suitable design and construction for its intended duty, and shall be subjected to a load verification before being brought into use and thereafter at intervals not exceeding 12 months. Verification shall also be made after any major overhaul or when any part affecting the accuracy of the machine is repaired or replaced or when the machine is moved to another site. Every verification required by this paragraph shall be witnessed by a Surveyor or by such other person as the Minister may authorise for the purpose. Any person undertaking such verification shall report the result to the Secretary:
- (b) Every tensile testing machine used for tensile proof load tests of chain cables shall be constructed to test lengths not less than 27.5 metres of cable at one time, and the straining arrangement shall be such as to allow such a length of cable to be tested without the need to take a fresh hold to complete the test.

(2) Testing machines used for impact testing of Grade 3 cables shall be of the Charpy type, and shall comply with the requirements for such machines specified in British Standards Specification No. 131: 1959, Part 2, issued by the British Standards Institution.

6. Application for testing anchor or chain cable—(1) Application for the testing of any anchor or chain cable shall be made to a certifying authority which, if it agrees to be responsible for the testing, shall designate 1 or more supervisors of tests to supervise the testing. For the purposes of this rule, any application made to the Marine Department as certifying authority shall be made to a Surveyor.

(2) The person applying for the testing shall make available to the certifying authority such information about the material from which the anchor or chain cable is manufactured and its method of manufacture as that authority may require.

7. Tests for anchors—(1) The anchor, including its shackle, if any, shall be tested by subjecting it on a verified testing machine to the proof load specified as being appropriate to its weight in the Second Schedule to these rules.

(2) If an anchor of special type has been accepted by the certifying authority as being as effective as an anchor of conventional design but of greater weight, an anchor of that special type may, at the request of the person presenting the anchor for testing, be subjected to the test appropriate to an anchor of such greater weight:

Provided that the weight permitted for this purpose shall not exceed the actual weight of the anchor being tested by more than 33½ percent.

(3) The anchor, including its shackle, shall be deemed to have passed the test, if after the application of the test it is in the opinion of the supervisor of tests without material deformation, flaw, or weakness.

8. Tests for chain cables—(1) Before testing any chain cable, the supervisor of tests shall satisfy himself as to the quality of the materials from which the cable is manufactured, the method of manufacture, and its grade ascertained in accordance with the First Schedule to these rules.

(2) Chain cable shall be tested by subjecting it on verified testing machines to the tensile breaking load test and tensile proof load test specified respectively in subclauses (2) and (3) of rule 9 hereof.

(3) Chain cable of Grade 3 shall, in addition to the tests prescribed in subclause (2) of this rule, be subjected to mechanical tests in accordance with rule 9 (4) hereof.

9. Method of testing chain cables—(1) For the purposes of this rule, 27.5 metres of chain cable shall be a length:

Provided that—

- (a) A complete chain cable shorter than 27.5 metres shall be treated as a length:
- (b) Where a complete cable is not exactly divisible into lengths of 27.5 metres, the piece remaining shall be treated as a length, except that where such a piece remaining comprises less than 2 complete links it may be included in the previous length.

(2) *Tensile Breaking Load Tests:*

- (a) The number of samples to be taken from lengths of the same grade and diameter presented for testing at one time shall be that set out in the Fourth Schedule to these rules in relation to that grade:
- (b) Such tests shall be carried out in the following manner:
 - (i) A piece of 3 links shall be selected by the supervisor of tests and cut from the cable, and the sample so obtained shall be subjected to the tensile breaking load specified in the Third Schedule to these rules in relation to cable of the relevant diameter:
 - (ii) If after application of such a test load the sample is unbroken and in the opinion of the supervisor of tests is without material flaw or other defect, the sample shall be deemed to have satisfactorily withstood the tensile breaking load:
 - (iii) If the selected sample fails to withstand satisfactorily the appropriate tensile breaking load, the supervisor of tests shall select another sample of 3 links from the same length of chain cable as that from which the first sample was taken, and it shall be tested in the manner specified in subparagraphs (i) and (ii) of this paragraph:
- (c) If either the first or second of the 3 link samples withstands satisfactorily the tensile breaking load, each of the lengths which the test sample or samples represent shall be deemed to have passed the tensile breaking load test:
- (d) (i) If both the first and second of the selected 3 link samples fail to withstand satisfactorily the tensile breaking load, the length from which the samples were taken shall be rejected and no further testing shall be undertaken upon it.
 - (ii) If required by the person on whose behalf the tests are being carried out, tests may be continued upon any remaining lengths which the test samples represented (if any); in that

case, each remaining length shall be subjected to tests in accordance with paragraph (b) of this subclause, and, if either the first or second of any 3 link samples selected withstands satisfactorily the appropriate tensile breaking load, that length shall be deemed to have passed the tensile breaking load test:

- (e) Where the required tensile breaking load is in excess of 650 tonnes, the certifying authority may permit, instead of the application of the tensile breaking load test specified above, such alternative method of testing the tensile breaking load of the material of the selected sample piece as is at least as effective.

(3) *Tensile Proof Load Test:*

- (a) When satisfactory tensile breaking load tests in accordance with subclause (2) of this rule have been made on samples representing any length of chain cable, the supervisor of tests shall then test every such length separately by subjecting it to the tensile proof load specified in the Third Schedule to these rules in relation to cable of the relevant diameter and grade:
- (b) The chain cable shall be deemed to have passed the test, if after the application of the test it is, in the opinion of the supervisor of tests, without material deformation, flaw, or weakness.

(4) *Mechanical Tests:*

(a) *Mechanical tests—*

- (i) To determine the ultimate tensile strength and related elongation; and
 - (ii) To determine the impact value of the material from which the chain cable is manufactured,—
shall be carried out on 1 sample in the case of the test under subparagraph (i) of this paragraph and 1 sample which shall be cut into 3 specimens in the case of the test under subparagraph (ii), taken from every 4 or less lengths of Grade 3 cable of the same diameter presented for testing at one time. The test samples shall be cut from the links at places selected by the supervisor of tests clear of the welded parts (if any). The lengths represented by the samples shall be deemed to have passed the tests if the tests show that the material continues to be within the limits of mechanical properties set out for Grade 3 cable in the First Schedule to these rules:
- (b) If the sample fails in the case of test (i) or test (ii), a further sample or samples, as the case may be, shall be selected by the supervisor of tests from the same 4 lengths or less as those from which the first samples were taken, and they shall be tested in the manner specified in paragraph (a) of this subclause:
 - (c) The lengths represented by the samples shall be deemed to have passed the mechanical tests if the samples referred to in either paragraph (a) or paragraph (b) of this subclause have passed both the tests under subparagraphs (i) and (ii) of paragraph (a) of this subclause:
 - (d) For the purpose of the Third Schedule to these rules, the diameter of worn chain cable tested in accordance with this rule shall be the mean diameter where the cable is most worn.

10. Tests for chain cable accessories—(1) Before testing any chain cable accessory, the supervisor of tests shall satisfy himself as to the quality of the materials from which it is manufactured, the method of manufacture, its grade ascertained in accordance with the First Schedule to these rules, and the size and grade of chain cable with which it is suitable to be used.

(2) Subject to subclause (5) of this rule, every such accessory shall be tested by subjecting it on a verified testing machine to the tensile proof load test specified in subclause (3), and samples of those accessories shall be subjected to the tensile breaking load test specified in subclause (4).

(3) Every such accessory shall be subjected to the tensile proof load test required by these rules to be applied to the chain cable with which it is suitable to be used, ascertained in accordance with subclause (1) of this rule.

(4) (a) Except as provided in paragraph (b) of this subclause, one or more from every batch of 25 or less of each type of such accessory of the same dimensions and materials presented for testing at one time shall be subjected to the tensile breaking load test required by these rules to be applied to the chain cable with which they are suitable to be used, ascertained in accordance with subclause (1) of this rule:

(b) In the case of end or joining lugless shackles, the maximum number in a batch for the purposes of the test referred to in paragraph (a) of this subclause shall be 50.

(5) If the person presenting the accessories for testing requests that they should be subjected to a tensile proof load only, and it is intended that after testing the accessories shall be used as part of a ship's equipment, the accessories need not be tested in accordance with subclauses (2) and (3) of this rule. In this case the strength of the accessories shall not be less than 40 percent greater than that of the chain cable with which they are to be used and every such accessory shall be subjected to a tensile proof load test at a load equal to the tensile breaking load test specified in the appropriate table for the cable. Where that tensile proof load test exceeds 650 tonnes, rule 9 (2) (e) hereof shall apply.

(6) The accessories shall be deemed to have passed the tests if after application of the tests the accessories are in the opinion of the supervisor of tests without material deformation, flaw, or weakness.

(7) *Mechanical Tests:*

(a) Every Grade 3 accessory and every accessory incorporating a Grade 3 part which, in either case, has been subjected to the tensile breaking load test in accordance with subclause (4) of this rule shall be subjected to mechanical tests—

(i) To determine the ultimate tensile strength and related elongation; and

(ii) To determine the impact value of the material from which the accessory or part is manufactured;—

and those tests shall be carried out on 1 sample in the case of the test under subparagraph (i) and on 1 sample which shall be cut into three specimens in the case of the test under subparagraph (ii) cut from the accessory or part at places selected by the supervisor of tests clear of welded places (if any). The samples shall be deemed to have passed the tests if the tests show that the material continues to be within the limits of mechanical properties set out for Grade 3 cable in the First Schedule to these rules:

- (b) If the sample fails in the case of either such test, a further sample or samples, as the case may be, shall be selected by the supervisor of tests from the accessory or part, and they shall be tested in the manner specified in paragraph (a) of this subclause:
- (c) The accessory or part represented by the samples shall be deemed to have passed the mechanical tests if the samples referred to in paragraph (a) or paragraph (b) of this subclause have passed both the tests specified in paragraph (a):
- (d) If an accessory or part incorporated in an accessory has passed the mechanical tests referred to in the foregoing provisions of this subclause, all the other accessories in the batch from which it was taken shall be deemed to have passed the mechanical tests.

11. Marking of anchors and chain cables—(1) Where any anchor or chain cable or chain cable accessory has passed the tests prescribed in these rules, it shall be marked in accordance with the succeeding provisions of this rule.

(2) There shall be legibly and permanently stamped on every such anchor the particulars set out in the Fifth Schedule to these rules in the relationship and, so far as practicable, in the form set out in figure 1 in the said Schedule.

(3) There shall be legibly and permanently stamped on every such chain cable accessory, and at each end and at intervals not exceeding 30 metres of every such chain cable, the particulars set out in the Fifth Schedule to these rules in the relationship, and, so far as practicable, in the form set out in figure 2 of the said Schedule.

(4) The marks indicating certifying authority referred to in the said Fifth Schedule shall consist of—

- (a) In the case of the Minister, a crown stamp enclosing the letters “M.D.” together with the initials of the Surveyor responsible for the marking;
- (b) In the case of any other certifying authority, not more than 4 initials or 3 initials and a symbol.

12. Certification of anchors and chain cables—Where any anchor, chain cable, or accessory is marked in accordance with rule 11 hereof, the certifying authority shall within 1 month after that marking deliver to the person on whose application the tests were made a certificate showing at least the appropriate information set out in the Sixth Schedule to these rules, certifying that the anchor, chain cable, or accessory has passed the tests specified in these rules.

13. Exemptions—If the Minister is satisfied that an anchor or chain cable, or class of anchors or chain cables, cannot appropriately be tested and marked in accordance with the provisions of these rules, and that the anchor or chain cable, or, as the case may be, anchors or chain cables of that class, have been tested and marked in a manner he considers appropriate, he may exempt that anchor or chain cable, or, as the case may be, that class of anchors or chain cables, from compliance with all or any of those provisions.

14. Fees—Where the certifying authority is the Marine Department, there shall be paid to the Secretary in respect of the services of a supervisor of tests and the issue of certificates a fee of \$4 per hour or part thereof.

SCHEDULES

Rules 8 and 10

FIRST SCHEDULE

GRADES OF CHAIN CABLES (AND ACCESSORIES)

Chain Cables (and Accessories) shall be graded for the purposes of these rules in accordance with the following:

Grade	Material	Method of Manufacture	Tensile Range Kg/mm ²	Elongation (on 5D) Minimum %	Reduction in Area at Fracture Minimum %	Charpy V Notch Impact Test Minimum Value	Maximum Diameter of Former 180° Bend Test
1 (a) ..	Wrought iron	Fire welded	31-41	30	..	..	1T
1 (b) ..	Mild steel	Fire welded	31-41	30	..	..	1T
1 (c) ..	Mild steel	Flash-butt welded	31-41	30	..	..	1T
1 (d) ..	Mild steel	Flash-butt welded	41-50	25	..	..	2T
2 (a) ..	Steel	Flash-butt welded or drop forged	50-65	22	..	..	3T
2 (b) ..	Steel	Cast	50 min	22	..	..	3T
3 (a) ..	Steel	Flash-butt welded or drop forged	70 min	17	40	} *5 kg m (or 49.0 Nm) at 0° C.	..
3 (b) ..	Steel	Cast	70 min	17	35		..

*Average value from 3 test specimens.

- NOTES: (1) D is the diameter of the tensile test piece.
 (2) T is the diameter or thickness of the bend test piece.
 (3) For the purposes of this Schedule, 1 Kg/mm² = 0.98 h bars or 9.8 MN/m².

SECOND SCHEDULE

Rule 7

PROOF LOADS FOR ANCHORS

Weight of Anchor	Proof Load	Weight of Anchor	Proof Load	Weight of Anchor	Proof Load	Weight of Anchor	Proof Load	Weight of Anchor	Proof Load	Weight of Anchor	Proof Load
Kg	Tonne	Kg	Tonne	Kg	Tonne	Kg	Tonne	Kg	Tonne	Kg	Tonne
76	3.33	700	15.20	2300	39.60	4700	65.10	7200	82.60	15000	117.70
80	3.46	750	16.10	2400	40.90	4800	65.80	7400	83.80	15500	119.50
90	3.70	800	16.90	2500	42.20	4900	66.60	7600	85.00	16000	120.90
100	3.99	850	17.80	2600	43.50	5000	67.40	7800	86.10	16500	122.50
120	4.52	900	18.60	2700	44.70	5100	68.20	8000	87.00	17000	123.50
140	5.00	950	19.50	2800	45.90	5200	69.00	8200	88.10	17500	124.70
160	5.43	1000	20.30	2900	47.10	5300	69.80	8400	89.20	18000	125.90
180	5.85	1050	21.20	3000	48.30	5400	70.50	8600	90.30	18500	127.00
200	6.25	1100	22.00	3100	49.40	5500	71.30	8800	91.40	19000	128.00
225	6.71	1150	22.80	3200	50.50	5600	72.00	9000	92.40	19500	129.00
250	7.18	1200	23.60	3300	51.60	5700	72.70	9200	93.40	20000	130.00
275	7.64	1250	24.40	3400	52.70	5800	73.50	9400	94.40	21000	131.00
300	8.11	1300	25.20	3500	53.80	5900	74.20	9600	95.30	22000	132.00
325	8.58	1350	26.00	3600	54.80	6000	74.90	9800	96.20	23000	133.00
350	9.05	1400	26.70	3700	55.80	6100	75.50	10000	97.10	24000	134.00
375	9.52	1450	27.50	3800	56.80	6200	76.20	10500	99.30	25000	135.00
400	9.98	1500	28.30	3900	57.80	6300	76.90	11000	101.50	26000	136.00
425	10.50	1600	29.80	4000	58.80	6400	77.50	11500	103.60	27000	137.00
450	10.90	1700	31.30	4100	59.80	6500	78.20	12000	105.70	28000	138.00
475	11.40	1800	32.70	4200	60.70	6600	78.80	12500	107.80	29000	139.00
500	11.80	1900	34.20	4300	61.60	6700	79.40	13000	109.90	30000	140.00
550	12.70	2000	35.60	4400	62.50	6800	80.10	13500	111.90	31000	141.00
600	13.50	2100	36.90	4500	63.40	6900	80.70	14000	113.90		
650	14.30	2200	38.30	4600	64.30	7000	81.30	14500	115.90		

Proof loads for intermediate weights shall be obtained by linear interpolation.

THIRD SCHEDULE

Rule 9

TEST LOADS FOR OPEN LINK OR SHORT LINK, AND STUD LINK CHAIN CABLES

Open or Short Link Chain Cable

Chain Diameter	Grade 1		Grade 2	
	Tensile Proof Load	Tensile Breaking Load	Tensile Proof Load	Tensile Breaking Load
mm	Tonne	Tonne	Tonne	Tonne
12.5	3.00	5.90	4.20	8.30
13	3.20	6.40	4.50	9.00
14	3.65	7.30	5.20	10.40
15	4.20	8.40	5.95	11.90
16	4.80	9.60	6.75	13.50
17	5.45	10.90	7.65	15.30
18	6.10	12.20	8.60	17.20
19	6.80	13.60	9.55	19.10
20	7.55	15.10	10.60	21.20
21	8.30	16.60	11.70	23.40
22	9.10	18.20	12.80	25.60
23	9.95	19.90	14.00	28.00
24	10.90	21.70	15.30	30.50
25	11.80	23.60	16.60	33.10
26	12.80	25.50	17.90	35.80
27	13.70	27.40	19.30	38.50
28	14.80	29.50	20.80	41.50
29	15.90	31.70	22.30	44.50
30	17.00	34.00	23.90	47.70
31	18.20	36.30	25.50	50.90
32	19.40	38.70	27.10	54.20
33	20.60	41.10	28.90	57.70
34	21.80	43.60	30.60	61.20
35	23.10	46.20	32.40	64.80
36	24.50	48.90	34.30	68.60
37	25.90	51.70	36.30	72.50
38	27.30	54.60	38.20	76.40
39	28.80	57.50	40.30	80.50
40	30.20	60.40	42.30	84.60
41	31.70	63.40	44.50	89.00
42	33.30	66.60	46.70	93.40
43	34.90	69.80	49.00	97.90
44	36.60	73.20	51.30	102.00
45	38.30	76.50	53.60	107.00
46	39.90	79.90	56.00	112.00
47	41.70	83.40	58.20	117.00
48	43.50	87.00	61.00	122.00
49	45.40	90.70	63.50	127.00
50	47.30	94.50	66.20	132.00
51	49.20	98.30	68.80	138.00

THIRD SCHEDULE—continued

Stud Link Chain Cable

Rule 9

Chain Diameter	Grade 1		Grade 2		Grade 3	
	Tensile Proof Load	Tensile Breaking Load	Tensile Proof Load	Tensile Breaking Load	Tensile Proof Load	Tensile Breaking Load
mm	Tonne	Tonne	Tonne	Tonne	Tonne	Tonne
12.5	4.7	6.7	6.7	9.4	9.4	13.5
14	5.9	8.4	8.4	11.8	11.8	16.8
16	7.7	10.9	10.9	15.3	15.3	22.0
17.5	9.1	13.0	13.0	18.3	18.3	26.1
19	10.7	15.3	15.3	21.5	21.5	30.7
20.5	12.5	17.8	17.8	24.9	24.9	35.6
22	14.3	20.4	20.4	28.6	28.6	40.9
24	17.0	24.2	24.2	33.9	33.9	48.5
26	19.8	28.3	28.3	39.7	39.7	56.7
28	22.9	32.7	32.7	45.8	45.8	65.5
30	26.2	37.5	37.5	52.4	52.4	74.9
32	29.7	42.5	42.5	59.4	59.4	84.9
34	33.4	47.7	47.7	66.8	66.8	95.5
36	37.3	53.3	53.3	74.6	74.6	107.0
38	41.4	59.2	59.2	82.8	82.8	118.0
40	45.7	65.3	65.3	91.4	91.4	131.0
42	50.2	71.7	71.7	100.0	100.0	143.0
44	54.9	78.4	78.4	110.0	110.0	157.0
46	59.7	85.3	85.3	119.0	119.0	171.0
48	64.8	92.6	92.6	130.0	130.0	185.0
50	70.0	100.0	100.0	140.0	140.0	200.0
52	75.4	108.0	108.0	151.0	151.0	215.0
54	81.0	116.0	116.0	162.0	162.0	231.0
56	86.8	124.0	124.0	174.0	174.0	248.0
58	92.7	132.0	132.0	185.0	185.0	265.0
60	98.8	141.0	141.0	198.0	198.0	282.0
62	105.0	150.0	150.0	210.0	210.0	300.0
64	112.0	159.0	159.0	223.0	223.0	319.0
66	118.0	169.0	169.0	236.0	236.0	337.0
68	125.0	178.0	178.0	250.0	250.0	357.0
70	132.0	188.0	188.0	263.0	263.0	376.0
73	142.0	203.0	203.0	285.0	285.0	407.0
76	153.0	219.0	219.0	307.0	307.0	438.0
78	161.0	230.0	230.0	322.0	322.0	459.0
81	172.0	246.0	246.0	345.0	345.0	492.0
84	184.0	263.0	263.0	368.0	368.0	526.0
87	196.0	280.0	280.0	393.0	393.0	561.0
90	209.0	298.0	298.0	417.0	417.0	596.0
92	217.0	310.0	310.0	434.0	434.0	620.0
95	230.0	329.0	329.0	460.0	460.0	657.0
97	239.0	341.0	341.0	477.0	477.0	682.0
100	252.0	360.0	360.0	504.0	504.0	720.0
102	261.0	373.0	373.0	522.0	522.0	746.0
105	275.0	393.0	393.0	550.0	550.0	785.0
107	284.0	406.0	406.0	568.0	568.0	812.0
111	303.0	433.0	433.0	606.0	606.0	865.0
114	317.0	453.0	453.0	635.0	635.0	907.0
117	332.0	474.0	474.0	664.0	664.0	948.0
120	347.0	495.0	495.0	694.0	694.0	991.0
122	357.0	510.0	510.0	714.0	714.0	1,019.0
124	367.0	524.0	524.0	734.0	734.0	1,048.0
127	382.0	546.0	546.0	764.0	764.0	1,092.0
130	398.0	568.0	568.0	795.0	795.0	1,136.0
132	408.0	583.0	583.0	816.0	816.0	1,165.0
137	434.0	620.0	620.0	868.0	868.0	1,240.0
142	461.0	658.0	658.0	921.0	921.0	1,316.0
147	488.0	697.0	697.0	975.0	975.0	1,393.0
152	515.0	736.0	736.0	1,030.0	1,030.0	1,471.0

Tensile proof loads and tensile breaking loads for intermediate chain diameters shall be obtained by linear interpolation.

FOURTH SCHEDULE

Rule 9

NUMBER OF TENSILE BREAKING LOAD TESTS FOR CHAIN CABLES

Grade	Method of Manufacture	Number of Breaking Tests
1 (a) .. } 1 (b) .. }	Fire welded	One per length
1 (c) and (d) } 2 (a) .. } 3 (a) .. }	Flash-butt welded, or drop forged, and heat treated	One per 4 lengths
1 (c) and (d)	Flash-butt welded but not heat treated	One per length
2 (b) .. } 3 (b) .. }	Cast and heat treated	One per heat treatment batch, with a minimum of 1 per 4 lengths

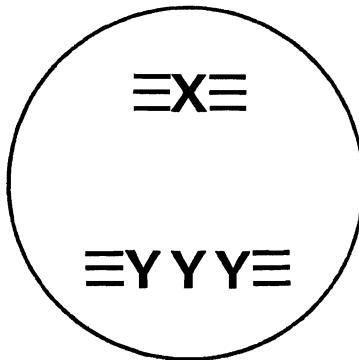
FIFTH SCHEDULE

Rule 11

MARKING

Mark for Anchors

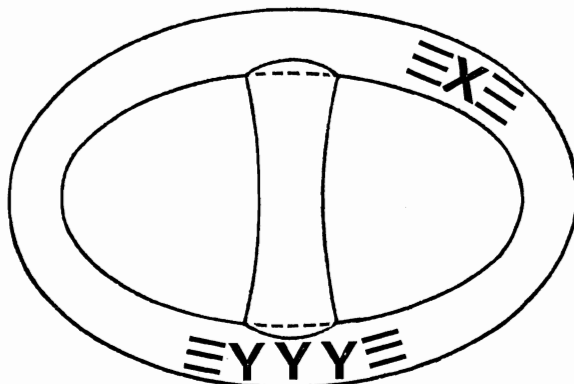
Fig. 1



X Number of Certificate
Y Letters Indicating Certifying Authority

FIFTH SCHEDULE—*continued**Mark for Chain Cables*

Fig. 2



X Number of Certificate

Y Letters Indicating Certifying Authority

SIXTH SCHEDULE

Rule 12

CERTIFICATES

1. All certificates referred to in rule 12 shall be signed on behalf of the certifying authority, and shall show—

A serial number

Name of certifying authority

Mark of certifying authority

Name of testing establishment

Mark of testing establishment (if any)

Name of supervisor of tests.

2. The following information shall also be shown in respect of the appropriate certificate:

(1) ANCHOR CERTIFICATE—

Type of anchor

Weight (excluding stock) in kilogrammes

Weight of stock in kilogrammes

Length of shank in millimetres

Length of arm in millimetres

Diameter of trend in millimetres

Proof load applied in tonnes.

(2) CHAIN CABLE CERTIFICATE—

Type of cable

Grade

Diameter in millimetres

Total length in metres

Total weight in kilogrammes

SIXTH SCHEDULE—*continued*

Length of link in millimetres
Breadth of link in millimetres
Tensile breaking load applied in tonnes
Tensile proof load applied in tonnes
Number and types of accessories included.

(3) CHAIN CABLE ACCESSORY CERTIFICATE—

Type of accessory
Quantity
Total weight in kilogrammes
Tensile breaking load applied in tonnes
Tensile proof load applied in tonnes.

P. J. BROOKS,
Clerk of the Executive Council.

EXPLANATORY NOTE

This note is not part of the rules, but is intended to indicate their general effect.
These rules provide for the testing and marking of anchors and chain cables for use in New Zealand ships.

The rules include the following provisions:

- (a) The use of mild and high tensile steels and the method of manufacture of such steels.
- (b) All tables, measurements, and weights are in the metric system.
- (c) The grading of chain cables according to materials, method of manufacture, and tensile range.
- (d) The approval of testing establishments and testing machines.
- (e) The verification of testing machines.
- (f) Acceptance of special type anchors of a weight less than rule requirements for conventional types, subject to the same tests and proof load being applied as for a conventional anchor.
- (g) The markings and certification of anchors and cables.
- (h) The authorisation by the Minister of Marine of any person or organisation as a certifying authority. The Marine Department is also a certifying authority.
- (i) The fees payable for the testing and making of chain cables and the issue of certificates.

Issued under the authority of the Regulations Act 1936.
Date of notification in *Gazette*: 24 August 1972.
These rules are administered in the Marine Department.