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# **RULES FOR THE SURVEY AND CONSTRUCTION OF STEEL SHIPS**

**RULES**

**Part L**

**Equipment**

**2021 AMENDMENT NO.1**

Rule No.29 30 June 2021

Resolved by Technical Committee on 27 January 2021

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

# AMENDMENT TO THE RULES FOR THE SURVEY AND CONSTRUCTION OF STEEL SHIPS

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

## Part L EQUIPMENT

### Amendment 1-1

## Chapter 4 STEEL WIRE ROPES

### 4.1 Steel Wire Ropes

#### 4.1.1 Application\*

Sub-paragraph -1 has been amended as follows.

**1** The steel wire ropes used for ~~steering ropes~~, mast riggings, ~~stream wires or~~ mooring lines, etc. to be equipped on ships in accordance with the provisions in **Chapter 27, Part C** (hereinafter referred to as “steel wire rope”) are to comply with the requirements in this ~~Chapter~~ or to be of equivalent quality.

Paragraph 4.1.2 has been amended as follows.

#### 4.1.2 Grades

**1** Steel wire ropes are classified into ~~seven~~ five grades according to their composition as specified in **Table L4.1**. The classification may be indicated by grade number or composition mark.

**2** Steel wire ropes No. 1 are used for standing riggings, No. 3 for standing and running riggings and No. ~~2~~, 4, ~~5~~, 6 and 21 for running riggings.

Table L4.1 has been amended as follows.

Table L4.1 Grades of Wire Ropes

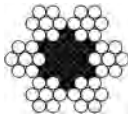



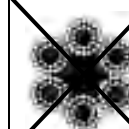
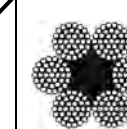
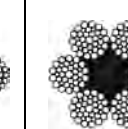
Grade		No.1	<del>No.2</del>	No.3	No.4	<del>No.5</del>	No.6	No.21
Section view								
Composition	Number of wires	7	<del>12</del>	19	24	<del>30</del>	37	36
	Number of strands	6	<del>6</del>	6	6	<del>6</del>	6	6
	Fibre core	Centre	<del>Centre and centres of strands</del>	Centre	Centre and centres of strands	<del>Centre and centres of strands</del>	Centre	Centre
Composition mark		(6 x 7)	<del>(6 x 12)</del>	(6 x 19)	(6 x 24)	<del>(6 x 30)</del>	(6 x 37)	(6 x WS (36))

Table L4.3 has been amended as follows.

Table L4.3 Masses and Breaking Test Loads for Steel Wire Ropes

Grade	No.1		<del>No.2</del>		No.3		No.4		<del>No.5</del>		No.6		No.21	
Composition mark	(6×7)		<del>(6×12)</del>		(6×19)		(6×24)		<del>(6×30)</del>		(6×37)		(6×WS(36))	
Diameter of steel wire rope (mm)	Breaking test load (kN)	Mass per metre length (kg)	<del>Breaking test load (kN)</del>	<del>Mass per metre length (kg)</del>	Breaking test load (kN)	Mass per metre length (kg)	Breaking test load (kN)	Mass per metre length (kg)	<del>Breaking test load (kN)</del>	<del>Mass per metre length (kg)</del>	Breaking test load (kN)	Mass per metre length (kg)	Breaking test load (kN)	Mass per metre length (kg)
10	52.4	0.371	<del>32.7</del>	<del>0.275</del>	47.9	0.364	45.5	0.332	<del>41.1</del>	<del>0.310</del>	48.9	0.359	50.5	0.396
12	75.4	0.534	<del>47.1</del>	<del>0.393</del>	71.6	0.524	65.5	0.478	<del>59.1</del>	<del>0.446</del>	70.5	0.517	72.8	0.570
14	103	0.727	<del>64.0</del>	<del>0.535</del>	97.4	0.713	89.1	0.651	<del>80.5</del>	<del>0.607</del>	96.2	0.704	99.0	0.776
16	134	0.950	<del>83.6</del>	<del>0.699</del>	127	0.932	117	0.850	<del>105</del>	<del>0.793</del>	126	0.920	129	1.01
18	170	1.20	<del>106</del>	<del>0.885</del>	161	1.18	147	1.08	<del>133</del>	<del>1.00</del>	159	1.16	164	1.28
20	210	1.48	<del>130</del>	<del>1.09</del>	199	1.46	181	1.33	<del>164</del>	<del>1.24</del>	195	1.44	202	1.58
22	253	1.80	<del>158</del>	<del>1.32</del>	240	1.77	221	1.61	<del>199</del>	<del>1.50</del>	237	1.74	244	1.92
24	302	2.14	<del>188</del>	<del>1.57</del>	286	2.10	262	1.91	<del>236</del>	<del>1.79</del>	281	2.07	291	2.28
26	354	2.51	<del>221</del>	<del>1.85</del>	336	2.47	308	2.24	<del>278</del>	<del>2.10</del>	330	2.43	341	2.68
28	411	2.91	<del>256</del>	<del>2.14</del>	389	2.85	357	2.60	<del>322</del>	<del>2.43</del>	382	2.82	396	3.10
30	472	3.34	<del>294</del>	<del>2.46</del>	447	3.28	410	2.99	<del>369</del>	<del>2.79</del>	439	3.23	454	3.56
32	536	3.80	<del>324</del>	<del>2.80</del>	509	3.73	466	3.40	<del>421</del>	<del>3.17</del>	501	3.68	517	4.06
34	605	4.29	<del>378</del>	<del>3.16</del>	575	4.21	526	3.84	<del>475</del>	<del>3.58</del>	566	4.16	583	4.58
36	679	4.81	<del>424</del>	<del>3.54</del>	644	4.72	589	4.30	<del>532</del>	<del>4.02</del>	634	4.66	654	5.13
38	756	5.36	<del>472</del>	<del>3.94</del>	718	5.26	657	4.79	<del>593</del>	<del>4.43</del>	707	5.19	730	5.72
40	838	5.93	<del>523</del>	<del>4.37</del>	795	5.82	728	5.31	<del>657</del>	<del>4.95</del>	782	5.75	808	6.34
42					877	6.42	802	5.86	<del>725</del>	<del>5.47</del>	863	6.34	890	6.99
44					963	7.05	881	6.43	<del>794</del>	<del>6.00</del>	947	6.96	978	7.67
46					1,050	7.70	963	7.03	<del>869</del>	<del>6.56</del>	1,040	7.61	1,070	8.38
48					1,150	8.39	1,050	7.65	<del>945</del>	<del>7.14</del>	1,130	8.28	1,140	9.12
50					1,250	9.10	1,150	8.30	<del>1,020</del>	<del>7.74</del>	1,230	8.98	1,260	9.90
52							1,230	8.98	<del>1,110</del>	<del>8.38</del>	1,320	9.73	1,360	10.7
54							1,320	9.68	<del>1,200</del>	<del>9.04</del>	1,420	10.5	1,470	11.5
56							1,420	10.4	<del>1,280</del>	<del>9.71</del>	1,530	11.3	1,590	12.4
58							1,530	11.2	<del>1,380</del>	<del>10.4</del>	1,650	12.1	1,700	13.3
60							1,640	12.0	<del>1,470</del>	<del>11.1</del>	1,760	12.9	1,810	14.3
62							1,750	12.8	<del>1,580</del>	<del>11.9</del>	1,880	13.8	1,940	15.2
65							1,920	14.0	<del>1,740</del>	<del>13.1</del>	2,070	15.2	2,140	16.7

#### 4.1.7 Individual Wire Tests

Sub-paragraph -4 has been amended as follow.

4 The individual wire tests are to be carried out in accordance with the following requirements:

(1) Wrapping Tests

- ~~(a)~~ In wrapping tests, the specimens are to be wrapped at least eight times around the wire with the same diameter as the specimen. Where they are unwrapped, the number of broken specimens is not to exceed the number given in **Table L4.5** except for the core of the strand.

~~(b) Where the test is not satisfactory, new specimens of the required number may be prepared and retested. In this case, the number of broken specimens including those of the first test is not to exceed the number given in Table L4.5 except for core of the strand.~~

(2) Twisting Tests

(a) In twisting tests, the specimen with the length 100 times the diameter of the specimen is to be hardly gripped at the ends, and then one end is to be ~~revolved~~ twisted until the specimen is broken ~~down~~. The tests are to show that ~~no specimen has been broken down with the number of times of twisting not more than one half of that specified in Table L4.6 and~~ the number of the specimens which have been broken down with the number of times of twisting less than that specified in the above Table is not to be more than that given in the **Table L4.5** except for the core of the strand.

~~(b) Where the test is not satisfactory, new specimens of the required number may be taken and retested. Where, however, there is any specimen which has been broken down with the number of times of twisting not more than one half of the specified number, the retest is not allowed. The retest is to show that no specimen has been broken down with the number of times of twisting not more than one half of the specified number and the number of the specimens including those of the first test which have been broken down with the number of times of twisting less than the specified number is not to exceed the number given in Table L4.5 except for the core of the strand.~~

~~(eb)~~ Where the specimen has been broken down at the parts of the grips, and the results of the test do not comply with the requirements, a retest may be allowed.

(3) Inspection of Diameter

~~(a)~~ Diameters of individual wires are to be inspected at the time of other tests. The number of specimens which fail to meet the requirements in **4.1.4-1** are not to be more than given in **Table L4.5** except for the core of the strand.

~~(b) Where any specimen fails to pass the inspection specified in 1, further inspection may be carried out on specimens of the specified number. In this case, the total number of specimens which fail to meet the requirements in 4.1.4-1 in both inspections are not to be more than the number given in Table L4.5.~~

Table L4.4 has been amended as follow.

Table L4.4 Number of Specimens for Individual Wire Tests

Grade	Composition mark	Number of specimens
No.1	(6×7)	<del>6</del> <u>3</u>
<del>No.2</del>	<del>(6×12)</del>	<del>12</del>
No.3	(6×19)	<del>18</del> <u>6</u>
No.4	(6×24)	<del>24</del> <u>8</u>
<del>No.5</del>	<del>(6×30)</del>	<del>30</del>
No.6	(6×37)	<del>36</del> <u>12</u>
No.21	(6×WS(36))	<del>36</del> <u>19</u>

Table L4.5 has been amended as follow.

Table L4.5 Permissible Number of Failed Specimens in Individual Wire Tests

Grade	Composition mark	Number	
		First test	<del>Retest</del>
No.1	(6×7)	0	<del>2</del>
<del>No.2</del>	<del>(6×12)</del>	<del>1</del>	<del>3</del>
No.3	(6×19)	1	<del>4</del>
No.4	(6×24)	1	<del>3</del>
<del>No.5</del>	<del>(6×30)</del>	<del>1</del>	<del>4</del>
No.6	(6×37)	1	<del>4</del>
No.21	(6×WS(36))	3	<del>9</del>

#### EFFECTIVE DATE AND APPLICATION (Amendment 1-1)

1. The effective date of the amendments is 30 June 2021.
2. Notwithstanding the amendments to the Rules, the current requirements apply to the surveys for which the application is submitted to the Society before the effective date.

## Chapter 7 SIDE SCUTTLES

### 7.1 Side Scuttles

Paragraph 7.1.4 has been amended as follows.

#### 7.1.4 Materials

##### 1 Main frame, glassholder, glass retaining ring and deadlight

The materials used for the main components of the side scuttles (main frame, glassholder, glass retaining ring and deadlight) are to be in accordance with the requirements as given in **Table L7.4**. These materials are to have the following properties in (1) and (2).

- (1) resistant corrosion;
- (2) minimum mechanical properties as given in **Table L7.5**. (One tensile test specimen is to be taken from each cast. Where the number of casting from one cast exceeds 50, an additional specimen is to be taken from each 50 castings of fraction thereof. For aluminium extruded shapes, one tensile test specimen is to be taken per each lot. Extruded shapes of similar thickness made from the same melting and heat treated simultaneously are treated as one lot. Where the number of identical lots exceeds 50, an additional specimen is to be taken for each 50 lots or fraction thereof.)

##### 2 Closing device

The materials used for the closing devices of the side scuttles (swingbolts, pins and nuts) are to have the following properties in (1) to (3). For aluminium alloy side scuttles, the swingbolts and hinge pins are to be made of non-corrodible steel, stainless steel or such alloys which are not likely to cause corrosion of side scuttles, bolts or pins.

- (1) resistant to corrosion;
- (2) no effect on the corrosion resistance of other parts;
- (3) minimum mechanical properties as given in **Table L7.6**. (One tensile test specimen is to be taken from each cast. Where the number of casting from one cast exceeds 50, an additional specimen is to be taken from each 50 castings of fraction thereof. For aluminium extruded shapes, one tensile test specimen is to be taken per each lot. Extruded shapes of similar thickness made from the same melting and heat treated simultaneously are treated as one lot. Where the number of identical lots exceeds 50, an additional specimen is to be taken for each 50 lots or fraction thereof.)

## Chapter 8 RECTANGULAR WINDOWS

### 8.1 Rectangular Windows

Paragraph 8.1.4 has been amended as follows.

#### 8.1.4 Materials

##### 1 Main frame, glassholder and glass retaining frame

The materials used for the main components of the rectangular windows (main frame, glassholder and glass retaining frame) are to be in accordance with the requirements as given in **Table L8.3**. These materials are to have the following properties in (1) and (2).

- (1) resistant corrosion;
- (2) minimum mechanical properties as given in **Table L8.4**. (One tensile test specimen is to be taken from each cast. Where the number of casting from one cast exceeds 50, an additional specimen is to be taken from each 50 castings of fraction thereof. For aluminium extruded shapes, one tensile test specimen is to be taken for one piece per each lot. Extruded shapes of similar thickness made from the same melting and heat treated simultaneously are treated as one lot. Where the number of identical lots exceeds 50, an additional specimen is to be taken for each 50 lots or fraction thereof.)

##### 2 Closing device

The materials used for the closing devices of the rectangular windows (bolts, pins and nuts) are to have the following properties in (1) to (3). For aluminium alloy rectangular windows, the swingbolts and hinge pins are to be made of non-corrodible steel, stainless steel or such alloys which are not likely to cause corrosion of rectangular windows, bolts or pins.

- (1) resistant to corrosion;
- (2) no effect on the corrosion resistance of other parts;
- (3) minimum mechanical properties as given in **Table L8.5**. (For casting, one tensile test specimen is to be taken from each cast. Where the number of casting from one cast exceeds 50, an additional specimen is to be taken from each 50 castings of fraction thereof. For aluminium extruded shapes, one tensile test specimen is to be taken for one piece per each lot. The e~~Extruded shapes of similar thickness made from the same melting and heat treated simultaneously are treated as one lot. Where the number of identical lots from one lot exceeds 50, an additional specimen is to be taken from~~for each 50 lots of~~for~~ fraction thereof.)

#### EFFECTIVE DATE AND APPLICATION (Amendment 1-2)

1. The effective date of the amendments is 30 June 2021.
2. Notwithstanding the amendments to the Rules, the current requirements apply to side scuttles and rectangular windows for which the application for survey is submitted to the Society before the effective date.



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# **GUIDANCE FOR THE SURVEY AND CONSTRUCTION OF STEEL SHIPS**

**Part L**

**Equipment**

**GUIDANCE**

**2021 AMENDMENT NO.1**

Notice No.28      30 June 2021

Resolved by Technical Committee on 27 January 2021

Notice No.28 30 June 2021

## AMENDMENT TO THE GUIDANCE FOR THE SURVEY AND CONSTRUCTION OF STEEL SHIPS

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

### **Part L EQUIPMENT**

#### **Amendment 1-1**

L8 has been added as follows.

### **L8 RECTANGULAR WINDOWS**

#### **L8.1 Rectangular Windows**

##### **L8.1.5 Testing**

The wording “a suitable test method” in 8.1.5-2, Part L of the Rules means the punch method in accordance with ISO614 or the equivalent thereto.

#### **EFFECTIVE DATE AND APPLICATION (Amendment 1-1)**

1. The effective date of the amendments is 30 June 2021.
2. Notwithstanding the amendments to the Guidance, the current requirements apply to side scuttles and rectangular windows for which the application for survey is submitted to the Society before the effective date.

## L1 GENERAL

### L1.4 Testing and Inspection for Equipment

Paragraph L1.4.1 has been amended as follows.

#### L1.4.1 Execution of Testing and Inspection

**1** To implement the surveys specified in **1.4.1-1, Part L of the Rules**, in lieu of traditional ordinary surveys where the Surveyor is in attendance, the Society may approve survey methods which it considers to be able to obtain information equivalent to that obtained through traditional ordinary surveys.

**2** The ~~terms of wording~~ “deemed appropriate by the Society” specified in **1.4.1-4, Part L of the Rules**, means that the quality of equipment and the quality control system of manufacturer are approved by the Society according to “**Rules for Approval of Manufacturers**” or deemed equivalent thereto.

#### EFFECTIVE DATE AND APPLICATION (Amendment 1-2)

1. The effective date of the amendments is 1 July 2021.