

§ 1918.106

be considered unserviceable when damaged in a manner that affects buoyancy or fastening capability.

[62 FR 40202, July 25, 1997, as amended at 65 FR 40946, June 30, 2000]

§ 1918.106 Payment for protective equipment.

(a) Except as provided by paragraphs (b) through (f) of this section, the protective equipment, including personal protective equipment (PPE), used to comply with this part, shall be provided by the employer at no cost to employees.

(b) The employer is not required to pay for non-specialty safety-toe protective footwear (including steel-toe shoes or steel-toe boots) and non-specialty prescription safety eyewear, provided that the employer permits such items to be worn off the job-site.

(c) When the employer provides metatarsal guards and allows the employee, at his or her request, to use shoes or boots with built-in metatarsal protection, the employer is not required to reimburse the employee for the shoes or boots.

(d) The employer is not required to pay for:

(1) Everyday clothing, such as long-sleeve shirts, long pants, street shoes, and normal work boots; or

(2) Ordinary clothing, skin creams, or other items, used solely for protection from weather, such as winter coats, jackets, gloves, parkas, rubber boots, hats, raincoats, ordinary sunglasses, and sunscreen.

(e) The employer must pay for replacement PPE, except when the employee has lost or intentionally damaged the PPE.

(f) Where an employee provides adequate protective equipment he or she owns, the employer may allow the employee to use it and is not required to reimburse the employee for that equipment. The employer shall not require an employee to provide or pay for his or her own PPE, unless the PPE is excepted by paragraphs (b) through (e).

(g) This section shall become effective on February 13, 2008. Employers must implement the PPE payment requirements no later than May 15, 2008.

NOTE TO § 1918.106: When the provisions of another OSHA standard specify whether or

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not the employer must pay for specific equipment, the payment provisions of that standard shall prevail.

[72 FR 64429, Nov. 15, 2007]

APPENDIX I TO PART 1918—CARGO GEAR REGISTER AND CERTIFICATES (NON-MANDATORY)

NOTE: This appendix is non-mandatory and provides guidance to part 1918 to assist employers and employees in complying with the requirements of this standard, as well as to provide other helpful information. Nothing in this appendix adds or detracts from any of the requirements of this standard. The language in this appendix is taken directly from the recommended ILO document.

Form No. 1

IDENTITY OF NATIONAL AUTHORITY OR COMPETENT ORGANIZATION REGISTER OF SHIPS' LIFTING APPLIANCES AND CARGO HANDLING GEAR

Name of Ship _____
Official Number _____
Call Sign _____
Port of Registry _____
Name of Owner _____
Register Number _____
Date of Issue _____
Issued by _____
Signature and Stamp _____

NOTE: This register is the standard international form as recommended by the International Labour Office in accordance with the ILO Convention No. 152.

GENERAL

The tests, examinations and inspections indicated in this register are based on the requirements of ILO Convention 152 and Recommendation 160. They are intended to ensure that ships having lifting appliances are initially certified by a competent person, and to establish periodically that they continue to be in safe working order to the satisfaction of a competent person acceptable to a competent authority. A Register of lifting appliances and items of loose gear shall be kept in a form prescribed by the competent authority, account being taken of this model recommended by the International Labour Office. This Register and related certificates shall be kept available to any person authorized by the competent authority. The Register and certificates for gear currently aboard the ship shall be preserved for at least five years after the date of the last entry.

INSTRUCTION

1. Initial Examination and Certification

1.1. Every lifting appliance shall be certified by a competent person before being taken into use for the first time to ensure that it is of good design and construction and of adequate strength for the purpose for which it is intended.

1.2. Before being taken into use for the first time, a competent person shall supervise and witness testing, and shall thoroughly examine every lifting appliance.

1.3. Every item of loose gear shall, before being taken into use for the first time, shall be tested, thoroughly examined and certified by a competent person, in accordance with national law or regulations.

1.4. Upon satisfactory completion of the procedures indicated above, the competent person shall complete and issue the Register of lifting appliances and attach the appropriate certificates. An entry shall be made in part I of the Register.

1.5. A rigging plan showing the arrangement of lifting appliances shall be provided. In the case of derricks and derrick cranes, the rigging should show at least the following information:

- (a) The position of guys;
- (b) The resultant force on blocks, guys, wire ropes and booms;
- (c) The position of blocks;
- (d) The identification mark of individual items; and
- (e) Arrangements and working range of union purchase.

2. Periodic Examination and Re-testing

2.1. All lifting appliances and every item of loose gear shall be thoroughly examined by a competent person at least once in every twelve months. The particulars of these thorough examinations shall be entered in part I of the Register.

2.2. Re-testing and thorough examination of all lifting appliances and every item of loose gear is to be carried out:

- (a) after any substantial alteration or renewal, or after repair to any stress bearing part, and
- (b) in the case of lifting appliances, at least once in every five years.

2.3. The retesting referred to in paragraph 2.2(a) may be omitted provided the part which has been renewed or repaired is subjected by separate test, to the same stress as would be imposed on it if it had been tested in-situ during the testing of the lifting appliance.

2.4. The thorough examinations and tests referred to in paragraph 2.2. are to be entered in part I of the Register.

2.5. No new item of loose gear shall be manufactured of wrought iron. Heat treat-

ment of any existing wrought iron components should be carried out to the satisfaction of the competent person. No heat treatment should be applied to any item of loose gear unless the treatment is in accordance with the manufacturer's instruction; and to the satisfaction of the competent person. Any heat treatment and the associated examination are to be recorded by the competent person in part I of the Register.

3. Inspections

3.1. Regular visual inspections of every item of loose gear shall be carried out by a responsible person before use. A record of these regular inspections is to be entered in part II of the Register, but entries need only be made when the inspection has indicated a defect in the item.

4. Certificates

4.1. The certification forms to be used in conjunction with this Register (Form No. 1) are as follows:

(Form No. 2)—Certificate of test and thorough examination of lifting appliance.

(Form No. 2(U))—Certificate of test and thorough examination of derricks used in union purchase.

(Form No. 3)—Certificate of test and thorough examination of loose gear.

(Form No. 4)—Certificate of test and thorough examination of wire rope.

DEFINITIONS

(a) The term "competent authority" means a minister, government department, or other authority empowered to issue regulations, orders or other instructions having the force of law.

(b) The term "competent person" means a person appointed by the master of the ship or the owner of the gear to be responsible for the performance of inspections and who has sufficient knowledge and experience to undertake such inspections.

(c) The term "thorough examination" means a detailed visual examination by a competent person, supplemented if necessary by other suitable means or measures in order to arrive at a reliable conclusion as to the safety of the lifting appliance or item of loose gear examined.

(d) The term "lifting appliance" covers all stationary or mobile cargo handling appliances used on board ship for suspending, raising or lowering loads or moving them from one position to another while suspended or supported.

(e) The term "loose gear" covers any gear by means of which a load can be attached to a lifting appliance, but which does not form an integral part of the appliance or load.

THE FOLLOWING ARE SAMPLE FORMS OF CERTIFICATES AS RECOMMENDED BY THE ILO

[Part I—Thorough Examination of Lifting Appliances and Loose Gear]

Situation and description of lifting appliances and loose gear (with distinguishing numbers or marks, if any) which have been thoroughly examined. (See note 1) (1)	Certificate Nos. (2)	Examination performed (see note 2) (3)	I certify that on the date to which I have appended my signature, the gear shown in col. (1) was thoroughly examined and no defects affecting its safe working condition were found other than those shown in col. (5) (date and signature) (4)	Remarks (to be dated and signed) (5)
.....

NOTE 1: If all the lifting appliances are thoroughly examined on the same date it will be sufficient to enter in Col. (1) "All lifting appliances and loose gear". If not, the parts that have been thoroughly examined on the dates stated must be clearly indicated.
 NOTE 2: The thorough examinations to be indicated in Col. (3) include:
 (a) Initial.
 (b) 12 monthly.
 (c) 5 yearly.
 (d) Repair/Damage.
 (e) Other thorough examinations.

[Part II—Regular Inspections of Loose Gear]

Situation and description of loose gear (with distinguishing numbers or marks, if any) that has been inspected. (See note 1)	Signature and date of the responsible person carrying out the inspection	Remarks (to be dated and signed)

NOTE 1: All loose gear should be inspected before use. However, entries need only be made when the inspection discloses a defect.

Form No. 2

Official Number _____
 Call Sign _____
 Port of Registry _____
 Name of Owner _____
 Certificate No. _____

Identity of National Authority or Competent Organization Certificate of Test and Thorough Examination of Lifting Appliances

Name of Ship _____

Situation and description of lifting appliances (with distinguishing numbers or marks, if any) which have been tested and thoroughly examined (1)	Angle to the horizontal or radius at which test load applied (2)	Test load (tonnes) (3)	Safe working load at angle or radius shown in col. 2 (tonnes) (4)

Name and address of the firm or competent person who witnessed testing and carried out thorough examination.

Place: _____
 Signature: _____

I certify that on the date to which I have appended my signature, the gear shown in Col. (1) was tested and thoroughly examined and no defects or permanent deformation was found and that the safe working load is as shown.

NOTE: This certificate is the standard international form as recommended by the International Labor Office in accordance with ILO Convention No. 152.

Date: _____

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Reverse of Form No. 2

INSTRUCTIONS

1. Every lifting appliance shall be tested with a test load which shall exceed the Safe Working Load (SWL) as follows:

SWL	Test load
Up to 20 tonnes	25 percent in excess.
20 to 50 tonnes	5 tonnes in excess.
Over 50 tonnes	10 percent in excess.

2. In the case of derrick systems, the test load shall be lifted with the ship's normal tackle with the derrick at the minimum angle to the horizontal for which the derrick system was designed (generally 15 degrees), or at such greater angle as may be agreed. The angle at which the test was made should be stated in the certificate.

2.1. The SWL shown is applicable to swinging derrick systems only. When derricks are used in union purchase, the SWL (U) is to be shown on Form 2 (U).

2.2. In the case of heavy derricks, care should be taken to ensure that the appropriate stays are correctly rigged.

3. In the case of cranes, the test load is to be hoisted and luffed at slow speed. Gantry and traveling cranes together with their trolleys, where appropriate, are to be traversed and traveled over the full length of their track.

3.1. In the case of variable load-radius cranes, the tests are generally to be carried out with the appropriate test load at maximum, minimum and intermediate radii.

3.2. In the case of hydraulic cranes where limitations of pressure make it impossible to lift a test load 25 percent in excess of the

safe working load, it will be sufficient to lift the greatest possible load, but in general this should not be less than 10 percent in excess of the safe working load.

4. As a general rule, tests should be carried out using test loads, and no exception should be allowed in the case of initial tests. In the case of repairs/replacement or when the periodic examination calls for re-test, consideration may be given to the use of spring or hydraulic balances provided the SWL of the lifting appliance does not exceed 15 tonnes. Where a spring or hydraulic balance is used, it shall be calibrated and accurate to within #2 percent and the indicator should remain constant for five minutes.

4.1. If the test weights are not used, this is to be indicated in Col. (3).

5. The expression "tonne" shall mean a tonne of 1000 kg.

6. The terms "competent person", "thorough examination", and "lifting appliance" are defined in Form No. 1.

NOTE: For recommendations on test procedures reference may be made to the ILO document "Safety and Health in Dock Work".

Form No. 2(U)

IDENTITY OF NATIONAL AUTHORITY OR COMPETENT ORGANIZATION CERTIFICATE OF TEST AND THOROUGH EXAMINATION OF DERRICKS USED IN UNION PURCHASE

Name of Ship _____
 Official Number _____
 Call Sign _____
 Port of Registry _____
 Name of Owner _____
 Certificate No. _____

Situation and description of derricks used in Union Purchase (with distinguishing numbers or marks) which have been tested and thoroughly examined (1)	Max. height of triangle plate above hatch coaming (m) or max. angle between runners (2)	Test load (tonnes) (3)	Safe working load, SWL when operating in union purchase (tonnes) (4)

Position of outboard preventer guy attachments:

- (a) forward/aft * of mast—(m) and
- (b) from ship's centerline—(m)

Position of inboard preventer guy attachments:

- (a) forward/aft * of mast—(m) and
- (b) from ship's centerline—(m)

*Delete as appropriate.

Name and address of the firm or competent person who witnessed testing and carried out thorough examination

I certify that on the date to which I have appended my signature, the gear shown in Col. (1) was tested and thoroughly examined and no defects or permanent deformation was found and that the safe working load is as shown.

Date: _____
 Signature: _____
 Place: _____

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NOTE: This certificate is the standard international form as recommended by the International Labour Office in accordance with ILO Convention No. 152.

gles must not exceed the values shown on the rigging plan.

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3. Tests should be carried out using test loads.

INSTRUCTIONS

4. The expression "tonne" shall mean a tonne of 1000 kg.

1. Before being taken into use, the derricks rigged in Union Purchase shall be tested with a test load which shall exceed the Safe Working Load (SWL (U)) as follows:

5. The terms "competent person", "thorough examination" and "lifting appliance" are defined in Form No. 1.

NOTE: For recommendations on test procedures, reference may be made to the ILO document "Safety and Health in Dock Work".

SWL	Test load
Up to 20 tonnes	25 percent in excess.
20 to 50 tonnes	5 tonnes in excess.
Over 50 tonnes	10 percent in excess.

Form 3

2. Tests are to be carried out at the approved maximum height of the triangle plate above the hatch coaming or at the angle between the cargo runners and with the derrick booms in their working positions, to prove the strength of deck eye plates and the Union Purchase system. These heights or an-

IDENTITY OF NATIONAL AUTHORITY OR COMPETENT ORGANIZATION CERTIFICATE OF TEST AND THOROUGH EXAMINATION OF LOOSE GEAR

Name of Ship _____
 Official Number _____
 Call Sign _____
 Port of Registry _____
 Name of Owner _____
 Certificate No. _____

Distinguishing number or mark	Description of loose gear	Number tested	Date of test	Test load (tonnes)	Safe work load (SWL) (tonnes)

Name and address of makers or suppliers:
 Name and address of the firm or competent person who witnessed testing and carried out thorough examination.

International Labour Office in accordance with ILO Convention No. 152.

I certify that the above items of loose gear were tested and thoroughly examined and no defects affecting their SWL were found.

Reverse Form No. 3

INSTRUCTIONS

Date: _____
 Place: _____
 Signature: _____

1. Every item of loose gear is to be tested and thoroughly examined before being put into use for the first time and after any substantial alteration or repair to any part liable to affect its safety. The test loads to be applied shall be in accordance with the following table:

NOTE: This certificate is the standard international form as recommended by the

Item	Test load (tonnes)
Single sheave blocks (See Note 1)	4 × SWL
Multi sheave blocks (See Note 2):	
SWL < 25 tonnes	2 × SWL
25 tonnes < SWL ≤ 160 tonnes	(0.933 × SWL) + 27
SWL > 160 tonnes	1.1 × SWL
Chains, hooks, rings, shackles, swivels, etc.:	
SWL < 25 tonnes	2 × SWL
SWL > 25 tonnes	(1.22 × SWL) + 20
Lifting beams, spreaders, frames and similar devices:	
SWL ≤ 10 tonnes	2 × SWL
10 tonnes < SWL ≤ 160 tonnes	(1.04 × SWL) + 9.6
SWL > 160 tonnes	1.1 × SWL

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Form No. 4

NOTE: 1. The SWL for a single sheave block, including single sheave blocks with becketts, is to be taken as one-half of the resultant load on the head fitting.

2. The SWL of a multi-sheave block is to be taken as the resultant load on the head fitting.

3. This form may also be used for the certification of interchangeable components of lifting appliances.

4. The expression "ton" shall mean a ton of 1,000 kg.

5. The terms "competent person", "thorough examination" and "loose gear" are defined in Form No. 1.

NOTE: For recommendations on test procedures reference may be made to the ILO document "Safety and Health in Dock Work".

IDENTITY OF NATIONAL AUTHORITY OR COMPETENT ORGANIZATION CERTIFICATE OF TEST AND THOROUGH EXAMINATION OF WIRE ROPE

Name of Ship _____
 Official Number _____
 Call Sign _____
 Port of Registry _____
 Name of Owner _____
 Certificate No. _____

Name and address of maker or supplier	
Nominal diameter of rope (mm) Number of strands Number of wires per strand Core Lay Quality of wire (N/mm ²) Date of test of sample Load at which sample broke (tonnes) Safe working load of rope (tonnes) Intended use	

Name and address of the firm or competent person who witnessed testing and carried out thorough examination.

I certify that the above particulars are correct, and that the rope was tested and thoroughly examined and no defects affecting its SWL were found.

Date: _____
 Place: _____
 Signature: _____

NOTE: This certificate is the standard international form as recommended by the

International Labour Office in accordance with ILO Convention No. 152.

Reverse Form No. 4

INSTRUCTIONS

1. Wire rope shall be tested by sample, a piece being tested to destruction.
2. The test procedure should be in accordance with an International or recognized National standard.
3. The SWL of the rope is to be determined by dividing the load at which the sample broke, by a co-efficient of utilization, determined as follows:

Item	Coefficient
Wire rope forming part of a sling:	
SWL of the sling	5
SWL < 10 tonnes	10 ⁵
10 tonnes < SWL ≤ 160 tonnes	(8.85 × SWL) + 1910
SWL > 160 tonnes	3
Wire rope as integral part of a lifting appliance:	
SWL of lifting appliance	10 ⁴
SWL ≤ 160 tonnes	(8.85 × SWL) + 1910
SWL > 160 tonnes	3

These coefficients should be adopted unless other requirements are specified by a National Authority.

4. The expression "tonne" shall mean a tonne of 1000 kg.

5. The terms "competent person", "thorough examination" and "lifting appliance" are defined in Form No. 1.

NOTE: For recommendations on test procedures reference may be made to the ILO document "Safety and Health in Dock Work".

APPENDIX II TO PART 1918—TABLES FOR SELECTED MISCELLANEOUS AUXILIARY GEAR (MANDATORY)

NOTE: This appendix is mandatory and is to be used in the appropriate sections of part 1918 when certificates or the manufacturers' use recommendations are not available.

TABLE 1—WIRE ROPE CLIPS

Improved plow steel, rope (Inches (cm))	Minimum number of clips		Minimum spacing (Inches (cm))
	Drop forged	Other material	
1/2 or less (1.3)	3	4	3 (7.6)
5/8 (1.6)	3	4	3 3/4 (9.5)
3/4 (1.9)	4	5	4 1/2 (11.4)
7/8 (2.2)	4	5	5 1/4 (13.3)
1 (2.5)	5	6	6 (15.2)
1 1/8 (2.9)	6	6	6 3/4 (17.1)
1 1/4 (3.2)	6	7	7 1/2 (19.1)
1 3/8 (3.5)	7	7	8 1/4 (21.0)
1 1/2 (3.8)	7	8	9 (22.9)

TABLE 2—NATURAL FIBER ROPE AND ROPE SLINGS—LOAD CAPACITY IN POUNDS (LBS.) SAFETY FACTOR=5—EYE AND EYE SLING—BASKET HITCH
[Angle of rope to horizontal—90 deg. 60 deg. 45 deg. 30 deg.]

Rope diameter nominal inch	Vertical hitch	Choker hitch	Angle of rope to vertical			
			0 deg.	30 deg.	45 deg.	60 deg.
1/2	550	250	1,100	900	750	550
9/16	700	350	1,400	1,200	1,000	700
5/8	900	450	1,800	1,500	1,200	900
3/4	1,100	550	2,200	1,900	1,500	1,100
13/16	1,300	650	2,600	2,300	1,800	1,300
7/8	1,500	750	3,100	2,700	2,200	1,500
1	1,800	900	3,600	3,100	2,600	1,800
1 1/16	2,100	1,100	4,200	3,600	3,000	2,100
1 1/8	2,400	1,200	4,800	4,200	3,400	2,400
1 1/4	2,700	1,400	5,400	4,700	3,800	2,700
1 5/16	3,000	1,500	6,000	5,200	4,300	3,000
1 1/2	3,700	1,850	7,400	6,400	5,200	3,700
1 5/8	4,500	2,300	9,000	7,800	6,400	4,500
1 3/4	5,300	2,700	10,500	9,200	7,500	5,300
2	6,200	3,100	12,500	10,500	8,800	6,200
2 1/8	7,200	3,600	14,500	12,500	10,000	7,200
2 1/4	8,200	4,100	16,500	14,000	11,500	8,200
2 1/2	9,300	4,700	18,500	16,000	13,000	9,300
2 5/8	10,500	5,200	21,000	18,000	14,500	10,500

Endless Sling

1/2	950	500	1,900	1,700	1,400	950
9/16	1,200	600	2,500	2,200	1,800	1,200
5/8	1,600	800	3,200	2,700	2,200	1,600
3/4	2,000	950	3,900	3,400	2,800	2,000
13/16	2,300	1,200	4,700	4,100	3,300	2,300
7/8	2,800	1,400	5,600	4,800	3,900	2,800
1	3,200	1,600	6,500	5,600	4,600	3,200
1 1/16	3,800	1,900	7,600	6,600	5,400	3,800
1 1/8	4,300	2,200	8,600	7,500	6,100	4,300
1 1/4	4,900	2,400	9,700	8,400	6,900	4,900
1 5/16	5,400	2,700	11,000	9,400	7,700	5,400
1 1/2	6,700	3,300	13,500	11,500	9,400	6,700
1 5/8	8,100	4,100	16,000	14,000	11,500	8,100
1 3/4	9,500	4,800	19,000	16,500	13,500	9,500
2	11,000	5,600	22,500	19,500	16,000	11,000
2 1/8	13,000	6,500	26,000	22,500	18,500	13,000