

**VER. 2015/7/7**

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DD MM YY

## **GUIDELINES FOR ONBOARD LIFTING APPLIANCES AND WINCHES**

1 The Maritime Safety Committee, at its XX session (DD to DD MM YYYY), following a proposal by the Sub-Committee on Ship Systems and Equipment at its XXth session, approved Guidelines for onboard lifting appliances and winches, set out in the annex. The Guidelines provide guidance for the design, fabrication and construction for new installations; onboard procedures for routine inspection, maintenance and operation of lifting appliances and winches; and familiarization of ship's crew and shore-based personnel, required by SOLAS regulation II-1/3-13, as amended by resolution MSC.XXX(NN), applies.

2 Member Governments are invited to use the annexed Guidelines when applying the requirements of SOLAS regulation II-1/3-13, as amended by resolution MSC.XXX(NN), and to bring the aforementioned Guidelines to the attention of all parties concerned, in particular shipbuilders, shipmasters, shipowners, ship operators and shipping companies.

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## ANNEX

### GUIDELINES FOR ONBOARD LIFTING APPLIANCES AND WINTCHES

#### 1 Application

These guidelines are intended to provide detailed requirements for the design, fabrication and construction for new installations; onboard procedures for routine inspection, maintenance and operation of lifting appliances and winches; and familiarization of ship's crew and shore-based personnel.

#### 2 Definition

For the purpose of the Guidelines, the terms are defined as given in .1 through .XX below unless otherwise defined:

[to be developed in accordance with the application and contents of this guideline]

#### 3 Design, Fabrication and Construction of Crane

##### 3.1 [General] [Application]

##### 3.2 Materials and Fabrication

##### 3.3 [Design Criteria] [Design Loads]

The loads specified by the Recognized Organization or the Administration to be taken into the calculation of dimensions of structural members are to be those related to the crane concerned among the items enumerated from .1 to .11 below:

- .1 Safe working load of the cranes
- .2 Additional impact loads
- .3 Self-weight of crane system and cargo fittings attached thereto
- .4 Self-weight of loose gear
- .5 Friction of cargo blocks
- .6 Horizontal forces
- .7 Wind loading
- .8 Buffer forces
- .9 Loads due to ship inclination
- .10 Loads due to ship motion
- .11 Other loads considered necessary by the Recognized Organization or the Administration

##### 3.4 Strength and Construction

- .1 The strength of structural members is to be analyzed on the load conditions

specified in 3.3 to determine their dimensions according to requirements from .1 to .8 below:

- .1 Allowable Stress for Combined Loads
- .2 Buckling Strength
- .3 Combined Compressive Stress
- .4 Fatigue Strength
- .5 Minimum Thickness
- .6 Strength of Bolts, Nuts and Pins
- .7 Fixed Posts
- .8 Slewing-Ring Fixing Bolts

.2 When considered necessary the Recognized Organization or the Administration may require the confirmation of the appropriateness of strength analyses by examination of models or the things in question.

### **3.5 Loose Gear**

#### **3.5.1 [General] [Application]**

#### **3.5.2 Materials**

#### **3.5.3 Safe Working Loads**

**3.5.4 [Strength and Construction] [Constructional Arrangements] (e.g. scantling, diameter, safety factor and so forth)**

### **3.6 Ropes**

#### **3.6.1 [General] [Application]**

#### **3.6.2 Materials**

#### **3.6.3 Safe Working Loads**

**3.6.4 [Strength and Construction] [Constructional Arrangements] (e.g. diameter, safety factor and so forth)**

### **3.7 Machinery, [Electrical Installations][power supply] and Control Engineering System**

#### **3.7.1 [General] [Application]**

#### **3.7.2 Winches**

#### **3.7.3 [Electrical Installations][power supply]**

#### **3.7.4 Control Engineering System**

## **4 Design, Fabrication and Construction of Derrick**

### **4.1 General [Application]**

### **4.2 Materials and Fabrication**

### **4.3 Design Criteria [Design Loads]**

### **4.4 Strength and Construction of derrick posts, mast and stays**

#### **4.5 Strength and Construction of derrick booms**

#### **4.6 Fittings for masts and derrick booms (e.g. Blocks, ropes and so forth)**

### **5 Survey**

#### **5.1 General**

#### **5.2 Crane**

##### **5.2.1 Initial Survey**

At an Initial Survey, it is to be ascertained that the strength and construction of the load-handling appliances including the following items comply with the requirements specified by the Recognized Organization or the Administration based on the drawings and documents submitted to the Recognized Organization or the Administration:

- .1 Loose gear
- .2 Ropes
- .3 Protection and limitation devices
- .4 Winches, brakes and drums
- .5 Built-in sheave units
- .6 Hydraulic cylinders and pins
- .7 Jibs
- .8 Jib heel pins
- .9 Slewing columns and machinery deck
- .10 Stew bearing and bolts
- .11 Pedestal and foundations

##### **5.2.2 [Annual Thorough Surveys] [Periodical Survey]**

At [Annual Thorough Surveys] [Periodical Survey], the following items in .1 are to be visually examined and ascertained to be in good order. Where considered necessary by the Recognized Organization or Administration, the items in .2 are to be examined.

- .1 Items to be examined
  - .1 Loose gear
  - .2 Ropes
  - .3 Protection and limitation devices
  - .4 Winches, brakes and drums
  - .5 Built-in sheave units
  - .6 Hydraulic cylinders and pins
  - .7 Jibs
  - .8 Jib heel pins
  - .9 Slewing columns and machinery deck

- .10 Stew bearing and bolts
- .11 Pedestal and foundations
- .2 Items to be examined where considered necessary by the Recognized Organization or the Administration
  - .1 Checking of plate thickness of the structural members, non-destructive testing and open-up examinations of the bearings
  - .2 Inside of the posts, their legs and stiffeners of cranes
  - .3 Open-up examinations of the driving gears

## **5.3 Derrick**

### **5.3.1 Initial Survey**

At an Initial Survey, it is to be ascertained that the strength and construction of derricks including the following items comply with the requirements specified by the Recognized Organization or the Administration based on the drawings and documents submitted to the Recognized Organization or the Administration:

- .1 Loose gear
- .2 Ropes
- .3 Protection and limitation devices
- .4 Winches, brakes and drums
- .5 Deck fittings
- .6 Derrick booms
- .7 Mast fittings
- .8 Masts, derrick posts and guy posts

### **5.3.2 [Annual Thorough Surveys] [Periodical Survey]**

At [Annual Thorough Surveys] [Periodical Survey], the following items in .1 are to be visually examined and ascertained to be in good order. Where considered necessary by the Recognized Organization or the Administration, the items in .2 are to be examined.

- .1 Items to be examined
- .2 Items to be examined where considered necessary by the Recognized Organization or the Administration

## **6 Inspection and Maintenance**

- .1 The owner or operator of lifting appliances is to establish an inspection program taking into consideration the type, frequency of usage, history of maintenance, manufacturer's recommendations.
- .2 The owner or operator of lifting appliances is to examine the following items at frequent intervals between surveys. Inspection records are to be maintained by the

owner or operator and are to be made available to the Recognized Organization or the Administration during surveys.

- .1 Materials
- .2 Welds
- .3 Loose gear
- .4 Ropes
- .5 Protection and limitation devices
- .6 Winches, brakes and drums
- .7 Fittings

## **7 Documentation**

Form and Certificates as required by Article 25(2) of the ILO Convention concerning Occupational Safety and Health in Dock Work (No. 152) shall be prepared on board.

## **8 Familiarization of crew and shore-based staff**

**[Requirements will be specified in accordance with the IMO/ISM code]**

**[This part should be discussed at HTW Sub-Committee]**

## **9 Operation**

### **.1 Operator**

A certificate of competence must exist for every operator of a lifting appliance.

### **.2 Safe Means of Access and Egress and Safe Place of Work for Persons Engaged in Lifting Operations**

This requirement, involving the provision of safe means of access and egress, is directed towards the employees who are involved in lifting operations. This means the work involved in lifting operations, which includes the attaching of loads, using lifting gear, to lifting appliances prior to the loads being raised, lowered or suspended.

### **.3 Load Not To Exceed Safe Working Load**

The safe working load of a crane or a lifting appliance must never be exceeded under normal operating conditions.

### **.4 Labour Standards**

The International Labour Organization, which is the United Nations agency, formulates international labour standards in the form of Conventions and Recommendations setting minimum standards of workers' health and safety. Standards relating to lifting appliances forming part of a ship, are set out in Conventions made to ensure the health and safety of dockworkers.