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Circular

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关于符合 1974 SOLAS II-1/3-9 登离船设施检验通知

一. SOLAS II-1/3-9 登离船设施要求

IMO 以 MSC. 256 (84) 决议通过了 1974 SOLAS 修正案, 其中新增 II-1/3-9 条“登离船设施”要求如下:

1、2010 年 1 月 1 日及以后建造的船舶应配备符合下述第 2 段要求的登离船措施, 诸如跳板梯和舷梯, 以供船舶在港和在港有关操作使用。除非主管机关认为符合本规定不合理或不切合实际。

认为符合本规定不合理或不切实际的情况可包括如下:

(1) 船舶的干舷低, 并提供登船跳板;

(2) 船舶从事指定港口之间航行, 该指定港口均提供岸基登离船设施。

2、上述第 1 段要求的登离船设施应基于 IMO 制定的 MSC. 1/Circ. 1331《登离船设施构造、维护和检查/检验指南》予以构造和安装。

3、对所有船舶登离船设施应按 MSC. 1/ Circ. 1331 进行检查和维护, 以确保其处于预期用途的适用状态, 并考虑任何与安全负荷相关的限制。所有支持登离船设施的钢丝绳应按 SOLAS III/20.4 条规定予以维护。

二、检验要求

1. 下列船舶新安装的登离船设施应进行 SOLAS II-1/3-9 条符合性检验, 构成签发《客船安全证书》/《货船安全设备证书》的条件:

(1) 2010 年 1 月 1 日及以后安放龙骨的新船;

(2) 2010 年 1 月 1 日及以后更换登离船设施的所有船舶 (尽合理可行满族新的要求)。

2. 新安装的登离船设施符合性检验应包括其本身制造检验 (产品检验) 和船上安装检验, 以确认其符合 MSC. 1/Circ. 1331《登离船设施构造、维护和检查/检验指南》适用要求, 其中:

(1) 船舶审图应确认登离船设施在船上的布置符合 MSC. 1/Circ. 1331/3.1、3.2、3.3 和 3.4 的要求。

(2) 制造检验(产品检验)应确认登离船设施的设计和制造符合 MSC.1/Circ.1331 第 2.1 和/或 2.3 段所引用标准和 MSC.1/Circ.1331 第 2.2 条可维护性要求,并签发船用产品证书。

(3) 安装检验应确认登离船设施在船上的安装符合 MSC.1/Circ.1331 第 3.1-3.5 条要求,并按 3.6 进行试验。并通过静负荷试验确认梯子和船舶甲板之间连接平台以及相关附件能承受舷梯的最大工作负荷。

3. 所有营运中船舶应按 MSC.1/Circ.1331 适用要求进行定期检验,以验证登离船设施的维护状况并确认其适合预定用途的技术状况,检验范围至少包括:

(1) 确认船上对登离船设施维护符合 MSC.1/Circ.1331/4.1-4.6 和 3.7 要求;

(2) 按 MSC.1/Circ.1331/5 适用要求进行检查和操作试验。

4. ISM 审核应验证船上登离船设施放置和维护符合 MSC.1/Circ.1331/4.1-4.6 和 3.7 要求

附件 1: MSC.1/Circ.1331 (中、英文稿)

附件 2: 产品证书模版(跳板梯)

附件 2: 产品证书模版(舷梯)

登离船设施构造、维护和检查/检验指南

1. 应用

本文件旨在提供经 MSC256 (84) 决议修正的 1974 SOLAS II-1/3-9 条要求的登离船设施构造、维护和检查/检验的指南。如果船舶安装不同于本文件涵盖的特定登离船设施, 则应提供等效的安全水平。

2. 构造

- 2.1 配备在 2010 年 1 月 1 日及以后建造船舶上用于登离船设施的舷梯¹和跳板梯²应符合适用的国际标准, 如 ISO5488: 1979《造船—舷梯》、ISO7061: 1993《造船—海船铝质码头跳板梯》和/或国家标准和/或其他主管机关认可的要求。2010 年 1 月 1 日以前建造船舶上安装的舷梯, 如果在该日期之后被更换, 只要合理可行, 则应符合本指南。
- 2.2 舷梯和跳板梯及其配件和附件的构造应允许进行所有部件的定期检查和维护并, 如必要, 允许进行转动销加油润滑。应特别注意确保焊接连接工作适当地执行。
- 2.3 舷梯绞车的构造和试验应符合适用的国际标准, 如 ISO7364: 1983《造船和海上结构—甲板机械—舷梯绞车》

3. 安装

3.1 位置

只要切实可行, 登离船设施应位于非工作区域, 并不应置于货物或其他悬挂重物可能在其上空经过的位置。

3.2 照明

足够的照明应予以提供, 以照亮登离船设施、甲板上人员登离船和装置控制的位置。

3.3 救生圈

当登离船装置在使用时, 在其附近应备有一只带有一只自亮浮灯和一根救生浮索的救生圈, 以供即时使用。

3.4 布置

- 3.4.1 每部舷梯应具有在其设计最大操作倾斜角时, 下平台在按 SOLAS III/3.13 定义的最轻载航行水线以上不大于 600mm 的长度。

- 3.4.2 舷梯顶部的布置应提供梯子和船舶甲板之间直接通道, 该通道是一个由栏杆围住的通道。

¹ 中文“舷梯”系指英文“accommodation ladder”;

² 中文“跳板梯”系指英文“gangway”

杆和足够的扶手作安全防护的平台。梯子应安全放置于船舶以防止倾翻。

3.4.3 对于登离甲板高度在 3.4.1 段规定的水线之上超过 20m 的船舶，和主管机关认为符合 3.4.1 段规定不可行的其他船舶，提供船舶安全通道的替代措施或舷梯的底平台安全通道的

辅助设施可予以接受。

3.5 标记

在每部舷梯或跳板梯的两端应设置一块标记牌，以清楚显示安全操作和负荷限制，包括最大和最小允许设计倾斜角、设计负荷、最大底端板负荷等等。

如果最大操作负荷小于设计负荷，则最大操作负荷也应显示在标记牌上。

3.6 试验

3.6.1 安装后，绞车和舷梯应予以操作试验，以试验后确认绞车和梯子的适当操作和状态。

3.6.2 绞车应作为完整舷梯单元的一部分，按适用的国际标准，如 ISO7364:1983，规定的船上试验要求，通过提升和降放舷梯至少两次进行试验。

3.6.3 每一部新舷梯一旦安装应经受规定的最大工作负荷的静负荷试验。

3.7 放置

3.7.1 跳板梯使用时安放水平倾斜角不应大于 30°和舷梯使用时水平倾斜角不应大于 55°，除非设计和构造的使用倾角大于这些角度，并按 3.5 段规定予以标记。

3.7.2 跳板梯决不能紧固在船舶的栏杆，除非跳板梯的设计用于该用途。如果通过舷墙或栏杆的开口放置，跳板梯宽度范围以外的任何剩余开口应设置足够的栅栏。

3.7.3 在黑暗时间，登离船设施的足够的照明和直接通道应从船舶和/或岸上予以保证。

3.8 属具（安全网）

在人员从登离船设施或船舶与码头之间可能坠落的舷梯和跳板梯下应安放安全网。

3.9 验证

一旦安装，整个布置与本文件所述相关指南的符合性应予以验证。

4. 维护

4.1 舷梯和跳板梯，包括相关的绞车和配件应按 SOLASIII/20.7.2 要求的适当时间间隔，并根据制造厂说明书进行适当维护和检查。另外，每次使用应检查舷梯和跳板梯属具装备、注意扭曲变形、裂纹和腐蚀的迹象。特别当铝质舷梯/跳板梯装有碳钢配件时，应进行可能腐蚀的近观检查。

- 4.2 弯曲的支柱应予以更换或修理，和扶手绳应检查磨损，并必要时换新。
- 4.3 活动部件应能自由转动，并应适当时加注润滑油脂。
- 4.4 升降设备应予以检查、试验和维护，特别关注升降钢丝绳的状况。按 SOLAS II-1/3-9 要求，支持登离船设施的钢丝绳应在必要时换新。
- 4.5 跳板梯和舷梯下侧状况的定期检查也应作出安排。
- 4.6 舷梯和跳板梯的所有检查、维护工作的修理应予以记录以提供每一装置的真实历史。船上适当记录的信息应包括最近检查日期、检查人员或机构名称、下次检查的到期日期和用于支持登离船装置的钢丝绳换新日期。
5. SOLAS I/7 和 I/8 要求的检验期间的检查和操作试验。
 - 5.1 舷梯/跳板梯和吊架
 - 5.1.1 舷梯
 - 5.1.1.1 在 SOLAS I/7 和 I/8 要求的年度检验时，下列项目应进行全面检查：
 - 1) 踏步；
 - 2) 平台；
 - 3) 所有支持点，如枢轴、转轴等；
 - 4) 所有悬挂点，如耳板、肘板；
 - 5) 支柱、刚性扶手栏杆、扶手绳和转盘；
 - 6) 吊架结构、钢丝绳和滑车，等等，和；
 - 7) 本指南所述任何其他相关规定。
 - 5.1.1.2 在每第五个年度检验时，一旦完成 5.1.1.1 段要求的检查，舷梯应进行梯子最大 操作负荷的操作试验。
 - 5.1.2 跳板梯
 - 5.1.2.1 在 SOLAS I/7 和 I/8 要求的年度检验时，下列项目应进行全面检查，并检查跳板梯满意状态：
 - 1) 踏步；
 - 2) 两侧纵材、横筋、踏板等
 - 3) 所有支持点，如轮、滚辊，等；
 - 4) 支柱、刚性扶手栏杆、扶手绳，和；
 - 5) 本指南所述任何其他相关规定。
 - 5.1.2.2 在每第五个年度检验时，一旦完成 5.1.2.1 段要求的检查，跳板梯应进行其最大操作负荷的操作试验。
 - 5.2 绞车
 - 5.2.1 在 SOLAS I/7 和 I/8 要求的年度检验时，下列项目应进行满意状态检查：
 - 1) 刹车机械包括制动块和带闸（如装有）的状况；

2) 遥控系统; 和

3) 供电系统 (电机)。

5.2.2 在每第五个年度检验时,一旦完成 5.2.1 段要求的检查,绞车应进行舷梯最大操作负荷的操作试验。

5.3 试验

5.3.1 5.1 和 5.2 段规定的试验的目的是确认舷梯、跳板梯和/或绞车 (如适当) 的适当操作。

5.3.2 试验负荷应:

1) 设计负荷; 或

2) 最大操作负荷, 如果该负荷小于设计负荷, 并按 3.5 段予以标记; 或

3) 船东或经营者指定的负荷, 仅在设计负荷或最大操作负荷不知道的情况 (例如, 2010 年 1 月 1 日之前建造船舶上安装的舷梯或跳板梯), 在此情况指定负荷应作为本指南范围内所有用途的最大操作负荷。

5.3.3 试验应在尽可能沿舷梯或跳板梯长度方向均匀施加负荷, 并在舷梯或跳板梯的最大弯矩对应的倾斜角的条件下进行。

5.3.4 适用试验满意完成并确认试验项目无永久变形或损坏后, 试验负荷应根据 3.5 段标记为最大操作负荷。

5.4 配件和吊架

在 SOLASI/7 和 I/8 要求的年度检验时, 所有船舶甲板上有关舷梯或跳板梯的配件和吊架应检查其满意状态。

5.5 进入甲板通道

在 SOLASI/7 和 I/8 要求的年度检验时, 所有进入甲板通道的配件和结构如通道口扶手或舷墙梯和支柱应检查其满意状态。



Ref. T4/3.01

MSC.1/Circ.1331
11 June 2009

**GUIDELINES FOR CONSTRUCTION, INSTALLATION, MAINTENANCE AND
INSPECTION/SURVEY OF MEANS OF EMBARKATION AND DISEMBARKATION**

1 The Maritime Safety Committee, at its eighty-sixth session (27 May to 5 June 2009), with a view to providing specific guidance on the construction, installation, maintenance and inspection/survey of means of embarkation and disembarkation such as accommodation ladders and gangways required under regulation II-1/3-9 of the 1974 SOLAS Convention, approved the Guidelines for construction, installation, maintenance and inspection/survey of means of embarkation and disembarkation, prepared by the Sub-Committee on Ship Design and Equipment at its fifty-second session, as set out in the annex.

2 Member Governments are invited to bring the attached Guidelines to the attention of shipowners, shipbuilders, designers, manufacturers, port State control authorities and other parties concerned in conjunction with SOLAS regulation II-1/3-9 (Means of embarkation on and disembarkation from ships).

ANNEX

GUIDELINES FOR CONSTRUCTION, INSTALLATION, MAINTENANCE AND INSPECTION/SURVEY OF MEANS OF EMBARKATION AND DISEMBARKATION

1 APPLICATION

This document is intended to provide Guidelines for the construction, installation, maintenance and inspection/survey of means of embarkation and disembarkation required under regulation II-1/3-9 of the 1974 SOLAS Convention, adopted by resolution MSC.256(84). Where means of embarkation and disembarkation other than those specifically covered by these Guidelines are fitted, an equivalent level of safety should be provided.

2 CONSTRUCTION

2.1 Accommodation ladders and gangways for means of embarkation and disembarkation which are provided on board ships constructed on or after 1 January 2010 should meet applicable international standards such as ISO 5488:1979, *Shipbuilding – accommodation ladders*, ISO 7061:1993, *Shipbuilding – aluminium shore gangways for seagoing vessels* and/or national standards and/or other requirements recognized by the Administration. Such accommodation ladders and gangways fitted on ships constructed before 1 January 2010, which are replaced after that date, should, in so far as is reasonable and practicable, comply with these Guidelines.

2.2 The structure of the accommodation ladders and gangways and their fittings and attachments should be such as to allow regular inspection, maintenance of all parts and, if necessary, lubrication of their pivot pin. Special care should be taken to ensure that the welding connection works are properly performed.

2.3 The construction and test of accommodation ladder winches should be in accordance with applicable international standards such as ISO 7364:1983 *Shipbuilding and marine structures – deck machinery – accommodation ladder winches*.

3 INSTALLATION

3.1 Location

As far as practicable, the means of embarkation and disembarkation should be sited clear of the working area and should not be placed where cargo or other suspended loads may pass overhead.

3.2 Lighting

Adequate lighting should be provided to illuminate the means of embarkation and disembarkation, the position on deck where persons embark or disembark and the controls of the arrangement.

3.3 Lifebuoy

A lifebuoy equipped with a self-igniting light and a buoyant lifeline should be available for immediate use in the vicinity of the embarkation and disembarkation arrangement when in use.

3.4 Arrangement

3.4.1 Each accommodation ladder should be of such a length to ensure that, at a maximum design operating angle of inclination, the lowest platform will be not more than 600 mm above the waterline in the lightest seagoing condition, as defined in SOLAS regulation III/3.13.

3.4.2 The arrangement at the head of the accommodation ladder should provide direct access between the ladder and the ship's deck by a platform securely guarded by handrails and adequate handholds. The ladder should be securely attached to the ship to prevent overturning.

3.4.3 For ships on which the height of the embarkation/disembarkation deck exceeds 20 m above the waterline specified in paragraph 3.4.1 and on other ships for which the Administration considers compliance with the provisions of paragraph 3.4.1 impractical, an alternative means of providing safe access to the ship or supplementary means of safe access to the bottom platform of the accommodation ladder may be accepted.

3.5 Marking

Each accommodation ladder or gangway should be clearly marked at each end with a plate showing the restrictions on the safe operation and loading, including the maximum and minimum permitted design angles of inclination, design load, maximum load on bottom end plate, etc. Where the maximum operational load is less than the design load, it should also be shown on the marking plate.

3.6 Test

3.6.1 After installation, the winch and the accommodation ladder should be operationally tested to confirm proper operation and condition of the winch and the ladder after the test.

3.6.2 The winch should be tested as a part of the complete accommodation ladder unit through a minimum of two times hoisting and lowering of the accommodation ladder in accordance with the onboard test requirement specified in applicable international standards such as ISO 7364:1983.

3.6.3 Every new accommodation ladder should be subjected to a static load test of the specified maximum working load upon installation.

3.7 Positioning

3.7.1 Gangways should not be used at an angle of inclination greater than 30° from the horizontal and accommodation ladders should not be used at an angle greater than 55° from the horizontal, unless designed and constructed for use at angles greater than these and marked as such, as required by paragraph 3.5.

3.7.2 Gangways should never be secured to a ship's guardrails unless they have been designed for that purpose. If positioned through an open section of bulwark or railings, any remaining gaps should be adequately fenced.

3.7.3 Adequate lighting for means of embarkation and disembarkation and the immediate approaches should be ensured from the ship and/or the shore in hours of darkness.

3.8 Rigging (safety net)

A safety net should be mounted in way of the accommodation ladders and gangways where it is possible that a person may fall from the means of embarkation and disembarkation or between the ship and quayside.

3.9 Verification

Upon installation, the compliance of the entire arrangement with these Guidelines should be verified.

4 MAINTENANCE

4.1 Accommodation ladders and gangways, including associate winch and fittings, should be properly maintained and inspected at appropriate intervals as required by SOLAS regulation III/20.7.2, in accordance with manufacturers' instructions. Additional checks should be made each time the accommodation ladder and gangway is rigged, looking out for signs of distortion, cracks and corrosion. Close examination for possible corrosion should be carried out, especially when an aluminium accommodation ladder/gangway has fittings made of mild steel.

4.2 Bent stanchions should be replaced or repaired and guard ropes should be inspected for wear and renewed where necessary.

4.3 Moving parts should be free to turn and should be greased as appropriate.

4.4 The lifting equipment should be inspected, tested and maintained paying careful attention to the condition of the hoist wire. The wires used to support the means of embarkation and disembarkation should be renewed when necessary, as required by SOLAS regulation II-1/3-9.

4.5 Arrangements should also be made to examine the underside of gangways and accommodation ladders at regular intervals.

4.6 All inspections, maintenance work and repairs of accommodation ladders and gangways should be recorded in order to provide an accurate history for each appliance. The information to be recorded appropriately on board should include the date of the most recent inspection, the name of the person or body who carried out that inspection, the due date for the next inspection and the dates of renewal of wires used to support the embarkation and disembarkation arrangement.

5 EXAMINATION AND OPERATIONAL TEST DURING SURVEYS REQUIRED BY SOLAS REGULATIONS I/7 AND I/8

5.1 Accommodation ladders/gangways and davits

5.1.1 Accommodation ladder

5.1.1.1 The following items should be thoroughly examined during annual surveys required by SOLAS regulations I/7 and I/8 and checked for satisfactory condition of the accommodation ladder:

- .1 steps;
- .2 platforms;

- .3 all support points such as pivots, rollers, etc.;
- .4 all suspension points such as lugs, brackets, etc.;
- .5 stanchions, rigid handrails, hand ropes and turntables;
- .6 davit structure, wire and sheaves, etc.; and
- .7 any other relevant provisions stated in these Guidelines.

5.1.1.2 At every five-yearly survey, upon completion of the examination required by paragraph 5.1.1.1, the accommodation ladder should be operationally tested with the specified maximum operational load of the ladder.

5.1.2 Gangway

5.1.2.1 The following items should be thoroughly examined during annual surveys required by SOLAS regulations I/7 and I/8 and checked for satisfactory condition of the gangway:

- .1 treads;
- .2 side stringers, cross-members, decking, deck plates, etc.;
- .3 all support points such as wheel, roller, etc.;
- .4 stanchions, rigid handrails, hand ropes; and
- .5 any other relevant provisions stated in these Guidelines.

5.1.2.2 At every five-yearly survey, upon completion of the examination required by paragraph 5.1.2.1, the gangway should be operationally tested with the specified maximum operational load of the gangway.

5.2 Winch

5.2.1 During annual surveys required by SOLAS regulations I/7 and I/8, the following items should be examined for satisfactory condition:

- .1 brake mechanism including condition of brake pads and band brake, if fitted;
- .2 remote control system; and
- .3 power supply system (motor).

5.2.2 At every five-yearly survey, upon completion of the examination required by paragraph 5.2.1, the winch should be operationally tested with the specified maximum operational load of the accommodation ladder.

5.3 Tests

5.3.1 The tests specified in sections 5.1 and 5.2 are for the purpose of confirming the proper operation of the accommodation ladder, gangway and/or winch, as appropriate.

5.3.2 The load used for the test should be:

- .1 the design load; or
- .2 the maximum operational load, if this is less than the design load and marked as per paragraph 3.5; or
- .3 the load nominated by the shipowner or operator only in those cases where the design load or maximum operational load is not known (e.g., for accommodation ladders or gangways which are provided on board ships constructed prior to 1 January 2010), in which case that nominated load should be used as the maximum operational load for all purposes within these Guidelines.

5.3.3 The tests should be carried out with the load applied as uniformly as possible along the length of the accommodation ladder or gangway, at an angle of inclination corresponding to the maximum bending moment on the accommodation ladder or gangway.

5.3.4 Following satisfactory completion of the applicable test(s) without permanent deformation or damage to the tested item, the load used for that test should be marked as the maximum operational load in accordance with paragraph 3.5.

5.4 Fittings and davits

During annual surveys required by SOLAS regulations I/7 and I/8, all fittings and davits on the ship's deck associated with accommodation ladders and gangways should be examined for satisfactory condition.

5.5 Means of access to deck

During annual surveys required by SOLAS regulations I/7 and I/8, the fittings or structures for means of access to decks such as handholds in a gateway or bulwark ladder and stanchions should be examined for satisfactory condition.
