INTERNATIONAL MARITIME ORGANIZATION

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4 ALBERT EMBANKMENT
LONDON SE1 7SR
Telephone: +44 (0)20 7735 7611 Fax: +44 (0)20 7587 3210

MSC.1/Circ.1632
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REVISED STANDARDIZED LIFE-SAVING APPLIANCE EVALUATION AND TEST REPORT FORMS (LAUNCHING AND EMBARKATION APPLIANCES)

1 The Maritime Safety Committee, at its 102nd session (4 to 11 November 2020), approved the *Revised standardized life-saving appliance evaluation and test report forms*.

2 The original forms, as set forth in the *Standardized life-saving appliance evaluation and test report forms* (MSC/Circ.980) and its addenda, were developed on the basis of the requirements of the International Life-Saving Appliance (LSA) Code and the *Revised recommendation on testing of life-saving appliances* (resolution MSC.81(70)) by the Maritime Safety Committee, at its seventy-third session in 2001, with a view to providing guidance on how to conduct tests, record test data and verify tests. The Committee has since adopted seven amendments to the LSA Code and eight amendments to resolution MSC.81(70). These amendments have been incorporated in the original forms which, due to their volume, are now presented in six separate circulars, i.e. MSC.1/Circ.1628, MSC.1/Circ.1629, MSC.1/Circ.1630, MSC.1/Circ.1631, MSC.1/Circ.1632 and MSC.1/Circ.1633, pertaining to the equipment addressed in chapters II to VII of the LSA Code, respectively. The forms annexed to this circular apply to the equipment addressed in chapter VI of the LSA Code, i.e. launching and embarkation appliances (launching and embarkation appliances; marine evacuation systems; and means of rescue).

3 The use of the revised forms will continue to be of benefit to Administrations and other parties, such as manufacturers, test facilities, owners and surveyors, and will be a major help in mutually accepting the type approval of appliances approved by other Administrations.

4 Member Governments are invited to bring the annexed, revised forms to the attention of all parties concerned with approving, manufacturing and testing life-saving appliances and to encourage them to use the forms.

5 This circular supersedes MSC/Circ.980.

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SUSTAINABLE SHIPPING FOR A SUSTAINABLE PLANET

ANNEX

REVISED STANDARDIZED LIFE-SAVING APPLIANCE EVALUATION AND TEST REPORT FORMS (LAUNCHING AND EMBARKATION APPLIANCES)

INTRODUCTION

Reference

These standardized life-saving appliance evaluation and test report forms have been revised on the basis of the requirements of the International Life-Saving Appliance (LSA) Code, as amended through resolution MSC.425(98), *the Revised recommendation on testing of life-saving appliances* (resolution MSC.81(70)), as amended through resolution MSC.427(98), and the *Recommendation on means of rescue on ro-ro passenger ships* (MSC/Circ.810).

Status

In general, the tests described in the Revised Recommendation (resolution MSC.81(70)) constitute the test procedures and the LSA Code sets the acceptance criteria. The evaluation and test report forms are guidelines on how to conduct tests, record test data and verify tests. These forms are not intended to change the standards given in the LSA Code and the Revised Recommendation, as amended. In the case of inconsistency between the forms and the LSA Code or the Revised Recommendation, the text of the Code/resolution should prevail over that of the forms.

Layout

Each Administration may use electronically distributed evaluation and test report forms as the basis for customising the layout to reflect the profile of the approving body, without changing the original contents.

Internal references

The evaluation and test report forms should be stand-alone documents. Therefore, all internal references in the original text from the LSA Code or the Revised Recommendation have been replaced by either the full-length text or a reference to other relevant evaluation and test report forms. However, in some of the forms, external references are kept for updating purposes.

Documentation of tests

For approval purposes, all detailed records of test data are to be enclosed with the report forms.

Verification of tests

Each test is to be verified passed or failed by an Administration representative's initials (e.g. recognized organization or surveyor) and date of testing. Each page is to be verified on completion by the Administration representative's signature and its date of completion.

Reporting of type approval

To facilitate unified reporting procedures, the completed evaluation and test report forms are to be seen as a documented verification of required type approval tests for each type of equipment. When documentation of type approval is required by a third party, the verified evaluation and test report forms should constitute the complete documentation of the type approval together with the relevant approval certificates.

REVISED STANDARDIZED LIFE-SAVING APPLIANCE EVALUATION AND TEST REPORT FORMS (LAUNCHING AND EMBARKATION APPLIANCES)

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6.1.1 LAUNCHING AND RECOVERY APPLIANCES

EVALUATION AND TEST REPORT

Manufacturer	
System type	
Serial Number	
Maximum Working Load	
Maximum Turning Moment	
Winch type	
Serial number	
Date	
Place	
Name and signature of surveyor	
Approval Organization	

Launching and recovery appliances	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

6.1.1.1 Submitted drawings, reports and documents

Submitted drawings and documents			**Status**
Drawing No.	**Revision No. & date**	**Title of drawing**	
Submitted reports and documents			**Status**
Report/Document No.	**Revision No. & date**	**Title of report/document**	
		Maintenance Manual	
		Operations Manual	

Launching and recovery appliances	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

6.1.1.2 Quality assurance	**Regulations: MSC.81(70) 2/1.1 and 1.2**
Except where all appliances of a particular type are required by chapter III of the International Convention for the Safety of Life at Sea, 1974, as amended, or the International Life-Saving Appliance (LSA) Code, to be inspected, representatives of the Administration should make random inspection of manufacturers to ensure that the quality of life-saving appliances and the materials used comply with the specification of the approved prototype life-saving appliance. Manufacturers should be required to institute a quality control procedure to ensure that life-saving appliances are produced to the same standard as the prototype life-saving appliance approved by the Administration and to keep records of any production tests carried out in accordance with the Administration's instructions.	Quality assurance Standard Used: _____ Quality assurance Procedure: _____ Quality assurance Manual: _____ Description of System: Quality assurance System acceptable Yes/No Comments/Observations

Launching and recovery appliances	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

6.1.1.3 Visual inspection		**Regulations: LSA Code 6.1; SOLAS III, 16**
Test Procedure	Acceptance Criteria	Significant Test Data
Confirm that installation has been manufactured to approved drawings.	Amount of maintenance should be restricted to a minimum.	Passed/Failed
Visually inspect the appliance. Conduct measurements and verify clearances as required.	Parts which require maintenance should be easily accessible and easily maintained.	Passed/Failed
	Effectiveness under icing conditions.	Passed/Failed
	The launching mechanism should be so arranged that it may be actuated by one person from a position within the survival craft or rescue boat.	Passed/Failed
Remote control	Manual brakes should be so arranged that the brake is always applied, unless the operator or a mechanism activated by operator holds the brake control in the "off" position.	Type:
Limit switches	Where davit arms are recovered by power, safety devices should be fitted which will automatically cut off the power before the davit arms reach the stops in order to prevent over-stressing the falls or davits, unless the motor is designed to prevent such over-stressing.	Type:
Provisions for hanging off pendants	There should be provisions for hanging-off the lifeboat to free the release gear for maintenance.	Passed/Failed continued

Launching and recovery appliances	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

6.1.1.3 Visual inspection (continued)		**Regulations: LSA Code 6.1.1.6; SOLAS III, 16**
Test Procedure	Acceptance Criteria	Significant Test Data
	Structural members and all blocks, falls, pad eyes, links, fastenings and all other fittings used in connection with launching equipment should be designed with a factor of safety on the basis of the maximum working load assigned and the ultimate strengths of the materials used for construction. A minimum factor of safety of 4.5 should be applied to all structural members including winch structural components and a minimum factor of safety of 6 should be applied to falls, suspension chains, links and blocks.	Passed/Failed Comments/Observations

Launching and recovery appliances	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

6.1.1.4 Static proof load test		**Regulations: LSA Code 6.1.1.5 - 6.1.1.6; MSC.81(70) 1/8.1.1**
Test Procedure	Acceptance Criteria	Significant Test Data
For lifeboats other than free-fall lifeboats, davits and launching appliances, except winches, should be subjected to a static proof load of 2.2 times their maximum working load. With the load at the full outboard position, the load should be swung through an arc of approximately 10^0 to each side of vertical in the intended fore and aft plane. The test should be done first in the upright position, followed by tests simulating a shipboard condition of list of 20^0 both inboard and outboard.	The launching appliance and its attachments other than winches should be of sufficient strength to withstand a static proof load on test of not less than 2.2 times the maximum working load. There should be no evidence of significant deformation or other damage as a result of this test.	MWL: ..... kN Test load (2.2 x MWL): ..... kN There should be no evidence of significant deformation or other damage Passed/Failed Upright Passed/ Failed 20^0 inboard list Passed/ Failed 20^0 outboard list Passed/ Failed

Launching and recovery appliances	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

6.1.1.5 Operational load test	**Regulations: LSA Code 6.1.1.1 - 6.1.1.3; MSC.81(70) 1 /8.1.2**	
Test Procedure	Acceptance Criteria	Significant Test Data
For lifeboats other than free-fall lifeboats, a mass equal to 1.1 times the maximum working load should be suspended from the lifting points with the launching appliance in the upright position. The load should be moved from the full inboard to the full outboard position using the means of operation that is used on the ship. The test should be repeated with the launching appliance positioned to simulate a combined 20^0 inboard list and 10^0 trim. All the tests should be repeated with a mass equal to that of a fully equipped lifeboat, without persons, or the lightest survival craft intended for the use with the davit to ensure the satisfactory functioning of the davit under very light load conditions.	The appliance should successfully lower the load under all of the conditions, and there should be no evidence of significant deformation or other damage as a result of the tests. Each launching appliance together with all its lowering and recovery gear should be so arranged that the fully equipped survival craft or rescue boat it serves can be safely lowered against a trim of up to 10^0 and a list of up to 20^0 either way: When boarded, as required by regulation III/23 or III/33, by its full complement of persons; and Without persons in the survival craft or rescue boat.	weight of the lightest lifeboat / rescue boat ** intended for use: LWL: ..... kN MWL: …..... kN Test load (1.1 x MWL): ..... kN clear of davit horn?** Passed/ Failed Does the appliance successfully lower the load under these conditions without evidence of significant deformation or damage? Passed/Failed upright (1,1x MWL) Passed/Failed 20^0 inboard list + 10^0 trim (1.1xMWL) Passed/Failed 20^0 inboard list + 10^0 trim (LWL) Passed/Failed ** if applicable continued

Launching and recovery appliances	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

6.1.1.5 Operational load test (continued)		**Regulations: LSA Code 6.1.1.1 - 6.1.1.3; MSC.81(70) 1 /8.1.2**
Test Procedure	Acceptance Criteria	Test Procedure
Note: Notwithstanding the 10^0 trim and 20^0 list requirements, lifeboat launching appliances for oil tankers, chemical tankers and gas carriers with a final angle of heel greater than 20^0 should be capable of operating at the final angle of heel on the lower side of the ship, taking into consideration the final damaged waterline of the ship.	A launching appliance should not depend on any means other than gravity or stored mechanical power which is independent of the ship's power supplies to launch the survival craft or rescue boat it serves in the fully loaded and equipped condition and also in the light condition.	Stored power Passed/Failed Start pressure: k Pa Min. pressure: k Pa Pressure drop after one movement: k Pa Time from inboard to outboard: sec ** if applicable

Launching and recovery appliances	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

6.1.1.6 Turning in test		**Regulations: LSA Code 6.1.1.3; MSC.81(70) 1 /8.1.3**
Test Procedure	Acceptance Criteria	Significant Test Data
A mass equal to 1.1 times the maximum working load should be suspended from the lifting points with the launching appliance in the full upright position. The load should be moved from the full inboard position to the full outboard using the means of operation that is used on the ship.	The appliance should successfully move the maximum designed hoisting load from the outboard to the inboard position without causing permanent deformation or other damage.	maximum designed hoisting load: kN Does the launching appliance successfully move the load from outboard to inboard? Passed/Failed Does the launching appliance show any evidence of significant deformation or other damage as a result of this test? Passed/Failed

Launching and recovery appliances	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

6.1.1.7 Winch brake test		**Regulations: LSA Code 6.1.2.5; MSC.81(70) 1 /8.1.4**
Test Procedure	Acceptance Criteria	Significant Test Data
Winch drums should be wound to the maximum number of turns permitted and a static test load of 1.5 times the maximum working load should be applied and held by the brake. This load should then be lowered for at least one complete revolution of the barrel shaft. A test load of 1.1 times the maximum working load should then be lowered at maximum lowering speed through a distance of at least 3 m and stopped by applying the hand brake sharply. This test should be repeated a number of times. If the winch design incorporates an exposed brake, one of these tests should be carried out with the brake wetted but in this case the stopping distance may be exceeded. The various tests should achieve a cumulative lowering distance of at least 150 m. Operation of the winch with a load of a mass equal to that of a fully equipped lifeboat, without persons, or the lightest survival craft intended for use with the winch should also be demonstrated.	The test load should drop no more than 1 m when the brake is applied (except that the stopping distance may be exceeded if an exposed brake is wetted). The launching appliance should successfully lower a mass equal to that of a fully equipped lifeboat, without persons, or the lightest craft (or rescue boat) intended for use with the winch.	weight of the lightest lifeboat/rescue boat***** : ..... kN MWL: ..... kN Test 1: Static test load (1.5 x MWL): ..... kN Does the brake test hold the test load (1.5x MWL)? pass/fail MWM: kNm Drum diam mm Wire diam. mm Number of turns Max. lowering speed m/s Test 2 Dynamic Test load (1,1 x MWL): kN brake test carried out after > 3m with max lowering speed Stop within 1 metre? Passed/Failed * delete as appropriate continued

Launching and recovery appliances	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

6.1.1.7 Winch brake test (continued)		**Regulations: LSA Code 6.1.2.5; MSC.81(70) 1 /8.1.4**
Test Procedure	Acceptance Criteria	Significant Test Data
Following completion of these test (and 6.1.1.8, 6.1.1.9), the winch should be stripped for inspection.	Inspection of the stripped winch should reveal no significant damage or undue wear.	1st stop > 3m 2nd stop: m 3rd stop: m 4th stop: m 5th stop: m Total lowering distance > 150 m Passed/ Failed Test 3 (if applicable) Winch design incorporates an exposed brake? Yes / No Wet stopping distance m Passed/ Failed Test 4 Test load (LWL) kN Lowering test with LWL satisfactory? Passed/ Failed Does the inspection of the stripped winch reveal any significant damage or undue wear? Passed/ Failed Remarks:

Launching and recovery appliances	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

6.1.1.8 Rescue boat launching appliance recovery speed test	**Regulations: LSA Code 6.1.1.9; MSC.81(70) 1 /8.1.5**	
Test Procedure	Acceptance Criteria	Significant Test Data
It should be demonstrated that a winch intended for use with a rescue boat is capable of recovering the rescue boat with the number of persons for which it is to be approved and its equipment or an equivalent mass at a rate of not less than 0.3 m/s.	Each rescue boat launching appliance should be fitted with a powered winch motor capable of raising the rescue boat from the water with its full rescue boat complement of persons and equipment at a rate of not less than 0.3 m/s.	Hoisting load: measured recovering speed of the boat: m/s

6.1.1.9 Hand operation test	**Regulations: LSA Code 6.1.2.6; MSC.81(70) 1 /8.1.6**	
Test Procedure	Acceptance Criteria	Significant Test Data
The hand operation of the winch should be demonstrated. If the winch is designed for quick recovery by hand with no load, this should be demonstrated with a load of 1.5 times the mass of the empty lifting arrangements.	An efficient hand gear should be provided for recovery of each survival craft and rescue boat. Hand gear handles or wheels should not be rotated by moving parts of the winch when the survival craft or rescue boat is being lowered or when it is being hoisted by power.	Hoisting load: Test 1: Test load (1 x hoisting load): winch can be operated satisfactorily by hand? Passed/ Failed Arrangement provided for protection against moving parts and rotating handles? Passed/ Failed Type: Test 2: Only for quick recovery Test load (1.5 x weight of empty lifting arrangement): kN Is quick recovery satisfactory? Passed/ Failed

6.1.2 FREE-FALL LAUNCHING AND RECOVERY APPLIANCES

EVALUATION AND TEST REPORT

6.1.2.1 Submitted drawings, reports and documents

6.1.2.2 Quality assurance

6.1.2.3 Visual inspection

6.1.2.4 Static proof load test

6.1.2.5 Operational load test (secondary means of launching)

6.1.2.6 Turning in test

6.1.2.7 Winch brake test

6.1.2 FREE-FALL LAUNCHING AND RECOVERY APPLIANCES

EVALUATION AND TEST REPORT

Manufacturer	
System type Serial number	
Maximum Working Load	
Maximum Turning Moment	
Winch type	
Serial number	
Date	
Place	
Name and signature of surveyor	
Approval Organization	

Free-fall launching and recovery appliances	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

6.1.2.1 Submitted drawings, reports and documents

Submitted drawings and documents			
Drawing No.	**Revision No. & date**	**Title of drawing**	**Status**

Submitted reports and documents			
Report/Document No.	**Revision No. & date**	**Title of report/document**	**Status**
		Maintenance Manual	
		Operations Manual	

Free-fall launching and recovery appliances	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

6.1.2.2 Quality assurance	**Regulations: MSC.81(70) 2/1.1 and 1.2**
Except where all appliances of a particular type are required by chapter III of the International Convention for the Safety of Life at Sea, 1974, as amended, or the International Life-Saving Appliance (LSA) Code, to be inspected, representatives of the Administration should make random inspection of manufacturers to ensure that the quality of life-saving appliances and the materials used comply with the specification of the approved prototype life-saving appliance. Manufacturers should be required to institute a quality control procedure to ensure that life-saving appliances are produced to the same standard as the prototype life-saving appliance approved by the Administration and to keep records of any production tests carried out in accordance with the Administration's instructions.	Quality assurance Standard Used: Quality assurance Procedure: Quality assurance Manual: Description of System: Quality assurance System acceptable Yes/No Comments/Observations

Free-fall launching and recovery appliances	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

6.1.2.3 Visual inspection		**Regulations: LSA Code 6.1.1.6, 6.1.4**
Test Procedure	Acceptance Criteria	Significant Test Data
Confirm that installation has been manufactured to approved drawings. Visually inspect the launching appliance. Conduct measurements and verify clearance as required. Limit switches Arrangements for simulated launching	Amount of maintenance to be restricted to minimum. Parts which require maintenance should be easily accessible and easily maintained. Effectiveness under icing conditions. Where davit arms are recovered by power, safety devices should be fitted which will automatically cut off the power before the davit arms reach the stops in order to prevent over-stressing the falls or davits, unless the motor is designed to prevent such over-stressing. Arrangements for simulated launching should be of sufficient strength to withstand a static proof load on test of not less than 2.2 times the maximum working load. Structural members and all blocks, falls, pad eyes, links, fastenings and all other fittings used in connection with launching equipment should be designed with a factor of safety on the basis of the maximum working load assigned and the ultimate strengths of the materials used for construction. A minimum factor of safety of 4.5 should be applied to all structural members including winch structural components and a minimum factor of safety of 6 should be applied to falls, suspension chains, links and blocks.	Passed/Failed Passed/Failed Passed/Failed Type Passed/Failed Type Comments/Observations

Free-fall launching and recovery appliances	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

6.1.2.4 Static proof load test		**Regulations: LSA Code 6.1.1.5 - 6.1.1.6; MSC.81(70) 1 /8.1.1**
Test Procedure	Acceptance Criteria	Significant Test Data
The launching appliances for lowering a free-fall lifeboat by falls, except winches, should be subjected to a static proof load of 2.2 times the maximum working load at the full outboard position. The launching ramp and its connection to the release mechanism should also be subjected to a static proof load of 2.2 times the maximum working load.	The launching appliance and its attachments other than winches should be of sufficient strength to withstand a static proof load on test of not less than 2.2 times the maximum working load. There should be no evidence of significant deformation or other damage as a result of this test.	MWL : ..... kN test load (2.2 x MWL) ..…….... kN There should be no evidence of significant deformation or other damage Passed/Failed Comments/Observations

Free-fall launching and recovery appliances	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

6.1.2.5 Operational load test (secondary means of launching)		**Regulations: LSA Code 6.1.4.7; MSC.81(70) 1 /8.1.2**
Test Procedure	Acceptance Criteria	Significant Test Data
A mass equal to 1.1 times the maximum working load should be suspended from the lifting points. The load should be moved from the full inboard to the full outboard position using the means of operation that is to be used on the ship. The test should be repeated with the launching appliance positioned to simulate a combined 5 degree list either way and 2 degrees bow down trim. The test should be repeated with a mass equal to that of the fully equipped lifeboat, without persons, to ensure the satisfactory functioning of the appliance under light load conditions.	The appliance should successfully lower the load under all of the specified conditions and there should be no evidence of significant deformation or other damage as a result of the tests.	MWL: ..... kN LWL (MWL - number of persons): kN Test 1 Test load (1.1 x MWL): ..... kN Upright full inboard full outboard.... Passed/Failed Test 2 Test load (1.1 x MWL) kN 5° list, 2° bow down trim Passed/Failed Test 3 LWL: kN Passed/ Failed Does the appliance successfully lower the load under these conditions without evidence of significant deformation or damage? Passed/Failed Comments/Observations

Free-fall launching and recovery appliances	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

6.1.2.6 Turning in test		**Regulations: LSA Code 6.1.1.3; MSC.81(70) 1 /8.1.3**
Test Procedure	Acceptance Criteria	Significant Test Data
A mass equal to 1.1 times the maximum working load should be suspended from the lifting points with the appliance in the full upright position, the maximum design hoisting load should be moved from the full outboard to the full inboard position using the means of operation that is used on the ship.	The appliance should successfully move the maximum designed hoisting load from the outboard to the inboard position without causing permanent deformation or other damage.	Hoisting load: ..... kN Does the launching appliance successfully move the load from outboard to inboard? Passed/failed Does the launching appliance show any evidence of significant deformation or other damage as a result of the test? Passed/Failed Comments/Observations

Free-fall launching and recovery appliances	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

6.1.2.7 Winch brake test		**Regulations: LSA Code 6.1.2.5; MSC.81(70) 1 /8.1.4**
Test Procedure	Acceptance Criteria	Significant Test Data
Winch drums should be wound to the maximum number of turns permitted and a static test load of 1.5 times the maximum working load should be applied and held by the brake. This load should then be lowered for at least one complete revolution of the barrel shaft. A test load of 1.1 times the maximum working load should then be lowered at maximum lowering speed through a distance of at least 3 m and stopped by applying the hand brake sharply. This test should be repeated a number of times. If the winch design incorporates an exposed brake, one of these tests should be carried out with the brake wetted but in this case the stopping distance may be exceeded. The various tests should achieve a cumulative lowering distance of at least 150 m. Operation of the winch with a load of a mass equal to that of a fully equipped lifeboat, without persons, or the lightest survival craft intended for use with the winch should also be demonstrated.	The test load should drop no more than 1 m when the brake is applied (except that the stopping distance may be exceeded if an exposed brake is wetted). The launching appliance should successfully lower a mass equal to that of a fully equipped lifeboat, without persons, or the lightest craft (or rescue boat) intended for use with the winch.	Weight of the lightest lifeboat / rescue boat* kN MWL : .....kN Test 1: Static test load (1.5 x MWL): ..... kN Does the brake test hold the test load (1.5x MWL)? Passed/ Failed MWM: kNm Drum diam mm Wire diam. mm Number of turns Max. lowering speed m/s Test 2 Dynamic Test load (1.1 x MWL): kN Brake test carried out after > 3m with max lowering speed Stop within 1 metre? Passed/Failed Comments/Observations * delete as appropriate continued

Free-fall launching and recovery appliances	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

6.1.2.7 Winch brake test (continued)		**Regulations: LSA Code 6.1.2.5; MSC.81(70) 1 /8.1.4**
Test Procedure	Acceptance Criteria	Significant Test Data
Following completion of these test (and 6.1.1.8, as applicable), the winch should be stripped for inspection.	Inspection of the stripped winch should reveal no significant damage or undue wear.	1st stop > 3m 2nd stop: m 3rd stop: m 4th stop: m 5th stop: m Total lowering distance > 150 m Passed/ Failed Test 3 (if applicable) Winch design incorporates an exposed brake? Yes/No Wet stopping distance m Passed/ Failed Test 4 Test load (LWL) kN Lowering test with LWL satisfactory? Passed/ Failed Does the inspection of the stripped winch reveal any significant damage or undue wear? Passed/Failed Comments/Observations

6.13 DAVIT-LAUNCHED LIFERAFT AUTOMATIC RELEASE HOOKS

EVALUATION AND TEST REPORT

6.1.3.1 Submitted drawings, reports and documents

6.1.3.2 Quality assurance

6.1.3.3 Visual inspection

6.1.3.4 Corrosion resistance test

6.1.3.5 Maximum load for automatic release test

6.1.3.6 Dynamic forces release tests

6.1.3.7 Actuating force test

6.1.3.8 Securing force test

6.1.3.9 Manual release force test

6.1.3.10 Holding test, loaded

6.1.3.11 Holding test, light

6.1.3.12 Inertia test

6.1.3.13 Automatic release test

6.1.3.14 Automatic release test – overloaded

6.1.3.15 Endurance test

6.1.3.16 Compatibility of liferaft and release hook test

6.1.3.17 Proof load test

6.1.3.18 Inadvertent release tests

6.1.3.19 Icing test

6.1.3.20 Impact test

6.1.3 DAVIT-LAUNCHED LIFERAFT AUTOMATIC RELEASE HOOKS

EVALUATION AND TEST REPORT

Manufacturer	
System Type	
Serial Number	
Maximum Working Load	
Maximum Turning Moment	
Winch type	
Serial Number	
Date	
Place	
Name Surveyor printed	
Signature	
Approving Organization	

Davit-launched liferaft automatic release hooks	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

6.1.3.1 Submitted drawings, reports and documents

Submitted drawings and documents			
Drawing No.	**Revision No. & date**	**Title of drawing**	**Status**
Submitted reports and documents			
Report/Document No.	**Revision No. & date**	**Title of report/document**	**Status**
		Maintenance Manual	
		Operations Manual	

Davit-launched liferaft automatic release hooks	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

6.1.3.2 Quality assurance	**Regulations: MSC.81(70) 2/1.2 MSC.81(70) 2/1.1, 1.2**
Except where all appliances of a particular type are required by chapter III of the International Convention for the Safety of Life at Sea, 1974, as amended or the international Life-Saving Appliance (LSA) Code, to be inspected, representatives of the Administration should make random inspections of manufacturers to ensure that the quality of life-saving appliances and materials used comply with the specification of the approved prototype life-saving appliance. Manufacturers should be required to institute a quality control procedure to ensure that life-saving appliances are produced to the same standard as the prototype life-saving appliance approved by the Administration and to keep records of any production tests carried out in accordance with the Administration's instructions.	Quality assurance Standard Used: Quality assurance Procedure: Quality assurance Manual: Description of System: Quality assurance System acceptable Yes/No Comments/Observations

Davit-launched liferaft automatic release hooks	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

6.1.3.3 Visual inspection		**Regulations: MSC.81(70) 1/8.2.2**
Test Procedure	Acceptance Criteria	Significant Test Data
The hooks complete in every respect should be given a visual and dimensional examination to verify that they conform to the approved drawings and specifications.	The hooks must conform with the manufacturer's drawings and specifications.	Hook 1 Passed_____Failed _____ Hook 2 Passed_____Failed_____ Comments/Observations

6.1.3.4 Corrosion Resistance Test		**Regulations: MSC.81(70) 1/8.2.3, 8.2.4**
Test Procedure	Acceptance Criteria	Significant Test Data
Two hooks should be submitted to a corrosion resistance test which should be made in a salt mist chamber in accordance with the standard ISO 9227:2006 – Corrosion tests in artificial atmospheres – Salt spray tests for 1,000 hours or equivalent national standard. Both hooks should be subjected five times to the tests required by 6.1.3.5 to 6.1.3.20, except 6.1.3.16.	The hook should pass the test without failure.	Any corrosion effects and other damage to the hooks should be recorded: Hook 1: Hook 2:

Davit-launched liferaft automatic release hooks	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

6.1.3.5 Maximum Load for Automatic Release Test		**Regulations: MSC.81(70) 1/8.2.5**
Test Procedure	Acceptance Criteria	Significant Test Data
The maximum load on the hook to allow for automatic release should be determined as follows: .1 the hook should be loaded with a mass of 200 kg and the actuating mechanism set; .2 the load should be reduced gradually in stages until the hook releases automatically, but at not more than 30 kg, to establish load "F"; and .3 the load "F" should be measured and recorded. The test should be repeated five times with each hook.	The minimum allowable "F" is the minimum obtained at release which should not be less than 5 kg or not more than 30 kg. Record the maximum load "F" (5 tests).	Hook 1 Hook 2 Test 1 _____ _____ Test 2 _____ _____ Test 3 _____ _____ Test 4 _____ _____ Test 5 _____ _____ Hook 1: Passed_____ Failed_____ Hook 2: Passed_____ Failed_____ Comments/Observations

Davit-launched liferaft automatic release hooks	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

6.1.3.6 Dynamic Forces Release Tests		**Regulations: MSC.81(70) 1/8.2.6 –7**
Test Procedure	Acceptance Criteria	Significant Test Data
The load limit for automatic release, using dynamic loads, should be determined using both the following methods: .1 The hook should be loaded with a mass of 200 kg and the actuating mechanism set. The hook should then be subjected to cyclic loading between 30 kg and 200 kg using a frequency of 1 ±0.2 Hz. The hook should not release before 300 cycles. The number of cycles at which the hook opened or whether the test was discontinued at 300 cycles should be recorded. .2 The hook should then be reloaded to 200 kg and the actuating mechanism set. The hook should be subjected to a cyclic loading, the upper limit of which is +200 kg, and the lower limit being "F1" using a frequency of 1 ±0.2 Hz. The automatic release should operate within 3 cycles. The number of cycles at which the hook opened or whether the test was discontinued after three cycles should be recorded. "F1" is to be taken as the minimum load on the hook to allow for automatic release, as established in paragraph 6.1.3.5 reduced by 2 kg.	.1 The hook should not release before 300 cyclic loads. .2 The automatic release should operate within three cycles.	Record the number of cycles before hook released or test was discontinued (5 tests) Hook 1 Hook 2 Test 1 _____ _____ Test 2 _____ _____ Test 3 _____ _____ Test 4 _____ _____ Test 5 _____ _____ Hook 1: Passed_____ Failed_____ Hook 2: Passed_____ Failed_____ Comments/Observations

Davit-launched liferaft automatic release hooks	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

6.1.3.7 Actuating force test		**Regulations: LSA Code 4.1.1.2; MSC.81(70) 1/8.2.11**
Test Procedure	Acceptance Criteria	Significant Test Data
The actuating force for automatic release should be determined in the following way: .1 The hook should be loaded to 0%, 25%, 50%, 75% and 100% of the SWL of the hook; .2 At each load level the actuating force required at the actuation mechanism should be measured and recorded.	The actuating force should in all tests be between 150 N and 250 N if lanyard operated, or the action required to set the actuating mechanism should be readily performed by a single person without difficulty.	Record actuating force (5 tests) when loaded to: Hook 1 Hook 2 0% _____ _____ 25% _____ _____ 50% _____ _____ 75% _____ _____ 100% _____ _____ Hook 1: Passed_____ Failed_____ Hook 2: Passed_____ Failed_____ Comments/Observations

6.1.3.8 Securing force test		**Regulations: MSC.81(70) 1/8.2.12**
Test Procedure	Acceptance Criteria	Significant Test Data
The securing force should be determined with an unloaded hook. The securing force should be recorded.	The securing force should be less than 120N. Record measured securing force (five tests).	Hook 1 Hook 2 Test 1 _____ _____ Test 2 _____ _____ Test 3 _____ _____ Test 4 _____ _____ Test 5 _____ _____ Hook 1: Passed_____ Failed_____ Hook 2: Passed_____ Failed_____ Comments/Observations

Davit-launched liferaft automatic release hooks	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

6.1.3.9 Manual Release Force Test		**Regulations: MSC.81(70) 1/8.2.13**
Test Procedure	Acceptance Criteria	Significant Test Data
The manual release force should be determined as follows: .1 the hook should be loaded with a mass of 150 kg; .2 the actuating mechanism should be set for automatic release; .3 the force required to release the hook manually should be established and recorded; and .4 the manual release force for a load of 150 kg on the hook should be at least 600 N but not more than 700 N for lanyard-operated designs. Alternative designs should be demonstrated to the satisfaction of the Participating Authority to provide adequate protection from inadvertent release under load.	For a load of 150 kg, the manual release force should be at least 600N but not more than 700 N for lanyard operated designs. Other designs should provide adequate protection from inadvertent release under load. Record measured release force (five tests).	Hook 1 Hook 2 Test 1 _____ _____ Test 2 _____ _____ Test 3 _____ _____ Test 4 _____ _____ Test 5 _____ _____ Hook 1: Passed_____ Failed_____ Hook 2: Passed_____ Failed_____ Comments/Observations

Davit-launched liferaft automatic release hooks	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

6.1.3.10 Holding Test, loaded		**Regulations: MSC.81(70) 1/8.2.10**
Test Procedure	Acceptance Criteria	Significant Test Data
The automatic release hook should be attached to a test load of 1.1 times its maximum working load using an approved launching appliance. The load should be lowered at maximum lowering speed through a distance of at least 3 m and stopped by applying the hand break sharply. This test should be conducted twice, once with the release mechanism set for automatic release, and again with the mechanism set to closed.	The release mechanism should not open in either test.	Hook 1 Hook 2 Test 1 _____ _____ Test 2 _____ _____ Test 3 _____ _____ Test 4 _____ _____ Test 5 _____ _____ Hook 1: Passed_____ Failed_____ Hook 2: Passed_____ Failed_____ Comments/Observations

6.1.3.11 Holding test, light		**Regulations: MSC.81(70) 1/8.2.14**
Test Procedure	Acceptance Criteria	Significant Test Data
The automatic release hook should be attached to a test load equal to the mass of the lightest liferaft for which the automatic release hook is to be approved, with the actuating mechanism in the locked position (i.e. not set for automatic release). The load should then be raised so that it is clear of the ground. The actuating mechanism should then be set to automatic release.	This should be easily accomplished by a single person and should not release the load.	Hook 1 Hook 2 Test 1 _____ _____ Test 2 _____ _____ Test 3 _____ _____ Test 4 _____ _____ Test 5 _____ _____ Hook 1: Passed_____ Failed_____ Hook 2: Passed_____ Failed_____ Comments/Observations

Davit-launched liferaft automatic release hooks	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

6.1.3.12 Inertia test		**Regulations: MSC.81(70) 1/8.2.8**
Test Procedure	Acceptance Criteria	Significant Test Data
The hook should be attached to a short wire rope fall, approximately 1.5 m, and loaded with a mass of 10 kg. It should be secured and then lifted 1 m. From this position it should be released to perform a free fall before it is abruptly stopped by the wire rope fall.	The hook should not release as a result of this test.	Hook 1 Hook 2 Test 1 _____ _____ Test 2 _____ _____ Test 3 _____ _____ Test 4 _____ _____ Test 5 _____ _____ Hook 1: Passed_____ Failed_____ Hook 2: Passed_____ Failed_____ Comments/Observations

6.1.3.13 Automatic release test		**Regulations: MSC.81(70) 1/8.2.9**
Test Procedure	Acceptance Criteria	Significant Test Data
The automatic release hook should be attached to a test load equal to 1.1 times the SWL, with the actuating mechanism in the locked position. The load should be raised to a height of at least 6 m and then be lowered at a speed of 0.6 m/sec. When the load is 1.5 m above the ground or water surface, the actuating mechanism should be set for automatic release, and the lowering completed.	The automatic release hook should release the load when it strikes the ground or water surface.	Hook 1 Hook 2 Test 1 _____ _____ Test 2 _____ _____ Test 3 _____ _____ Test 4 _____ _____ Test 5 _____ _____ Passed _____ Failed _____ Passed _____ Failed _____ Comments/Observations

Davit-launched liferaft automatic release hooks	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

6.1.3.14 Automatic release test - overloaded		**Regulations: MSC.81(70) 1/8.2.9**
Test Procedure	Acceptance Criteria	Significant Test Data
The automatic release hook should be attached to a test load equal to 2.2 times the SWL, with the actuating mechanism in the locked position. The load should be raised to a height of at least 6 m and then be lowered at a speed of 0.6 m/sec. When the load is 1.5 m above the ground or water surface, the actuating mechanism should be set for automatic release, and the lowering completed.	There should be no evidence of permanent deformation and the hook should function after the test.	Hook 1 Hook 2 Test 1 _____ _____ Test 2 _____ _____ Test 3 _____ _____ Test 4 _____ _____ Test 5 _____ _____ Hook 1: Passed_____ Failed_____ Hook 2: Passed_____ Failed_____ Comments/Observations

6.1.3.15 Endurance test		**Regulations: MSC.81(70) 1/8.2.15**
Test Procedure	Acceptance Criteria	Significant Test Data
The hook should be released 100 times without failure by each of its modes of release using the maximum load permitting release for that mode. It should then be disassembled and the parts examined.	There should be no evidence of excessive wear on any part.	Hook 1 Hook 2 Test 1 _____ _____ Test 2 _____ _____ Test 3 _____ _____ Test 4 _____ _____ Test 5 _____ _____ Hook 1: Passed_____ Failed_____ Hook 2: Passed_____ Failed_____ Comments/Observations Passed _____ Failed _____ Comments/Observations

Davit-launched liferaft automatic release hooks	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

6.1.3.16 Compatibility of liferaft and release hook test		**Regulations: MSC.81(70) 1/8.2.18**
Test Procedure	Acceptance Criteria	Significant Test Data
Where automatic release hooks are supplied for use with liferafts made by different manufacturers, operational tests with each type and size of lifting or attachment fitting used by the different manufacturers of the liferafts should be carried out before the particular combination of liferaft and release hook is accepted by the Administration.	The hook must be found to be compatible with each of the different lifting or attachment fittings used by the manufacturers for whom the hook is approved.	The hook can be used for rings with the following minimum and maximum diameter: Min. hole: _____mm Max. material ϕ: _____ mm (optionally fill in attached list) Comments/Observations

6.1.3.17 Proof load test		**Regulations: Res. A.689 1/8.2.11 (missing in MSC.81(70) by mistake)**
Test Procedure	Acceptance Criteria	Significant Test Data
The automatic release hook should be proof loaded to 6 times the SWL and this load held for at least 5 min. After the removal of the load, the hook should be dismantled and examined for damage.	Under the test load of 6xSWL for 5 min, the release mechanism should not fail.	Hook 1 Hook 2 Test 1 _____ _____ Test 2 _____ _____ Test 3 _____ _____ Test 4 _____ _____ Test 5 _____ _____ Hook 1: Passed_____ Failed_____ Hook 2: Passed_____ Failed_____ Comments/Observations Passed _____Failed _____ Comments/Observations

Davit-launched liferaft automatic release hooks	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

6.1.3.18 Inadvertent release tests		**Regulations: MSC.81(70) 1/8.2.13.4**
Test Procedure	Acceptance Criteria	Significant Test Data
It should be demonstrated to the satisfaction of the Administration, that the automatic release hook cannot be inadvertently released while under load.	It must not be possible to inadvertently release the hook.	Hook 1 Hook 2 Test 1 _____ _____ Test 2 _____ _____ Test 3 _____ _____ Test 4 _____ _____ Test 5 _____ _____ Hook 1: Passed_____ Failed_____ Hook 2: Passed_____ Failed_____ Comments/Observations

6.1.3.19 Icing test		**Regulations: MSC.81(70) 1/8.2.16**
Test Procedure	Acceptance Criteria	Significant Test Data
The hook should be arranged in a cold store at -30°C to simulate operational readiness and loaded with 25 kg. A 3.5 cm thick uniform layer of icing should be built onto it by spraying cold water from angles above 45° from horizontal, with intermittent pauses to let icing form. The hook should then be actuated and as a result release the load without failure.	As a result of this test the hook should release the load without failure.	Hook 1 Hook 2 Test 1 _____ _____ Test 2 _____ _____ Test 3 _____ _____ Test 4 _____ _____ Test 5 _____ _____ Hook 1: Passed_____ Failed_____ Hook 2: Passed_____ Failed_____ Comments/Observations Passed _____Failed _____ Comments/Observations

Davit-launched liferaft automatic release hooks	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

6.1.3.20 Impact test		**Regulations: MSC.81(70) 1/8.2.17**
Test Procedure	Acceptance Criteria	Significant Test Data
It should be demonstrated that the hook is not damaged as a result of 10 impacts at a horizontal speed of 3.5 m/s on to a structure resembling a vertical ship's side. As far as practical all sides of the hook, especially areas with exposed controls, should impact the structure.	The hook must not sustain any damage which will interfere with the normal function of the hook.	Hook 1 Hook 2 Test 1 _____ _____ Test 2 _____ _____ Test 3 _____ _____ Test 4 _____ _____ Test 5 _____ _____ Hook1: Passed_____ Failed_____ Hook2: Passed_____ Failed_____ Comments/Observations

List of davit-launched liferafts for which the hook is approved:

Manufacturer:	Type:

6.1.4 LAUNCHING AND RECOVERY APPLIANCES FOR FAST RESCUE BOATS

EVALUATION AND TEST REPORT

6.1.4.1 Submitted drawings, reports and documents

6.1.4.2 Quality assurance

6.1.4.3 Visual inspection

6.1.4.4 Static proof load test

6.1.4.5 Operational load test

6.1.4.6 Turning in test

6.1.4.7 Winch brake test

6.1.4.8 Rescue boat launching appliance recovery speed test

6.1.4.9 Hand operation test

6.1.4.10 Sea state test

6.1.4 LAUNCHING AND RECOVERY APPLIANCES FOR FAST RESCUE BOATS

EVALUATION AND TEST REPORT

Manufacturer	
System type	
Serial number	
Maximum Working Load	
Maximum Turning Moment	
Winch type	
Serial number	
Date	
Place	
Name and signature of surveyor	
Approval Organization	

Launching and recovery appliances for fast rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

6.1.4.1 Submitted drawings, reports and documents

Submitted drawings and documents			
Drawing No.	**Revision No. & date**	**Title of drawing**	**Status**

Submitted reports and documents			
Report/Document No.	**Revision No. & date**	**Title of report/document**	**Status**
		Maintenance Manual	
		Operations Manual	

Launching and recovery appliances for fast rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

6.1.4.2 Quality assurance	**Regulations: MSC.81(70) 2/1.1 and 1.2**
Except where all appliances of a particular type are required by chapter III of the International Convention for the Safety of Life at Sea, 1974, as amended, or the International Life-Saving Appliance (LSA) Code, to be inspected, representatives of the Administration should make random inspection of manufacturers to ensure that the quality of life-saving appliances and the materials used comply with the specification of the approved prototype life-saving appliance. Manufacturers should be required to institute a quality control procedure to ensure that life-saving appliances are produced to the same standard as the prototype life-saving appliance approved by the Administration and to keep records of any production tests carried out in accordance with the Administration's instructions.	Quality assurance Standard Used: Quality assurance Procedure: Quality assurance Manual: Description of System: Quality assurance System acceptable Yes/No Comments/Observations

Launching and recovery appliances for fast rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

6.1.4.3 Visual inspection		**Regulations: LSA Code 6.1; III, 16.2**
Test Procedure	Acceptance Criteria	Significant Test Data
Confirm that installation has been manufactured to approved drawings. Visually inspect the appliance. Conduct measurements and verify clearances as required. Provisions for hanging off pendants Remote control Limit switches	Amount of maintenance should be restricted to a minimum. Parts which require maintenance should be easily accessible and easily maintained. Effectiveness under icing conditions. There should be provisions for hanging-off the fast rescue boat to free the release gear for maintenance. The launching mechanism should be so arranged that it may be actuated by one person from a position within the survival craft or rescue boat. Manual brakes should be so arranged that the brake is always applied, unless the operator or a mechanism activated by the operator holds the brake control in the "off" position. Where davit arms are recovered by power, safety devices should be fitted which will automatically cut off the power before the davit arms reach the stops in order to prevent over-stressing the falls or davits, unless the motor is designed to prevent such over-stressing.	 Passed/Failed Passed/Failed Passed/Failed Passed/Failed Passed/Failed Type:

Launching and recovery appliances for fast rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

6.1.4.3 Visual inspection (continued)	**Regulations: LSA Code 6.1.1.6; III, 16.2**	
Test Procedure	Acceptance Criteria	Significant Test Data
	Structural members and all blocks, falls, pad eyes, links, fastenings and all other fittings used in connection with launching equipment should be designed with a factor of safety on the basis of the maximum working load assigned and the ultimate strengths of the materials used for construction. A minimum factor of safety of 4.5 should be applied to all structural members including winch structural components and a minimum factor of safety of 6 should be applied to falls, suspension chains, links and blocks.	Passed/Failed Type: Comments/Observations

Launching and recovery appliances for fast rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

6.1.4.4 Static proof load test		**Regulations: LSA Code 6.1.1.5 - 6.1.1.6; MSC.81(70) 1/- 8.1.1**
Test Procedure	Acceptance Criteria	Significant Test Data
For fast rescue boats, davits and launching appliances, except winches, should be subjected to a static proof load of 2.2 times their maximum working load. With the load at the full outboard position, the load should be swung through an arc of approximately 10^0 to each side of vertical in the intended fore and aft plane. The test should be done first in the upright position, followed by tests simulating a shipboard condition of list of 20^0 both inboard and outboard.	The launching appliance and its attachments other than winches should be of sufficient strength to withstand a static proof load on test of not less than 2.2 times the maximum working load. There should be no evidence of significant deformation or other damage as a result of this test.	MWL: ..... kN Test load (2.2 x MWL): ..... kN There should be no evidence of significant deformation or other damage Passed/Failed Upright Passed/Failed 20^0 inboard list Passed/Failed 20^0 outboard list Passed/Failed Comments/Observations

Launching and recovery appliances for fast rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

6.1.4.5 Operational load test		**Regulations: LSA Code 6.1.1.1 - 6.1.1.3; MSC.81(70) 1 /8.1.2**
Test Procedure	Acceptance Criteria	Significant Test Data
For fast rescue boats, a mass equal to 1.1 times the maximum working load should be suspended from the lifting points with the launching appliance in the upright position. The load should be moved from the full inboard to the full outboard position using the means of operation that is used on the ship. The test should be repeated with the launching appliance positioned to simulate a combined 20^0 inboard list and 10^0 trim. All the tests should be repeated with a mass equal to that of a fully fast rescue boat, without persons, or the lightest fast rescue boat intended for the use with the davit to ensure the satisfactory functioning of the davit under very light load conditions.	The appliance should successfully lower the load under all of the conditions, and there should be no evidence of significant deformation or other damage as a result of the tests. Each launching appliance together with all its lowering and recovery gear should be so arranged that the fully equipped fast rescue boat it serves can be safely lowered against a trim of up to 10^0 and a list of up to 20^0 either way: When boarded, as required by regulation III/23 or III/33, by its full complement of persons; -without persons in the fast rescue boat.	Weight of the lightest fast rescue boat intended for use: LWL: ..... kN MW: ..... kN Test load (1.1 x MWL): ..... kN Clear of davit horn?* Passed/ Failed Does the appliance successfully lower the load under these conditions without evidence of significant deformation or damage? Passed/Failed Upright (1.1x MWL) Passed/Failed 20^0 inboard list +10^0 trim (1.1xMWL) Passed/Failed 20^0 inboard list +10^0 trim (LWL) Passed/Failed * if applicable continued

Launching and recovery appliances for fast rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

6.1.4.5 Operational load test (continued)		**Regulations: LSA Code 6.1.1.1 - 6.1.1.3; MSC.81(70) 1 /8.1.2**
Test Procedure	Acceptance Criteria	Significant Test Data
	A launching appliance should not depend on any means other than gravity or stored mechanical power which is independent of the ship's power supplies to launch the fast rescue boat it serves in the fully loaded and equipped condition and also in the light condition.	Stored power Passed/Failed Start pressure: k Pa Min. pressure: k Pa Pressure drop after one movement: k Pa Time from inboard to outboard: sec Comments/Observations * if applicable

Launching and recovery appliances for fast rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

6.1.4.6 Turning in test		**Regulations: LSA Code 6.1.1.3; MSC.81(70) 1 /8.1.3**
Test Procedure	Acceptance Criteria	Significant Test Data
A mass equal to 1.1 times the maximum working load should be suspended from the lifting points with the appliance in the full upright position, the maximum design hoisting load should be moved from the full outboard to the full inboard position using the means of operation that is used on the ship.	The appliance should successfully move the maximum designed hoisting load from the outboard to the inboard position without causing permanent deformation or other damage.	Maximum designed hoisting load: kN Does the launching appliance successfully move the load from outboard to inboard? Passed/Failed Does the launching appliance show any evidence of significant deformation or other damage as a result of this test? Passed/Failed Comments/Observations

Launching and recovery appliances for fast rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

6.1.4.7 Winch brake test		**Regulations: LSA Code 6.1.2.5; MSC.81(70) 1 /8.1.4**
Test Procedure	Acceptance Criteria	Significant Test Data
Winch drums should be wound to the maximum number of turns permitted and a static test load of 1.5 times the maximum working load should be applied and held by the brake. This load should then be lowered for at least one complete revolution of the barrel shaft. A test load of 1.1 times the maximum working load should then be lowered at maximum lowering speed through a distance of at least 3 m and stopped by applying the hand brake sharply. This test should be repeated a number of times. If the winch design incorporates an exposed brake, one of these tests should be carried out with the brake wetted but in this case the stopping distance may be exceeded. The various tests should achieve a cumulative lowering distance of at least 150 m. Operation of the winch with a load of a mass equal to that of a fully equipped fast rescue boat without persons, or the lightest fast rescue boat intended for use with the winch should also be demonstrated.	The test load should drop no more than 1 m when the brake is applied (except that the stopping distance may be exceeded if an exposed brake is wetted). The launching appliance should successfully lower a mass equal to that of a fully equipped fast rescue boat, without persons, or the lightest fast rescue boat intended for use with the winch. Inspection of the stripped winch should reveal no significant damage or undue wear.	Weight of the lightest fast rescue boat* : …..... kN MWL : …..... kN Test 1: Static test load (1.5 x MWL): ..... kN Does the brake test hold the test load (1.5x MWL)? Passed/Failed MWM: kNm Drum diam. mm Wire diam. mm Number of turns Max. lowering speed m/s Test 2 Dynamic test load (1.1 x MWL): ..... kN Brake test carried out after > 3m with max lowering speed Stop within 1 metre? Passed/Failed Comments/Observations * delete as appropriate continued

Launching and recovery appliances for fast rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

6.1.4.7 Winch brake test (continued)		**Regulations: LSA Code 6.1.2.5; MSC.81(70) 1 /8.1.4**
Test Procedure	Acceptance Criteria	Significant Test Data
Following completion of these test (and 6.1.4.8, 6.1.4.9, 6.1.4.10), the winch should be stripped for inspection.		1st stop: > 3m 2nd stop: m 3rd stop: m 4th stop: m 5th stop: m Total lowering distance > 150 m Passed/ Failed Test 3 (if applicable) Winch design incorporates an exposed brake? Yes / No Wet stopping distance m Passed/ Failed Test 4 Test load (LWL) kN Lowering test with LWL satisfactory? Passed/Failed Does the inspection of the stripped winch reveal any significant damage or undue wear? Passed/Failed Comments/Observations

Launching and recovery appliances for fast rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

6.1.4.8 Rescue boat launching appliance recovery speed test		**Regulations: MSC/Circ.809 4.2.5; MSC.81(70) 1 /8.1.5**
Test Procedure	Acceptance Criteria	Significant Test Data
Fast rescue boat loaded with six persons to be hoisted. Demonstrate also the recovery of the fast rescue boat with the maximum number of persons that can be accommodated in the boat as calculated under par. 4.4.2 of the LSA code.	Notwithstanding 6.1.4.9 launching appliances should be capable of hoisting the fully equipped fast rescue boat loaded with six persons with a speed not less than 0.8 m/s. The appliance should be capable of hoisting the fast rescue boat with the maximum number of persons that can be accommodated in the boat as calculated under par. 4.4.2 of the LSA code.	Maximum load to be hoisted with a speed of at least 0.8 m/s: kN Appliance is able to hoist the fast rescue boat with maximum number of persons? Passed/ Failed Comments/Observations
6.1.4.9 Hand operation test		**Regulations: LSA Code 6.1.2.6; MSC.81(70) 1 /8.1.6**
Test Procedure	Acceptance Criteria	Significant Test Data
The hand operation of the winch should be demonstrated. If the winch is designed for quick recovery by hand with no load, this should be demonstrated with a load of 1.5 times the mass of the empty lifting arrangements.	An efficient hand gear should be provided for recovery of each fast rescue boat. Hand gear handles or wheels should not be rotated by moving parts of the winch when the fast rescue boat is being lowered or when it is being hoisted by power.	Hoisting load: Test 1: Test load (1 x hoisting load): winch can be operated satisfactorily by hand? Passed/ Failed Arrangement provided for protection against moving parts and rotating handles? Passed/ Failed Type: Test 2: Only for quick recovery Test load (1.5 x weight of empty lifting arrangement): kN Is quick recovery satisfactory? Passed/ Failed

Launching and recovery appliances for fast rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

6.1.4.10 Sea state test		**Regulations: LSA Code 6.1; MSC.81(70) 1 /8.1.8**
Test Procedure	Acceptance Criteria	Significant Test Data
The fast rescue boat launching appliance should be demonstrated in a sea state associated with a force 6 wind on the Beaufort scale, in association with a significant wave height of at least 3 m. The test should include launching and recovery of a fast rescue boat and demonstrate: .1 satisfactory operation of the device to dampen forces and oscillations due to interaction with the waves; .2 satisfactory operation of the winch brake. The additional dynamic force induced in the wire due to retardation should be measured; and .3 satisfactory operation of the tensioning device.	.1 The launching appliance should be fitted with a device to dampen the forces due to interaction with the waves when the fast rescue boat is launched or recovered. The device should include a flexible element to soften shock forces and a damping element to minimize oscillations. .2 The winch should be fitted with an automatic high-speed tensioning device which prevents the wire from going slack in all sea state conditions in which the fast rescue boat is intended to operate. .3 The winch brake should have a gradual action. When the fast rescue boat is lowered at full speed and the brakes are applied sharply, the additional dynamical force induced in the wire due to retardation should not exceed 0.5 times the working load of the launching appliance.	Wind speed: Significant wave height: Method of determination: MWL (= test load) kN Working of dampening device satisfactory? Passed/ Failed Working of winch brake satisfactory? Passed/ Failed Gradual action? Passed/ Failed Additional dynamic force in wire kN < 0.5 x MWL? Passed/ Failed Tensioning device operation satisfactory? Passed/ Failed Wire prevented from going slack? Passed/ Failed Comments/Observations

6.2 MARINE EVACUATION SYSTEMS

EVALUATION AND TEST REPORTS

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6.2 MARINE EVACUATION SYSTEMS

EVALUATION AND TEST REPORTS

Manufacturer	
Type/Model	
Date of Approval	
Place	
Name Surveyor printed	
Signature	
Approving Organization	

Marine evacuation systems	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

6.2.1.1 Submitted drawings, reports and documents

Submitted drawings and documents			**Status**
Drawing No.	**Revision No. & date**	**Title of drawing**	

Submitted reports and documents			**Status**
Report/Document No.	**Revision No. & date**	**Title of report/document**	
		Maintenance Manual	
		Operations Manual	

Marine evacuation systems	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

6.2.1.2 Quality assurance	**Regulations: SOLAS III/4; MSC.81(70) 2/1.1, 1.2**
Except where all appliances of a particular type are required by chapter III of the International Convention for the Safety of Life at Sea, 1974, or the International Life-Saving Appliance (LSA) Code as amended, to be inspected, representatives of the Administration should make random inspections of manufacturers to ensure that the quality of life-saving appliances and materials used comply with the specification of the approved prototype life-saving appliance. Manufacturers should be required to institute a quality control procedure to ensure that life-saving appliances are produced to the same standard as the prototype life-saving appliance approved by the Administration and to keep records of any production tests carried out in accordance with the Administration's instructions.	Quality assurance Standard Used: Quality assurance Procedure: Quality assurance Manual: Description of System: Quality assurance System acceptable Yes/No Comments/Observations

Marine evacuation systems	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

6.2.1.3 General data and specifications		**Regulations: LSA Code I/1.2 & VI/6.2**
General Information	Dimensions	Weight
The MES, complete in all respects, in its fully inflated condition should be subject to a detailed inspection in the manufacturers' works to ensure that all requirements are complied with. Strength and construction of the passage and platform should be to the satisfaction of the administration The platform if fitted should be: .1 Such that sufficient buoyancy will be provided for the working load. In the case of an inflatable platform, the main buoyancy chambers, which for this purpose should include thwarts or floor inflatable structure members, are to meet the requirements of section 4.4.3 based upon the platform capacity, except that the capacity should be obtained by dividing by 0.25 the usable area given in 6.2.0.4.	Length of passage: Vertical System _____ m Inclined System _____ m Installation Height of System _____ m Diameter of Platform _____ m (if applicable) Carrying Capacity of Platform _____ Number of passages _____ Angle of Slide Path _____	Weight of complete system _____kg Weight of associated liferafts _____kg continued

Marine evacuation systems	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

6.2.1.3 General data and specifications (continued)	**Regulations: LSA Code I/1.2 & VI/ 6.2**	
General Information	Dimensions	Weight
.2 The angle of the slide to the horizontal should be within the range of 30^0 to 35^0 when the ship is upright and in the lightest seagoing condition. In the case of a passenger ship, a maximum of 55^0 in the final stage of flooding set by the requirements in regulation II-I/8. .3 The term "operational pressure" has the same meaning as the term "working pressure"; i.e. the pressure determined by the designed reseat pressure of the relief valves, if fitted, except that, if the actual reseat pressure of the relief valve, determined by testing, exceeds the designed reseat pressure by more than 15%, the higher figure should be used.	Angle of Slide Path Inclined Slide: PRV lifting pressure k Pa PRV re-seat pressure k Pa	

Marine evacuation systems	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

6.2.1.4 Platform carrying capacity		**Regulations: LSA Code I/1.2 & VI/6.2; MSC.81(70) 1/12.4.1**
Test Procedure	Acceptance Criteria	Significant Test Data
Marine Evacuation Platform (if fitted) should be such that sufficient buoyancy will be provided for the working load. The number of persons which the platform should be permitted to accommodate should be equal to the lesser of: The greatest whole number obtained by dividing by 0.096 the volume, measured in cubic metres of the main buoyancy tubes, including any thwarts or floor inflatable structures when inflated; or The greatest whole number obtained by dividing by 0.25 the inner usable cross-sectional area of the platform measured in square metres (which for this purpose may include the thwart or thwarts, if fitted) measured to the innermost edge of the buoyancy tubes. However, Administrations may approve alternative arrangements which are demonstrated to comply with all of the prescribed performance requirements.	This usable platform area should be at least equal to: (20% of total number of persons that the System is certified for)/4 m^2; or 10 m^2 whichever is the greater.	No. of persons platform is designed for _____ .1 Capacity of platform using buoyancy _____ .2 Capacity of platform using area _____ Lesser of 1 and 2 above _____ .3 Usable area requirement for platform. .4 Number of persons platform can actually carry. Comment/Observation Passed _____ Failed _____

Marine evacuation systems	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

6.2.1.5 Markings on container		**Regulations:LSA Code I/1.2 & VI/6.2.4.2 & 6.2.4.3**
Test Procedure	Acceptance Criteria	Significant Test Data
The container should be marked with; Maker's name or trademark; Serial number; Name of approval authority and the capacity of the system; (6.2.0.2) SOLAS; Date of manufacture (month and year); Date and place of last service; Maximum permitted height of stowage above waterline; and Stowage position on board. Launching and operating instructions should be marked on or in the vicinity of the container.	All instructions and markings to be indelible.	Indicate markings on container below: Passed _____ Failed _____

6.2.1.6 Markings on passage		**Regulations: LSA Code I/1.2 & VI/ 6.2**
Test Procedure	Acceptance Criteria	Significant Test Data
The marine evacuation system should be marked with: .1 maker's name or trademark; .2 serial number; .3 date of manufacture (month and year); .4 name of approving authority; .5 name and place of servicing station where it was last serviced, along with the date of servicing; and .6 the capacity of the system.	All instructions & markings to be indelible.	Indicate markings on container below: Passed _____Failed _____

Marine evacuation systems	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

6.2.1.7 Visual inspection		**Regulations: Chapter III/13.4; LSA Code I/1.2 & VI/6.2; MSC.81(70) 1/12.5.5**
Test Procedure	Acceptance Criteria	Significant Test Data
Liferaft Release From Passage Inflatable liferafts associated with marine evacuation systems Any inflatable liferaft used in conjunction with the marine evacuation system should be provided with pre-connected or easily connected retrieving lines to the platform.	If the passage is to give direct access to the liferaft(s), it should be demonstrated that it can be easily and quickly detached.	.1 Are liferafts launched with passage Yes/No .2 Method of connection of liferafts to passage .3 Method of release from passage .4 Method of release acceptable? Yes/No Comments/observations Passed _____Failed _____

6.2.2 Material test		**Regulations:LSA Code I/1.2 & VI/6.2; MSC.81(70) 1/ 5.17.13 & 12.1**
Test Procedure	Acceptance Criteria	Significant Test Data
Inflated materials used in the construction of marine evacuation systems are to be tested to the standards laid down in test report 4.3.4.	Fabric must be type approved in accordance with Test Report 4.3.4, Material Tests for Liferafts.	Fabric Complies Yes No Comments/Observation Passed _____Failed _____

Marine evacuation systems	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

6.2.3 Deployment instructions		**Regulations:LSA Code I/1.2 & VI/6.2.2.1; MSC.81(70) 1/12.2.1**
Test Procedure	Acceptance Criteria	Significant Test Data
Marine evacuation system container; It should be demonstrated that the passage and platform if fitted, or liferafts in any other case, can be deployed from the container by one person in a sequence prescribed in the manufacturer's instruction. If more than one action is necessary to operate the system means should be provided to prevent incorrect operation.	The deployment of the system by one person and instructions to be acceptable to the administration.	.1 Number of sequences required to deploy system _____ .2 Instruction adequate Yes _____ No _____ .3 Can system be deployed by one person? Yes/No. .4 If more than one operation Number of operations to deploy system _____ Comments/Observations Passed _____ Failed _____

6.2.4 Container static load test		**Regulations: LSA Code I/ 1.2 & VI/6.2; MSC.81(70) 1/ 12.2.2**
Test Procedure	Acceptance Criteria	Significant Test Data
Marine evacuation system container. A static load of 2.2 times the maximum load on the system applied to its structural attachment to the ship for a period of 30 minutes. This static load is to be equivalent to the calculated load imposed by the maximum number and size of fully loaded liferafts for which the system is designed, attached to the loaded platform with the ship moving through the water at 3 knots against a head wind of force 10 on the Beaufort scale.	There should be no evidence of significant deformation or other damage as a result of this factory test.	.1 Calculated static load _____tonnes .2 2.2 x calculated load _____tonnes .3 Period of test load _____min Method used to calculate static load test Comments/Observations Passed _____ Failed _____

Marine evacuation systems	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

6.2.4.1 Container door hose test		**Regulations:LSA Code I/1.2 & VI/6.2; MSC8.1(70) 1/ 5.12 & 12.2.3**
Test Procedure	Acceptance Criteria	Significant Test Data
Marine evacuation system container; To ensure the effectiveness of the closures in preventing water entering the container, the efficiency of the sealing arrangements should be demonstrated by means of a hose test or by any other equally effective method. The requirement for the hose test is that about 2,300 l of water per minute be directed at and around the sealing arrangements through a 63.5 mm hose from a point 3.5 m away and 1.5 m above for a period of 5 min. Alternatively, when hose testing is required to verify the tightness of the structures the minimum pressure in the hose, at least equal to 2 bar, is to be applied at a maximum distance of 1.5 m. The nozzle diameter should not be less than 12 mm. (Note:- If the system is installed internally in the ship and the door is not part of the ships structure then this test is not required to be carried out).	The container to remain reasonably weathertight to prevent the ingress of water and there should be no significant accumulation of water inside the container. The accumulation of water inside the liferaft should not exceed 4 l.	.1 Capacity of water hose _____l/min Diameter of hose _____mm .2 Ingress of water in container_____litres .3 Drainage adequate Yes/No .4 Diameter of drain holes _____mm .5 Number of drain holes _____ Comment/Observations Passed_____ Failed _____

Marine evacuation systems	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

6.2.4.2 Container door dry release test		**Regulations: LSA Code I/1.2 & VI/6.2; MSC.81(70) 1/ 12.2.4**
Test Procedure	Acceptance Criteria	Significant Test Data
Marine Evacuation System Container; After completing the test in the release and securing arrangements for any internal or external doors are to be satisfactorily tested by 5 dry release operations carried out consecutively.	The door should operate satisfactory and not be damaged as a result of this test.	Door operation: .1 Pass/Fail .2 Pass/Fail .3 Pass/Fail .4 Pass/Fail .5 Pass/Fail Comments/Observations. Passed_____ Failed _____

Marine evacuation systems	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

6.2.4.3 Container door trim release test		**Regulations: LSA Code I/1.2 & VI/6.2; MSC.81(70) 1/ 12.2.5**
Test Procedure	Acceptance Criteria	Significant Test Data
Marine evacuation system container; It should be demonstrated by 2 dry deployments of the system, with the container angled back to simulate an unfavourable trim of up to 10^0 and list of up to 20^0 either way, that outer door, the passage and platform (if fitted), will not suffer damage which will render it unusable for its intended purpose.	There should be no damage to the outer door, passage and platform if fitted which will render the system unusable. The door of the container should open fully and the system deploy without interference.	.1 Height of deployment m .2 Adverse trim and list 10^0 trim 20^0 list (low side) Operation of system Passed _____ Failed_____ .3 Adverse trim and list 10^0 trim 20^0 list (high side) Operation of system Passed _____ Failed _____ Comments/Observation. Passed _____ Failed _____

6.2.5 Passage load test		**Regulations: LSA Code I/1.2 & VI/6.2; MSC.81(70) 1/ 12.3.1.1**
Test Procedure	Acceptance Criteria	Significant Test Data
Marine Evacuation Inclined Inflated Passage A fully inflated passage should be arranged on solid base at the height at which it is to be stowed on board. Each single path should be loaded with 150 kg weight at mid length.	Slide path must be usable and not become unduly distorted.	.1 Height of slide above ground m .2 Length of slide m .3 Number of slide paths .4 Angle of slide path ^{0} Comments/Observations. Passed _____ Failed _____

Marine evacuation systems	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

6.2.5.1 Dry sliding test		**Regulations: LSA Code I/1.2 & VI/6.2; MSC.81(70) 1/12.3.1.2**
Test Procedure	Acceptance Criteria	Significant Test Data
Marine Evacuation Inclined Inflated Passage; A fully inflated passage should be subjected to individual sliding operations twice the number for which it is to be certificated. For this test actual persons of varied physique and weight should be used.	On completion the passage path should remain in a serviceable condition.	.1 Number of slide paths .2 Number of persons passage is certified for .3 Number of sliding operations Comments/Observations. Passed_____Failed _____

6.2.5.2 Loss of pressure test		**Regulations: LSA Code I/1.2 & VI/6.2; MSC.81(70) 1/12.3.1.3**
Test Procedure	Acceptance Criteria	Significant Test Data
Marine Evacuation Inclined Inflated Passage; It should be demonstrated using actual persons that the loss of pressure in any one section of the passage will not limit its use as a means of evacuation.	Passage should remain usable throughout with the relevant section of the slide depressurized.	.1 Height of slide above ground _____m. .2 No. of persons using system _____ .3 Sequence of deflation of slide tubes; Section deflated 1. 2. 3. 4. .4 Angle of passage__° Comments/Observations. Passed _____ Failed _____

Marine evacuation systems	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

6.2.5.3 Load test of passage to container		**Regulations: LSA Code I/1.2 & VI/6.2; MSC.81(70) 1/ 12.2.2 & 12.3.1.4**
Test Procedure	Acceptance Criteria	Significant Test Data
Marine Evacuation Inclined Inflated Passage; A static load of 2.2 times the maximum load to which the system is to be designed should be applied for a period of 30 minutes to the connection between the passage and the container. This static load is to be equivalent to the calculated load imposed by the maximum number and size of fully loaded liferafts for which the system is designed, attached to the loaded platform with the ship moving through the water at 3 knots against a head wind of force 10 on the Beaufort scale.	On completion there must be no signs of any fracture or stranding of its connections, or other damage as a result of this factory test.	.1 Calculated static load _____tonnes .2 2.2 x calc. load _____tonnes .3 Period of test load _____min .4 Calculated breaking load of connection_____T. .5 Method used to calculate static load test Comments/Observations. Passed _____ Failed _____

Marine evacuation systems	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

6.2.5.4 Cold inflation test		**Regulations: LSA Code I/1.2 & VI/6.2; MSC.81(70) 1/12.3.1.5**
Test Procedure	Acceptance Criteria	Significant Test Data
Marine Evacuation Inclined Inflated Passage; The uninflated passage with its gas cylinders should be placed in a cold chamber at a temperature of - 30^0C. After a period of not less than 24 hours at this temperature the passage should reach its working pressure within 5 minutes.	The passage and components must show no sign of cracking, seam slippage or other defects. The gas inflation system should show no sign of cracking or other defects.	.1 Cold Chamber temperature _____ ^{0}C Time in _____ Time out _____ Hours in chamber _____ @ -30^0C .2 Design WP _____ kPa .3 System usable in _____ secs .4 Time to reach working pressure _____ secs .5 Relief valves blowing at: .6 Passage reached working pressure in 5 Min Yes/No Gas Inflation System Acceptable Yes/No .7 Details of gas inflation system .1 Slide - No. of cylinders Weight of cylinders _____ kg. Gas charge_____ kgCO_2, _____ kg N_2 Bottle details .2 Platform – No. of cylinders Weight of cylinders _____ kg. Gas charge_____ kg CO_2, _____ kg N_2 Bottle details

Marine evacuation systems	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

6.2.5.4 Cold inflation test (continued)		**Regulations: LSA Code I/1.2 & VI/6.2; MSC.81(70) 1/12.3.1.5**
Test Procedure	Acceptance Criteria	Significant Test Data
	Continued:	.8 Details of high-pressure hose .1 Material of hose .2 Pressure rating of hose .9 Details of Cylinder valve .10 Details of Operating Head .11 Details of Inflation Valve .12 Details of Pressure Relief Valve .1 Lifting pressure .2 Reseat pressure .13 Additional Inflatable Structures associated with passage and platform: Comments/Observations. Passed _____ Failed _____

Marine evacuation systems	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

6.2.5.5 Hot inflation test		**Regulations: LSA Code I/1.2 & VI/6.2; MSC.81(70) 1/12.3.1.6**
Test Procedure	Acceptance Criteria	Significant Test Data
Marine Evacuation Inclined Inflated Passage; The uninflated passage with its gas cylinders should be placed in a hot chamber at a temperature of +65^{0}C for not less than 7 hours.	On inflation the pressure relief valves on the passage should be of sufficient capacity to prevent pressure in excess of twice the designed working pressure. The passage and components should show no sign of cracking, seam slippage or other defects. (The inflation system should be identical to the system described in 6.2.4.4 above)	.1 Hot chamber temperature _____^{0}C Time in_____Time out_____ Hours in chamber_____@ +65^{0}C .2 Design WP _____kPa .3 System usable in _____secs .4 Time to reach working pressure_____secs .5 Maximum pressure reached during inflation _____kPa .6 Relief valves blowing at: Comments/Observations. Passed _____ Failed _____

Marine evacuation systems	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

6.2.5.6 Wet sliding test	**Regulations: LSA Code I/1.2 & VI/6.2; MSC.81(70) 1/12.3.1.7**	
Test Procedure	Acceptance Criteria	Significant Test Data
Marine Evacuation Inclined Inflated Passage; It should be demonstrated with at least 10 sliding operations on a slide path thoroughly wetted with water to simulate wet weather conditions.	The speed of descent should not be considered excessive or dangerous.	.1 Height of slide above ground_____m .2 Angle of slide path to horizontal_____^{0} .3 No. of persons sliding Comments/Observation Passed _____ Failed _____

6.2.5.7 Three times pressure test	**Regulations: LSA Code I/1.2 & VI/6.2; MSC.81(70) 1/ 12.3.1.8, 5.17.7 & 5.17.8**	
Test Procedure	Acceptance Criteria	Significant Test Data
Marine Evacuation Inclined Inflated Passage; Each inflatable compartment in the passage should be tested to a pressure equal to three times the working pressure. Each pressure relief valve should be made inoperative, compressed air should be used to inflate the passage and the inflation source removed. The test should continue for at least 30 min. The measurement of pressure drop due to leakage can be started when it has been assumed that compartment material has completed stretching due to the inflation pressure and achieved equilibrium.	The pressure should not decrease by more than 5% as determined without compensating for temperature and atmospheric pressure changes, and there should be no seam slippage, cracking or other defect in the passage.	1. Passage .1 Design Working Pressure_____kpa .2 3 x working pressure_____kPa .3 Pressure at start _____kPa .4 Calculated 5% pressure drop maximum _____kPa .5 Pressure drop after 30 minutes ___kPa .6 Percentage drop_____% Comment/Observations Passed _____ Failed _____

Marine evacuation systems	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

6.2.6 Two times sliding test		**Regulations: LSA Code I/1.2 & VI/6.2; MSC.81(70) 1/12.3.2.1**
Test Procedure	Acceptance Criteria	Significant Test Data
Marine Evacuation Vertical Passage The vertical passage should be subjected to individual descent operations twice the number for which it is to be certificated. For this test actual persons of varied physique and weight should be used.	On completion the passage path should remain in a serviceable condition.	.1 Number of vertical passages_____. .2 Number of sliding operations per passage _____. .3 Passage remains in serviceable condition Yes/No _____. Comments/observations. Passed _____ Failed _____

6.2.6.1 Load test of passage to container		**Regulations: LSA Code I/1.2 & VI/6.2; MSC.81(70) 1/12.3.2.2**
Test Procedure	Acceptance Criteria	Significant Test Data
Marine Evacuation Vertical Passage; A static load of 2.2 times the maximum to which the system is to be designed should be applied for a period of 30 minutes to the connection between the passage and the container. This static load is to be equivalent to the calculated load imposed by the maximum number and size of fully loaded liferafts for which the system is designed, attached to the loaded platform with the ship moving through the water at 3 knots against a head wind of force 10 on the Beaufort scale.	On completion there must be no signs of any fracture or stranding of its connections, or other damage as a result of this factory test.	1. Calculated static load _____tonnes 2. 2.2 x calc. load _____tonnes 3. Period of test load _____min 4. Calculated breaking load of connection__T. Method used to calculate static load test Comments/Observations. Passed _____ Failed _____

Marine evacuation systems	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

6.2.6.2 Cold passage test		**Regulations: LSA Code I/1.2 & VI/6.2; MSC.81(70) 1/12.3.2.3**
Test Procedure	Acceptance Criteria	Significant Test Data
Marine Evacuation Vertical Passage. The stowed passage should be placed in a cold chamber at a temperature of -30^{0}C for a period of 24 hours.	At this temperature the passage should show no signs of cracking or other defects.	Cold chamber temperature _^{0}C Time in_____Time out _____ Total time in chamber _____hr Total time to deploy _____secs Does passage show signs of cracking or other defects Yes/No _____ Comments/observations. Passed _____ Failed _____

6.2.6.3 Wet descent test		**Regulations: LSA Code I/1.2 & VI/6.2; MSC.81(70) 1/12.3.2.4**
Test Procedure	Acceptance Criteria	Significant Test Data
Marine Evacuation Vertical Passage. It should be demonstrated with at least 10 descent operations, in the case of open vertical passages with the path thoroughly wetted with water to simulate wet weather conditions.	The speed of descent should not be considered excessive or dangerous.	.1 Height of vertical passage above ground_____m. .2 No of persons sliding_____. Comments/Observation Passed _____ Failed _____

Marine evacuation systems	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

6.2.7.1 Loaded freeboard and 50% buoyancy loss loaded test	**Regulations: LSA Code I/1.2 & VI/6.2.1.3.3; MSC.81(70) 1/12.4.1, 12.4.2**	
Test Procedure	Acceptance Criteria	Significant Test Data
Marine Evacuation Platform, if fitted The platform should be inflated and loaded with the number of persons carried in accordance with form 6.2.1.4. Freeboards should be measured all round all wearing an approved lifejacket. It should then be demonstrated that in the event of the loss of 50% of the buoyancy in the tubes, the platform should be capable of supporting the number of persons specified, all wearing approved lifejacket.	Freeboard should be measured all round, and should not be less than 300 mm. and should have a positive freeboard.	No. of persons on platform Freeboard in undamaged condition Freeboard recorded Positive Negative 12 o'clock_____mm _____ _____ 3 o'clock_____mm _____ _____ 6 o'clock_____mm _____ _____ 9 o'clock_____mm _____ _____ Buoyancy tube deflated Upper/Lower Freeboard recorded Positive Negative 12 o'clock_____mm _____ _____ 3 o'clock_____mm _____ _____ 6 o'clock_____mm _____ _____ 9 o'clock_____mm _____ _____ Comments/observations. Passed _____ Failed _____

Marine evacuation systems	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

6.2.7.2 Self-draining test		**Regulations: LSA Code I/1.2 & VI/6.2; MSC.81(70) 1/12.4.3**
Test Procedure	Acceptance Criteria	Significant Test Data
Marine Evacuation Platform, if fitted Water should be pumped into the interior of the platform, while it is afloat, at a rate of 2300 l per minute for 1 minute, the water should then be shut off. If the platform is divided into separate areas, by thwarts or other means, each such area should be subjected to the test.	There should be no appreciable accumulation of water on the platform. The platform should remain stable and usable during this test.	.1 Hose delivery rate_____ l/min .2 Period of delivery of water _____ min .3 Area of platform _____ m² .4 Area of drainage point _____ m² .5 Drainage area sufficient to remove water Yes/No Comments/observations. Passed _____ Failed_____

Marine evacuation systems	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

6.2.7.3 Cold inflation test		**Regulations: LSA Code I/1.2 & VI/6.2; MSC.81(70) 1/12.4.4**
Test Procedure	Acceptance Criteria	Significant Test Data
Marine Evacuation Platform, if fitted; The uninflated platform with its inflation system should be placed in a cold chamber at a temperature of -30^{0}C. After a period of not less than 24 hours at this temperature the platform on being inflated should reach its working pressure within 5 minutes.	The passage and components must show no sign of cracking, seam slippage or other defects. The gas inflation system should show no sign of cracking or other defects. The Pressure Relief Valves should be monitored to ensure that they operate satisfactorily after inflation and during the warming up of the liferaft.	.1 Cold temperature _____^{0}C Time in _____ Time out _____ Hours in chamber _____ @ -30^{0}C .2 Design WP _____ kPa .3 System usable in _____ min .4 Time to reach working pressure _____ min .5 Relief valves blowing at: Gas Inflation System Acceptable to Administration Yes/No .6 Details of gas inflation system .1 Platform - No. of cylinders Weight of cylinders _____ Kg. Gas charge_____ kg CO_2, _____ kg N_2 Bottle details .7 Details of high pressure hose _____ .1 Material of Hose _____ .2 Pressure rating of hose _____ continued…

Marine evacuation systems	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

6.2.7.3 Cold inflation test (continued)		**Regulations: LSA Code I/1.2 & VI/6.2; MSC.81(70) 1/12.4.4**
Test Procedure	Acceptance Criteria	Significant Test Data
Continued:	Continued:	.8 Details of Cylinder valve .9 Details of Operating Head .10 Details of Inflation Valve _____ .11 Details of Pressure Relief Valve _____ _____ .1 Lifting pressure _____ .2 Reseat pressure _____ .12 Additional Inflatable Structures associated with platform Comments/Observations. Passed _____ Failed _____

Marine evacuation systems	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

6.2.7.4 Hot inflation test		**Regulations: LSA Code I/1.2 & VI/6.2; MSC.81(70) 1/12.4.5**
Test Procedure	Acceptance Criteria	Significant Test Data
Marine Evacuation Platform, if fitted: The platform with its inflation system should be placed in a hot chamber at a temperature of +65^{0}C for not less than 7 hours.	On being inflated the pressure relief valves on the platform should be of sufficient capacity to prevent pressure in excess of twice the designed working pressure. The passage and components should show no sign of cracking, seam slippage or other defects. The maximum pressure achieved during the hot should align with the Pressure Relief Valves Lifting and Re-seat pressures. (The inflation system should be identical to the system described in 6.2.6.3 above)	.1 Hot temperature _____ ^{0}C Time in_____Time out _____ Hours in chamber_____@ +65^{0}C .2 Design WP _____ 2 x Design WP _____ .3 System usable_____min .4 Time to reach working pressure .5 Pressure relief valves blowing at: .6 Max Pressures reached in buoyancy tubes and time. Comments/Observations Passed _____ Failed _____

Marine evacuation systems	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

6.2.7.5 Three times overpressure test		**Regulations: LSA Code I/1.2 & VI/6.2; MSC.81(70) 1/ 5.17.7, 5.17.8 & 12.4.6**
Test Procedure	Acceptance Criteria	Significant Test Data
Marine Evacuation Platform, if fitted; Each inflatable compartment in the platform should be tested to a pressure equal to three times the working pressure. Each pressure relief valve should be made inoperative, compressed air should be used to inflate the platform and the inflation source removed. The test should continue for at least 30 minutes. The measurement of pressure drop due to leakage can be started when it has been assumed that compartment material has completed stretching due to inflation pressure and achieved equilibrium.	The pressure should not decrease by more than 5% as determined without compensating for temperature and atmospheric pressure changes, and there should be no seam slippage, cracking or other defect in the platform.	.1 Passage .1 Design Working Pressure _____ kPa .2 PRV lifting pressure_____kPa .3 PRV reseat pressure_____kPa .4 3 x working pressure_____kPa .5 Pressure at start_____kPa .6 Calculated 5% pressure drop maximum__kPa .7 Pressure drop after 30 minutes_____kPa .8 Percentage drop_____% Comment/Observations Passed _____ Failed _____

Marine evacuation systems	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

6.2.8 Liferaft construction		**Regulations: LSA Code I/1.2 IV/4.2 & VI/6.2; MSC.81(70) 1/12.5.1**
Test Procedure	Acceptance Criteria	Significant Test Data
Inflatable liferafts associated with marine evacuation systems Any inflatable liferaft used in conjunction with the marine evacuation system should conform with the requirements of the LSA Code section 4.2.	Liferafts used in conjunction with the marine evacuation system should conform and be prototype tested to the requirements of section 4.2.	Type approval certifications confirms compliance with LSA Code section 4.2 and liferafts testing consistent with section 4.1 of the Survival Craft Evaluation and Test Report Forms Conforms to LSA Code section 4.2? Yes/No Testing consistent with Test Reports in Section 4.1 Inflatable liferafts? Yes/No Comments/observations. Passed _____ Failed _____

Marine evacuation systems	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

6.2.8.1 Liferaft release from stowage position		**Regulations: Chapter III/ 13.4; LSA Code I/1.2 & VI/6.2; MSC.81(70) 1/12.5.2, 12.5.3, 12.5.4**
Test Procedure	Acceptance Criteria	Significant Test Data
Inflatable liferafts associated with marine evacuation systems Any inflatable liferaft used in conjunction with the marine evacuation system should, where applicable; .1 be sited close to the system container but be capable of dropping clear of the deployed system and boarding platform. .2 be capable of release one at a time from its stowage rack with arrangements which will enable it to be moored alongside the platform. .3 be provided with pre-connected or easily connected retrieving lines to the platform.	It should be demonstrated that the liferafts can be deployed from their stowage position, and moored alongside the platform, if fitted, before being inflated, and bowsed in ready for boarding. It should be demonstrated that the liferafts can be deployed from their stowed positions independently of the marine evacuation system. It should be demonstrated that the liferafts will float free from their stowage positions, inflate and then break free in the event of the ship sinking.	.1 Height of stowage position in lightest seagoing condition_____m. .2 Certified drop height of liferaft_____m. .3 Operation carried out successfully Yes/No .4 Method of release automatic _____manual_____ .5 Description of release method _____ .6 Liferafts launched independently of the MES Yes/No _____ Comments/observations Passed _____ Failed _____

Marine evacuation systems	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

6.2.8.2 Liferaft release from passage	**Regulations:-Chapter III/13.4; LSA Code I/1.2 & VI/6.2; MSC.81(70) 1/12.5.5**	
Test Procedure	Acceptance Criteria	Significant Test Data
Inflatable liferafts associated with marine evacuation systems Any inflatable liferaft used in conjunction with the marine evacuation system should be provided with pre-connected or easily connected retrieving lines to the platform.	If the passage is to give direct access to the liferaft(s), it should be demonstrated that it can be easily and quickly detached.	.1 Are liferafts launched with passage Yes/No _____ .2 Method of connection of liferafts to passage _____ .3 Method of release from passage _____ .4 Method of release acceptable Yes/No _____ Comments/observations Passed _____ Failed _____

Marine evacuation systems	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

6.2.9 Timed evacuation test		**Regulations: LSA Code I/1.2 & VI/6.2; MSC.81(70) 1/12.6.1**
Test Procedure	Acceptance Criteria	Significant Test Data
Performance of the marine evacuation system A marine evacuation system should be evaluated for capacity by mean of timed evacuation deployments conducted in harbour. It should be demonstrated in harbour by a full deployment of a system, including the launching and inflation of all the associated liferafts, that the system will provide a satisfactory means of evacuation. For this trial the number of persons to be used should be that for which the system is to be certificated. The various stages of this trial should be timed so as to permit the calculation of the number of persons that can be evacuated in any specified period, a representative composition of persons with normal health, height and weight should be used in the demonstration, and should consist of different sexes and ages so far as it is practicable and reasonable. Time Trial Sheets Attached to be completed	The passage of the marine evacuation system should provide for safe decent of persons of various ages, sizes and physical capabilities, wearing approved lifejackets, from the embarkation station to the floating platform or survival craft.	No. of persons system is certificated for_____ No. of platform crew _____ Number evacuated after 10 min (cargo vessel) _____ Number evacuated after 30 min (passenger vessel) _____ Number actually evacuated _____ Time taken _____ No. of associated liferafts _____ Carrying capacity of liferafts _____ Height of embarkation deck above water_____ m Weather conditions: _____ Comments/Observations Passed _____ Failed _____

Marine evacuation systems	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

6.2.10.1 Heavy weather sea trial (Phase 1)		**Regulations: LSA Code I/1.2 & VI/6.2; MSC.81(70) 1/12.6.2.1**
Test Procedure	Acceptance Criteria	Significant Test Data
Conditions during the heavy weather sea trial should not fall below a sea state associated with a wind of force 6 on the Beaufort scale. It should be demonstrated at sea by a full deployment of a system, including the launching and inflation of the associated liferafts, that the system will provide a satisfactory means of evacuation in a sea state associated with a wind of force 6 on the Beaufort scale, and in association with a significant wave height of at least 3 m. During the sea trial, a spectrum analysis of the recorded wave height should be performed. The signal should be high-pass filtered at 0.08 Hz to exclude any contributions from swell. The significant wave height should be calculated based on filtered spectrum and should not be less than 3.0 m. The demonstration should be carried out in accordance with the following procedures: Phase 1 – Initial deployment of system. .1 with the vessel in a simulated "dead ship" condition, and the bow into the wind the system (passage and platform or any other configuration) should be deployed in its normal design manner; and .2 The platform and passage are to be observed from the ship to verify in this condition that it forms a stable evacuation system for the platform crew to descend and carry out their initial duties in preparation for evacuation;	System to remain usable throughout the trials and should not suffer damage to the platform, passage, or liferafts, or other defects. System capable of providing a 3 metres significant wave height satisfactory means of evacuation in a sea state associated with a wind of force 6 on the Beaufort scale.	.1 Position of vessel during trials _____ Weather conditions at start_____BF; Weather conditions at end of trials_____BF. Wind speed at start_____m/s Wind speed at end_____m/s Significant wave height____m Maximum wave height_____m Method of measuring wave height _____ Average drift of ship during trial_____m/s Time taken for system to become usable_____min Weather conditions remained with test limits Yes/No Comments/Observations Passed _____ Failed _____

Marine evacuation systems	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

6.2.10.2 Heavy weather sea trial (Phase 2)		**Regulations: LSA Code I/1.2 & VI/6.2 ; MSC.81(70) 1/12.6.2.2**
Test Procedure	Acceptance Criteria	Significant Test Data
Conditions during the heavy weather sea trial should not fall below a sea state associated with a wind of force 6 on the Beaufort scale. Phase 2 – Lee Side Trial .1 the ship to be manoeuvred to place the system on the lee side and then allowed to freely drift; .2 where the system employs a platform, the nominated number of the platform crew are to descend via the passage and retrieve at least two liferafts which have been launched separately; .3 where the system employs a passage giving direct access to the liferaft, the nominated number of liferaft boarding crew are to descend via the passage. If additional liferafts are employed with the system, then they should be launched separately and be retrieved by the liferaft crew; and .4 after the liferafts have been satisfactorily deployed, dependant upon safety considerations 20 persons in suitable protective clothing are to evacuate to the liferafts through the passage.	System to remain usable throughout the trials and should not suffer damage to the platform, passage, or liferafts, or other defects. System capable of providing a satisfactory means of evacuation in a sea state associated with a wind of force 6 on the Beaufort scale. (The design of marine evacuation systems may vary, such that the configuration of the arrangement of the liferafts as described in the test procedure may not be applicable. The Heavy weather sea trial should be based upon the manufacturers design concept, for the system, for evacuating the number of persons in the required time.)	.2 Number of platform crew _____ Number of liferafts deployed _____ Safe to evacuate 20 persons to liferafts Yes/No ____ .3 Evacuation satisfactory Yes/No _____ Comments/Observations. Passed _____ Failed _____

Marine evacuation systems	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

6.2.10.3 Heavy weather sea trial (Phase 3)		**Regulations: LSA Code I/1.2 & VI/6.2; MSC.81(70) 1/12.6.2.3**
Test Procedure	Acceptance Criteria	Significant Test Data
Conditions during the heavy weather sea trial should not fall below a sea state associated with a wind of force 6 on the Beaufort scale. Phase 3 – Loaded trial lee side The platform, if fitted, and the required number of liferafts are to be loaded to their certified capacity with weights representing 75 kg/person. When loaded with the required weights the system is to be observed for a period of 30 minutes, with the vessel free to drift. Vessel allowed to drift for a minimum period of 30 minutes.	System to remain usable throughout the trials and should not suffer damage to the platform, passage, liferafts, or other defects. System capable of providing a satisfactory means of evacuation in a sea state associated with a wind of force 6 on the Beaufort scale. The system should continue to provide a safe and stable evacuation system.	Number of persons platform can carry Platform weight loaded = _____ persons X 75 kg = _____ kg Number of liferafts inflated _____ Carrying capacity of liferaft _____ Liferaft weight loaded = _____ persons X 75 kg = _____kg Method of loading liferafts _____ Average drift speed during trial _____m/s Length of loaded trial lee side _____min Comments/Observations Passed _____ Failed _____

Marine evacuation systems	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

6.2.10.4 Heavy weather sea trial (Phase 4)		**Regulations: LSA Code I/1.2 & VI/6.2; MSC.81(70) 1/12.6.2.4**
Test Procedure	Acceptance Criteria	Significant Test Data
Conditions during the heavy weather sea trial should not fall below a sea state associated with a wind of force 6 on the Beaufort scale. Phase 4 – Loaded trial weather side The platform, if fitted, and the required number of liferafts are to be loaded to their certified capacity with weights representing 75 kg/person. The trials of phase 2 and 3 should be repeated with the system deployed on the weather side of the ship. The lee side trials and the weather side trials may be conducted in any convenient order. Where ship manoeuvres are required to place the system on any one side, any damage or failure sustained during this manoeuvre should not constitute a failure of the system. Vessel allowed to drift for a minimum period of 30 minutes.	System to remain usable throughout the trials and should not suffer damage to the platform, passage, liferafts, or other defects. System capable of providing a satisfactory means of evacuation in a sea state associated with a wind of force 6 on the Beaufort scale. The system should be tested, as far as practicable, on a vessel having similar characteristics to the types of ships the equipment is to be fitted to.	Number of persons platform can carry Platform weight loaded = _____ persons X 75 kg = _____ kg Number of liferafts inflated Carrying capacity of liferaft Liferaft weight loaded = _____ persons X 75 kg = _____ kg Method of loading liferafts _____ Average drift speed during trial _____ m/s Length of loaded trial weather side _____ min Comments/Observations Passed _____ Failed _____

Marine evacuation systems	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

6.2.11 Evacuation trial timings (MES with platform and liferafts)	**Regulations: Chapter III/15; LSA Code I/1.2 & VI/6.2; MSC81(70) 1/6.1.5**
	TIMINGS
1 MES door open	
2 MES in water	
3 MES slide/platform inflated	
4 4 platform crew on platform	
5 Signal to release liferafts given	
6 **1ST LIFERAFT LAUNCHED**	
6.1 ILR container bowsed in	
6.2 ILR boardable	
6.3 1st person descends system	
6.4 Last person in liferaft No 1	
6.5 Liferaft marshalled clear	
7 **2ND LIFERAFT LAUNCHED**	
7.1 ILR container bowsed in	
7.2 ILR boardable	
7.3 1st person descends system	
7.4 Last person in liferaft No 2	
7.5 Liferaft marshalled clear	

Continued…..

(Continued)	**TIMINGS**
8 **3RD LIFERAFT LAUNCHED**	
8.1 ILR container bowsed in	
8.2 ILR boardable	
8.3 1st person descends system	
8.4 last person in liferaft No 3	
8.5 Liferaft marshalled clear	
9 **4TH LIFERAFT LAUNCHED**	
9.1 ILR container bowsed in	
9.2 ILR boardable	
9.3 1st person descends system	
9.4 Last person in liferaft No 4	
9.5 Liferaft marshalled clear	
10 **5TH LIFERAFT LAUNCHED**	
10.1 ILR container bowsed in	
10.2 ILR boardable	
10.3 1st person descends system	
10.4 Last person in liferaft No 5	
10.5 Liferaft marshalled clear	

Continued…..

(Continued)	**TIMINGS**
11 **6TH LIFERAFT LAUNCHED**	
11.1 ILR container bowsed in	
11.2 ILR boardable	
11.3 1st person descends system	
11.4 Last person in liferaft No 6	
11.5 Liferaft marshalled clear	
12 **7TH LIFERAFT LAUNCHED**	
12.1 ILR container bowsed in	
12.2 ILR boardable	
12.3 1st person descends system	
12.4 Last person in liferaft No 7	
12.5 Liferaft marshalled clear	
13 **8TH LIFERAFT LAUNCHED**	
13.1 ILR container bowsed in	
13.2 ILR boardable	
13.3 1st person descends system	
13.4 Last person in liferaft No 8	
13.5 Liferaft marshalled clear	
Evacuation trial completed at hr . . . . . min . . . . . sec Total Time for Evacuation……hr . . . . . min	

Marine evacuation systems	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

6.2.12 Evacuation trial timings (MES straight into liferafts)	**Regulations: Chapter III/15; LSA Code I/1.2 & VI/6.2; MSC81(70) 1/6.1.5**
	TIMINGS
1 MES door open	
2 MES in water	
3 MES passage, liferafts inflated and boardable	
4 MES crew descend	
4.1 Additional liferaft launched (if required)	
4.2 ILR container bowsed in	
4.3 ILR boardable	
5 Signal to receive passengers given	
6 **1ST PERSON DESCENDS** (liferaft No 1)	
6.1 Last person in liferaft No 1	
6.2 Liferaft marshalled clear	
7 **1ST PERSON DESCENDS** (liferaft No 2)	
7.1 Last person in liferaft No 2	
7.2 Liferaft marshalled clear	
8 **1ST PERSON DESCENDS** (liferaft No 3)	
8.1 Last person in liferaft No 3	
8.2 Liferaft marshalled clear	

Continued…..

Continued	**TIMINGS**
9 **1ST PERSON DESCENDS** (liferaft No 4)	
9.1 Last person in liferaft No 4	
9.2 Liferaft marshalled clear	
10 **1ST PERSON DESCENDS** (liferaft No 5)	
10.1 Last person in liferaft No 5	
10.2 Liferaft marshalled clear	
11 **1ST PERSON DESCENDS** (liferaft No 6)	
11.1 Last person in liferaft No 6	
11.2 Liferaft marshalled clear	
12 **1ST PERSON DESCENDS** (liferaft No 7)	
12.1 Last person in liferaft No 7	
12.2 Liferaft marshalled clear	
13 **1ST PERSON DESCENDS** (liferaft No 8)	
13.1 Last person in liferaft No 8	
13.2 Liferaft marshalled clear	
Evacuation trial completed at hr . . . . . min . . . . . sec Total Time for Evacuation hr . . . . . min	

6.3 MEANS OF RESCUE

EVALUATION AND TEST REPORT

6.3.1 Submitted drawings, reports and documents
- 6.3.1.1 General data and specifications
- 6.3.1.2 Quality assurance
- 6.3.1.3 Visual inspection

6.3.2 Means of rescue – Marine evacuation systems
- 6.3.2.1 Visual inspection of means of rescue types
- 6.3.2.2 Means to ascend to the deck
  - 6.3.2.2.1 Visual inspection of means to ascend to the deck
  - 6.3.2.2.2 Handholds on inclined MESs
  - 6.3.2.2.3 Visual inspection of ladders (or equivalents)
- 6.3.2.3 Mechanical hoist
  - 6.3.2.3.1 Static proof load test of safety hoist
  - 6.3.2.3.2 Operational load test
  - 6.3.2.3.3 Turning in test
  - 6.3.2.3.4 Winch brake test
  - 6.3.2.3.5 Safety hoist recovery speed test
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6.3.3 Means of rescue – Davit launching system
- 6.3.3.1 Visual inspection of davit-launched means of rescue
- 6.3.3.2 Markings on davit-launched means of rescue
- 6.3.3.3 Impact test
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  - 6.3.3.4.1 Damage test of inflatable means of rescue
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  - 6.3.3.4.3 Pressure test
  - 6.3.3.4.4 Strength test
- 6.3.3.5 Rigid means of rescue
  - 6.3.3.5.1 Construction of rigid means of rescue
  - 6.3.3.5.2 Strength of rigid means of rescue
- 6.3.3.6 Means of rescue launching appliance
  - 6.3.3.6.1 Static proof load test
  - 6.3.3.6.2 Operational load test
  - 6.3.3.6.3 Turning in test
  - 6.3.3.6.4 Winch brake test
  - 6.3.3.6.5 Means of rescue recovery speed test
  - 6.3.3.6.6 Hand operation test

6.3 MEANS OF RESCUE

EVALUATION AND TEST REPORT

Manufacturer	
System Type	
Serial Number	
Maximum Working Load	
Maximum Turning Moment	
Winch type	
Serial Number	
Date	
Place	
Name Surveyor printed	
Signature	
Approving Organization	

Means of rescue	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

6.3.1 Submitted drawings, reports and documents

Submitted drawings and documents			
Drawing No.	**Revision No. & date**	**Title of drawing**	**Status**

Submitted reports and documents			
Report/Document No.	**Revision No. & date**	**Title of report/document**	**Status**
		Maintenance Manual	
		Operations Manual	

Means of rescue	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

6.3.1.1 General data and specifications		**Regulations: LSA Code IV/4.4, V/5.1; MSC.81(70)1/7.2.16**
General Information	MOR Dimensions	MOR Weight
Construction Material: Hull: _____ Canopy: _____ Fire retardancy documentation:_____ Inflated chambers:_____ MOR Inherent Buoyancy (Type App.) Material: _____ Weight: _____ Occupancy: Persons (82.5 kg each): _____ Additional rigid or inflatable buoyancy: _____ Release mechanism(s) (if applicable) 1 2 Manufacturer:_____ Type: _____ SWL: _____	Dimensions: LOA: _____ Breadth Maximum: _____ Depth to Sill: _____ Depth to Gunwale: _____ Moulded Breadth: _____ Moulded Depth: _____ (Insert diagram of hull for reference)	Design Weight: Unloaded: _____ Loose Equipment: _____ Persons: _____ Calculated Loaded Weight: Fully Equipped: _____ With Persons: _____ Weight As Tested: Fully Equipped: _____ Comments/Observations

Means of rescue	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

6.3.1.2 Quality assurance	**Regulations: MSC.81(70) 2/1.1, 1.2**
Except where all appliances of a particular type are required by chapter III of the International Convention for the Safety of Life at Sea, 1974, as amended or the International Life-Saving Appliance (LSA) Code, to be inspected, representatives of the Administration should make random inspections of manufacturers to ensure that the quality of lifesaving appliances and materials used comply with the specification of the approved prototype life-saving appliance. Manufacturers should be required to institute a quality control procedure to ensure that life-saving appliances are produced to the same standard as the prototype life-saving appliance approved by the Administration and to keep records of any production tests carried out in accordance with the Administration's instructions.	Quality assurance Standard Used: Quality assurance Procedure: Quality assurance Manual: Description of System: Quality assurance System acceptable Yes/No Comments/Observations

Means of rescue	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

6.3.1.3 Visual inspection	**Regulations:SOLAS III/26.4; LSA Code I/1.2.2.9; MSC/Circ.810-2.2, 2.4.2.1, 2.4.2.4, 2.4.2.9**	
Test Procedure	Acceptance Criteria	Significant Test Data
Visual examination. .1 Approval markings	The means of rescue should: Be clearly marked with approval information including the Administration which approved it, date of manufacture and expiry and operational restrictions;	Passed _____ Failed _____
	Markings are to be indelible;	Passed _____ Failed _____
	Be conspicuously marked with the maximum number of persons the means of rescue is permitted to take;	Passed _____ Failed _____
	Be conspicuously marked to prevent confusion with liferafts and, if applicable to a marine evacuation system, unless these also form part of the means of rescue; and	Passed _____ Failed _____
.2 Operating instructions	Be provided with brief instructions or diagrams clearly illustrating the use of the means of rescue.	Passed _____ Failed _____ Comments/Observations

Means of rescue	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

6.3.2.1 Visual inspection of means of rescue types		**Regulations: SOLAS III/26.4; LSA Code 1.2.2.9; MSC/Circ.810-2.4**
Test Procedure	Acceptance Criteria	Significant Test Data
The means of rescue should be one of the following: .1 A marine evacuation system complying with the requirements of section 6.2 of the LSA Code providing a suitable floating platform, with a ladder or other means to ascend to the deck for able-bodied persons, and a mechanically powered means to safely hoist persons lying down. .2 A device complying with the requirements for davit-launched liferafts in paragraphs 4.1.3.1, 4.1.4.1, 4.1.5.1.1, and in the case of an inflatable device, 4.2.2, 4.2.2.1, 4.2.2.3, 4.2.2.4, 4.2.7, 4.2.8.1, 4.2.8.2 (if fitted) and 4.2.9.1, or in the case of a rigid device, 4.3.1, 4.3.2, 4.3.6.2, 4.3.6.3, 4.3.6.4, 4.3.6.6, 4.3.6.9, 4.3.6.10 and 4.3.7 of the LSA Code, to provide a suitable floating platform. The device should be used with a launching appliance, meeting the requirements of 6.1 or equivalent. A safety device should be fitted to prevent over stressing the launching appliance.	Is the MES Type Approved in accordance with Section 6.2. above? Is a suitable floating platform provided? Is a ladder or other means of ascending to the deck provided? Is a mechanical hoist provided? Is the device designed to comply with the requirements of a davit-launched liferaft? Is the Means of Rescue an inflatable device or rigid device?	Yes/No Yes/No Yes/No Yes/No Yes/No Inflatable/Rigid Comments/Observations

Means of rescue	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

6.3.2.2.1 Visual inspection of means to ascend to the deck		**Regulations: MSC/Circ.810 –2.4.1**
Test Procedure	Acceptance Criteria	Significant Test Data
The MES is to be provided with means for able-bodied persons to ascend to the deck. In the case of a vertical MES, this can either be a ladder or by other means. For inclined MESs, this can be either by providing suitable handholds or by portable ladders with steps having an efficient non-slip surface. Visually inspect the appliance. Conduct measurements and verify clearance as required.	A means of ascending to the deck is to be provided and corresponds to the approved drawings. The amount of maintenance should be restricted to a minimum. Parts which require maintenance should be easily accessible and easily maintained.	Passed _____ Failed _____ Passed _____ Failed _____ Passed _____ Failed _____ Comments/Observations Means provided to ascend to the deck:

Means of rescue	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

6.3.2.2.2 Handholds on Inclined MESs		**Regulations: MSC/Circ. 810 –2.4.1**
Test Procedure	Acceptance Criteria	Significant Test Data
Materials used for handholds are to be suitable for the intended purpose.	Are handholds fitted? The material and its means of attachment used for the handholds is to be of sufficient strength to accommodate the expected use.	Yes/No Passed _____ Failed _____ Comments/Observation

6.3.2.2.3 Visual inspection of ladders (or equivalents)		**Regulations: MSC/Circ. 810 –2.4.1**
Test Procedure	Acceptance Criteria	Significant Test Data
The steps of the ladder (or its equivalent) should be suitable for the intended purpose.	The construction of the ladder and its means of attachment are to be of sufficient strength to accommodate the expected use.	Passed _____ Failed _____ Comments/Observation

Means of rescue	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

6.3.2.3.1 Static proof load test of Safety Hoist		**Regulations: LSA Code 6.1.1.5 - 6.1.1.6; MSC.81(70) 1/8.1.1**
Test Procedure	Acceptance Criteria	Significant Test Data
For safety hoist and launching appliances, except winches, should be subjected to a static proof load of 2.2 times their maximum working load. With the load at the full outboard position, the load should be swung through an arc of approximately 10^0 to each side of vertical in the intended fore and aft plane. The test should be done first in the upright position, followed by tests simulating a shipboard condition of list of 20^0 both inboard and outboard.	The launching appliance and its attachments other than winches should be of sufficient strength to withstand a static proof load on test of not less than 2.2 times the maximum working load. There should be no evidence of significant deformation or other damage as a result of this test.	MWL: ..... kN Test load (2.2 x MWL): ..... kN There should be no evidence of significant deformation or other damage Passed/Failed Upright Passed/ Failed 20^0 inboard list Passed/ Failed 20^0 outboard list Passed/ Failed Comments/Observations

Means of rescue	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

6.3.2.3.2 Operational load test		**Regulations: LSA Code 6.1.1.1 - 6.1.1.3; MSC.81(70) 1/8.1.2**
Test Procedure	Acceptance Criteria	Significant Test Data
For safety hoist a mass equal to 1.1 times the maximum working load should be suspended from the lifting points with the launching appliance in the upright position. The load should be moved from the full inboard to the full outboard position using the means of operation that is used on the ship. The test should be repeated with the launching appliance positioned to simulate a combined 20^0 inboard list and 10^0 trim. All the tests should be repeated with a mass equal to that of a fully equipped safety hoist, without persons, or the safety hoist intended for the use with the davit to ensure the satisfactory functioning of the davit under very light load conditions.	The appliance should successfully lower the load under all of the conditions, and there should be no evidence of significant deformation or other damage as a result of the tests. Each launching appliance together with all its lowering and recovery gear should be so arranged that the fully equipped safety hoist it serves can be safely lowered against a trim of up to 10^0 and a list of up to 20^0 either way: When boarded, as required by regulation III/23 or III/33, by its full complement of persons; and Without persons in the safety hoist.	Weight of the lightest safety hoist intended for use: LWL: ..... kN MWL: ..... kN Test load (1.1 x MWL) : ..... kN Clear of davit horn?* Passed/Failed Does the appliance successfully lower the load under these conditions without evidence of significant deformation or damage? Passed/Failed Upright (1.1x MWL) Passed/Failed 20^0 inboard list +10° trim (1.1xMWL)Passed/Failed 20^0 inboard list +10° trim (LWL) Passed/Failed Stored power Passed/Failed Start pressure: k Pa Min. pressure: k Pa Pressure drop after one movement: k Pa Time from inboard to outboard: sec Comments/Observations **if applicable*

Means of rescue	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

6.3.2.3.3 Turning in test		**Regulations: LSA Code 6.1.1.3; MSC.81(70) 1/8.1.3**
Test Procedure	Acceptance Criteria	Significant Test Data
A mass equal to 1.1 times the maximum working load should be suspended from the lifting points with the launching appliance in the upright position. With the appliance in the full upright position the maximum design hoisting load should be moved from the full outboard to the full inboard position using the means of operation that is used on the ship.	The appliance should successfully move the maximum designed hoisting load from the outboard to the inboard position without causing permanent deformation or other damage.	maximum designed hoisting load: _____ kN Does the launching appliance successfully move the load from outboard to inboard? Passed/ Failed Does the launching appliance show any evidence of significant deformation or other damage as a result of this test? Passed/ Failed Comments/Observations

Means of rescue	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

6.3.2.3.4 Winch brake test		**Regulations: LSA Code 6.1.2.5; MSC.81(70) 1/8.1.4**
Test Procedure	Acceptance Criteria	Significant Test Data
Winch drums should be wound to the maximum number of turns permitted and a static test load of 1.5 times the maximum working load should be applied and held by the brake. This load should then be lowered for at least one complete revolution of the barrel shaft. A test load of 1.1 times the maximum working load should then be lowered at maximum lowering speed through a distance of at least 3 m and stopped by applying the hand brake sharply. This test should be repeated a number of times. If the winch design incorporates an exposed brake, one of these tests should be carried out with the brake wetted but in this case the stopping distance may be exceeded. The various tests should achieve a cumulative lowering distance of at least 150 m. Operation of the winch with a load of a mass equal to that of a fully equipped safety hoist, without persons, or the lightest safety hoist intended for use with the winch should also be demonstrated.	The test load should drop no more than 1 m when the brake is applied (except that the stopping distance may be exceeded if an exposed brake is wetted). The launching appliance should successfully lower a mass equal to that of a fully equipped safety hoist, without persons, or the lightest safety hoist intended for use with the winch. Inspection of the stripped winch should reveal no significant damage or undue wear.	Weight of the lightest safety hoist * : ..... kN MWL : …..... kN Test 1: Static test load (1.5 x MWL): ..... kN Does the brake test hold the test load (1.5x MWL)? Passed/Failed MWM: kNm Drum diam. mm Wire diam. mm Number of turns Max. lowering speed m/s Test 2 Dynamic Test load (1.1 x MWL): ……..... kN Brake test carried out after > 3m with max lowering speed Stop within 1 metre? Passed/Failed Comments/Observations * delete as appropriate continued

Means of rescue	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

6.3.2.3.4 Winch brake test (continued)		**Regulations: LSA Code 6.1.2.5; MSC.81(70) 1/8.1.4**
Test Procedure	Acceptance Criteria	Significant Test Data
Following completion of these test (and 6.3.2.3.5 and 6.3.2.3.6), the winch should be stripped for inspection.		1st stop > 3m 2nd stop: m 3rd stop: m 4th stop: m 5th stop: m Total lowering distance > 150 m Passed/ Failed Test 3 (if applicable) Winch design incorporates an exposed brake? Yes / No Wet stopping distance m Passed/ Failed Test 4 Test load (LWL) kN Lowering test with LWL satisfactory? Passed/ Failed Does the inspection of the stripped winch reveal any significant damage or undue wear? Passed/ Failed Remarks:

Means of rescue	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

6.3.2.3.5 Safety hoist recovery speed test		**Regulations: LSA Code 6.1.1.9; MSC.81(70) 1/8.1.5**
Test Procedure	Acceptance Criteria	Significant Test Data
It should be demonstrated that a winch intended for use with a safety hoist is capable of recovering the safety hoist with the number of persons for which it is to be approved and its equipment or an equivalent mass at a rate of not less than 0.3 m/s.	Each safety hoist launching appliance should be fitted with a powered winch motor capable of raising the safety hoist from the water with its full safety hoist complement of persons and equipment at a rate of not less than 0.3 m/s.	Hoisting load: Measured recovering speed of the safety hoist: _____m/s Comments/Observations Passed _____ Failed _____

Means of rescue	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

6.3.2.3.6 Hand operation test		**Regulations: LSA Code 6.1.2.6; MSC.81(70) 1/8.1.6**
Test Procedure	Acceptance Criteria	Significant Test Data
The hand operation of the winch should be demonstrated. If the winch is designed for quick recovery by hand with no load, this should be demonstrated with a load of 1.5 times the mass of the empty lifting arrangements.	An efficient hand gear should be provided for recovery of each safety hoist. Hand gear handles or wheels should not be rotated by moving parts of the winch when the safety hoist is being lowered or when it is being hoisted by power.	Hoisting load: Test 1: Test load (1 x hoisting load): winch can be operated satisfactorily by hand? Passed/ Failed Arrangement provided for protection against moving parts and rotating handles? Passed/ Failed Type: Test 2: Only for quick recovery Test load (1.5 x weight of empty lifting arrangement): kN Is quick recovery satisfactory? Passed/ Failed Comments/Observations

Means of rescue	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

6.3.3.1 Visual inspection of davit-launched means of rescue (continued)	**Regulations: LSA Code - 1.2.2.9 MSC/Circular.810 -2.2, 2.4.2.1, 2.4.2.4, 2.4.2.9**	
Test Procedure	Acceptance Criteria	Significant Test Data
Visual examination.	The means of rescue should:	
.1 Approval markings	Be clearly marked with approval information including the Administration which approved it, date of manufacture and expiry and operational restrictions,	Passed _____ Failed _____
	Markings are to be indelible;	Passed _____ Failed _____
	Be conspicuously marked with the maximum number of persons the means of rescue is permitted to take;	Passed _____ Failed _____
.2 Operating instructions	Be conspicuously marked to prevent confusion with liferafts and, if applicable marine evacuation system, unless these form part of the means of rescue:	Passed _____ Failed _____
.3 Landing Area at water level	Be provided with brief instructions or diagrams clearly illustrating the use of the means of rescue:	Passed _____ Failed _____
.4 Colour	The means of rescue is to have at least $9m^2$ for receiving rescued persons:	Passed _____ Failed _____
.5 Protection	Be of a highly visible colour:	Passed _____ Failed _____
	Be protected against damage when moving against the ship's side;	Passed _____ Failed _____ N/A _____
	Offer protection to the rescued person from injury by the launching appliance;	Passed _____ Failed _____

Means of rescue	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

6.3.3.1 Visual inspection of davit-launched means of rescue (continued)	**Regulations: MSC/Circular.810 -2.4.2.1, 2.4.2.2, 2.4.2.5 to 2.4.2.8 & 2.4.2.11**	
Test Procedure	Acceptance Criteria	Significant Test Data
Visual examination (cont.)	The means of rescue should (cont.):	Passed _____ Failed _____
.5 Protection (cont.)	Prevent occupants from falling from the means of rescue should it come into contact with an object like the ship's side;	Passed _____ Failed _____
	Be arranged such that the rescued persons do not need to traverse any gaps between the means of rescue and the platform and/or the ship's deck:	Passed _____ Failed _____
.6 Self-draining floor	The floor is to be self-draining:	Passed _____ Failed _____
.7 Means provided for bowsing	Be provided with means of bowsing the means of rescue against the ship's side:	Passed _____ Failed _____ N/A _____
.8 Equipment	Be provided with one knife, in accordance with 4.1.5.1.2 of the LSA Code, at each bowsing point:	Passed _____ Failed _____ N/A _____
.9 Controls	The inflation system controls; if of an inflatable type, are to be manual controlled:	Passed _____ Failed _____ N/A _____
.10 Retro-reflective material	Be fitted with retro-reflective tape in accordance IMO Resolution A.658(16), annex 1, section 4.	Passed _____ Failed _____ N/A _____
.11 Boarding ramps	Be fitted with at least two boarding ramps.	

Means of rescue	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

6.3.3.1 Visual inspection of davit-launched means of rescue (continued)	**Regulations: LSA Code – 4.1.3.1 and 4.1.5.1.1**	
Test Procedure	Acceptance Criteria	Significant Test Data
Visual examination (cont.) .12 Lifelines should be securely becketed around the inside and outside of the means of rescue. .13 A buoyant rescue quoit, attached to not less than 30m of buoyant line. .14 Means are to be provided such that the container of the means of rescue or parts of it are prevented from falling into the sea during inflation and/or launching of the means of rescue. .15 Every inflatable means of rescue is to be provided with at least one repair outfit for repairing punctures in buoyancy compartments. .16 Every inflatable means of rescue is to be provided with at least one topping-up pump or a pair of bellows.	The means of rescue should (cont.): Lifelines provided and securely fitted. A buoyant rescue quoit, attached to not less than 30m of buoyant line is provided. Fixing arrangements are provided which are of adequate strength. A puncture repair kit is provided. One topping-up pump or pair of bellows is provided.	Passed _____ Failed _____ Passed _____ Failed _____ Passed _____ Failed _____ Passed _____ Failed _____ Passed _____ Failed _____ Comments/Observations

Means of rescue	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

6.3.3.2 Markings on davit-launched means of rescue		**Regulations: LSA Code I/1.2 and 4.2**
Test Procedure	Acceptance Criteria	Significant Test Data
The means of rescue should be marked with: Maker's name or trademark; Serial number; Name of approval authority and the capacity of the system; SOLAS; Date of manufacture (month and year); Date and place of last service; Maximum permitted height of stowage above waterline; and The maximum number of persons the means of rescue is permitted to accommodate. Launching and operating instructions should be marked on or in the vicinity of the container.	The means of rescue should be either packed in a container or stowed such that it is so constructed as to withstand hard wear under conditions encountered at sea and as far as practicable weathertight, except for drain holes in the container bottom. All instructions and markings to be indelible.	Makers name: _____ Serial No.: _____ Approval authority: _____ _____ Date of manufacture: _____ Date and place last serviced: _____ Maximum permitted height: _____ Maximum number of persons: _____ Launching & operating instructions acceptable? YES/NO _____ Comments/Observations Passed _____ Failed _____

Means of rescue	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

6.3.3.3 Impact test		**Regulations: LSA Code IV/4.1.4.1.1; MSC.81(70) 5.16.2**
Test Procedure	Acceptance Criteria	Significant Test Data
The liferaft should be loaded with a mass equal to the mass of the number of persons for which it is to be approved and its equipment. With the liferaft in a free hanging position it should be pulled laterally to a position so that when released it will strike a rigid vertical surface at a velocity of 3.5 m/s. The Means of Rescue should then be released to impact against the rigid vertical surface.	After this test the means of rescue should show no signs of damage which would affect its efficient functioning.	Comments/Observations Passed _____ Failed _____

Means of rescue	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

6.3.3.4.1 Damage test of inflatable means of rescue		**Regulations: LSA Code IV/4.2.2.1; MSC.81(70) 5.17.1**
Test Procedure	Acceptance Criteria	Significant Test Data
It should be demonstrated that, in the event of any one of the buoyancy compartments being damaged or failing to inflate, the intact compartment or compartments should support, with positive freeboard over the means of rescue's periphery, the number of persons for which the means of rescue is to be approved. This can be demonstrated with persons each having a mass of 82.5 kg and seated in their normal positions or by an equally distributed mass.	The intact compartments should support, with positive freeboard over the means of rescue's periphery, the number of persons for which the means of rescue is to be approved, with any one of the buoyancy compartments deflated. _____=> Compartment deflated: _____ Freeboards: 12 o'clock _____ mm 3 o'clock _____ mm 6 o'clock _____ mm 9 o'clock _____ mm	Compartment deflated: _____ Freeboards: 12 o'clock _____ mm 3 o'clock _____ mm 6 o'clock _____ mm 9 o'clock _____ mm Compartment deflated: _____ Freeboards: 12 o'clock _____ mm 3 o'clock _____ mm 6 o'clock _____ mm 9 o'clock _____ mm Compartment deflated: _____ Freeboards: 12 o'clock _____ mm 3 o'clock _____ mm 6 o'clock _____ mm 9 o'clock _____ mm Comments/Observations Passed _____ Failed _____

Means of rescue	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

6.3.3.4.2 Inflation test		**Regulations: LSA Code IV/4.2.2.3; MSC.81(70) 5.17.3 to 5.17.6**
Test Procedure	Acceptance Criteria	Significant Test Data
An inflatable means of rescue, packed in each type of container, should be inflated by pulling the painter and the time recorded: .1 for it to become boardable, i.e. when buoyancy tubes are inflated to full shape and diameter. .2 for the cover to be erect; and .3 for the means of rescue to reach its full operational pressure when tested: .1 at an ambient temperature of between 18^{0}C and 20^{0}C; .2 at a temperature of -30^{0}C; and .3 at a temperature of +65^{0}C. For the inflation test at -30^{0}C the packed means of rescue should be kept at room temperature for at least 24 h, then placed in a refrigerated chamber at a temperature of –30^{0}C for 24 h prior to inflation by pulling the painter. Two means of rescue should be subject to an inflation test at this temperature. For the inflation test at +65^{0}C the packed means of rescue should be kept at room temperature for at least 24 h, then placed in a heating chamber at a temperature of +65^{0}C for not less than 7 h prior to inflation by pulling the painter. Force to pull out painter should be measured at ambient temperature.	When inflated in an ambient temperature of between 18^{0}C and 20^{0}C it should achieve total inflation in not more than 1 min. When inflated at -30^{0}C the means of rescue should reach working pressure in 3 min. There should be no seam slippage, cracking, or other defect in the means of rescue and it should be ready for use after the tests. When inflated at +65^{0}C the gas pressure relief valves must be of sufficient capacity to prevent damage to the means of rescue by excess pressure and to prevent the maximum pressure during the inflation from reaching twice the re-seat pressure of the release valve. There must be no seam slippage, cracking or other defect in the means of rescue. The force to pull out the painter should not be more than 150 N.	1) Force to pull the painter _____ N Inflation times: Container open _____sec Boardable _____sec Relief valves: Upper open _____sec Lower open _____sec Lights int./ext. _____/_____sec Working Pressure _____ MPa 2) Cold temperature _____ ^{0}C Hours: _____ h Inflation times: Raft 1 Raft 2 Container open _____sec Boardable _____sec Relief valves: Upper open _____sec Lower open _____sec Lights int./ext. _____/_____sec Working Pressure _____ MPa 3) Hot temperature _____ ^{0}C Hours: _____ h Inflation times: Container open _____ sec Boardable _____ sec Relief valves: Upper open _____ sec Lower open _____ sec Lights int./ext. _____/_____sec Working Pressure _____ MPa Comments/Observations Passed _____ Failed _____

Means of rescue	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

6.3.3.4.3 Pressure test		**Regulations: LSA Code IV/4.2.2.4; MSC.81(70) 5.17.7 to 5.17.8**
Test Procedure	Acceptance Criteria	Significant Test Data
Each inflatable compartment in the means of rescue should be tested to a pressure equal to three times the working pressure. Each pressure relief valve should be made inoperative, compressed air should be used to inflate the inflatable means of rescue and the inflation source removed. The test should continue for at least 30 min. The measurement of pressure drop due to leakage can be started when it has been assumed that compartment material has been completed stretching due to the inflation pressure and achieved equilibrium. The term "operational pressure" has the same meaning as the term "working pressure"; i.e. the pressure determined by the designed re-seat pressure of the relief valves, if fitted, except that, if the actual re-seat pressure of the relief valves, determined by testing, exceeds the designed re-seat pressure by more than 15%, the higher figure should be used.	The pressure should not decrease by more than 5% as determined without compensating for temperature and atmospheric pressure changes, and there should be no seam slippage, cracking or other defects in the means of rescue.	Design WP _____ Design temp _____ ^{0}C Design atmos. _____bar 3 times WP _____ Pressure drop after 30 min _____ The above should cover each compartments 1, 2 3, etc. Damage recorded: _____ Floor: Design pressure _____ Pressure drop after 1 hour _____ Comments/Observations Passed _____ Failed _____

Means of rescue	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

6.3.3.4.4 Strength test		**Regulations: LSA Code IV/4.2.8.1.1; MSC.81(70) 5.17.10**
Test Procedure	Acceptance Criteria	Significant Test Data
It should be demonstrated by an overload test on the means of rescue hanging from its centre support that the bridle system has an adequate factor of safety as follows: .1 the liferaft should be placed in a temperature of 20±3^{0}C for a period of at least 6 h; .2 following this period of conditioning, the liferaft should be suspended from its lifting hook or bridle and the buoyancy chambers (not including an inflatable floor) inflated; .3 when fully inflated and when the relief valves have re-seated themselves, all relief valves should be made inoperative; .4 the liferaft should then be lowered and loaded with a distributed mass equivalent to four times the mass of the number of persons for which it is to be approved and its equipment, the mass of each person being taken as 82.5 kg. .5 the liferaft should then be raised and remain suspended for at least 5 min; .6 the pressure before and after the test after the weight is removed and while it remains suspended, should be recorded; and .7 any dimensional deflections or distortions of the liferaft should be recorded.	During the test and after its completion, the inflatable means of rescue should remain suitable for its intended use.	Conditioning: Temperature:_____^{0}C Time in temperature _____h Number of persons _____ Load _____kg Time suspended _____min Pressure before loading Pressure suspended/loaded Pressure after test after unloading Dimensional deflections or distortions: Comments/Observations Passed _____ Failed _____

Means of rescue	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

6.3.3.5.1 Construction of rigid means of rescue		**Regulations: LSA Code IV/4.3.2**
Test Procedure	Acceptance Criteria	Significant Test Data
The buoyancy of the means of rescue should be provided by approved inherently buoyant material placed as near as possible to the periphery of the liferaft. The buoyant material should be fire-retardant or be protected by a fire-retardant covering. The floor of the means of rescue should prevent the ingress of water and should effectively support the occupants out of the water and insulate them from cold.	Material to be certified as being fire retardant. The rigid means of rescue is to prevent the ingress of water. The rigid means of rescue is to support the occupant out of the water.	Passed _____ Failed _____ Passed _____ Failed _____ Passed _____ Failed _____ Comments/Observations Passed _____ Failed _____

Means of rescue	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

6.3.3.5.2 Strength of rigid means of rescue		**Regulations: LSA Code IV/4.3.7**
Test Procedure	Acceptance Criteria	Significant Test Data
In addition to the above requirements, a rigid liferaft for use with an approved launching appliance should, when suspended from its lifting hook or bridle, withstand a load of four times the mass of its full complement of persons and equipment.	The rigid means of rescue should no show any permanent damage from such a loading.	Passed _____ Failed _____ Comments/Observations

Means of rescue	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

6.3.3.6.1 Static proof load test		**Regulations: LSA Code 6.1.1.5 - 6.1.1.6; MSC.81(70) 1/8.1.1**
Test Procedure	Acceptance Criteria	Significant Test Data
For rigid means of rescue davits and launching appliances, except winches, should be subjected to a static proof load of 2.2 times their maximum working load. With the load at the full outboard position, the load should be swung through an arc of approximately 10^0 to each side of vertical in the intended fore and aft plane. The test should be done first in the upright position, followed by tests simulating a shipboard condition of list of 20^0 both inboard and outboard.	The launching appliance and its attachments other than winches should be of sufficient strength to withstand a static proof load on test of not less than 2.2 times the maximum working load. There should be no evidence of significant deformation or other damage as a result of this test.	MWL : ..... kN Test load (2.2 x MWL): ..... kN There should be no evidence of significant deformation or other damage Passed/Failed Upright Passed/Failed 20^0 inboard list Passed/Failed 20^0 outboard list Passed/Failed Comments/Observations

Means of rescue	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

6.3.3.6.2 Operational load test		**Regulations: LSA Code 6.1.1.1 - 6.1.1.3; MSC.81(70) 1/8.1.2**
Test Procedure	Acceptance Criteria	Significant Test Data
For rigid means of rescue a mass equal to 1.1 times the maximum working load should be suspended from the lifting points with the launching appliance in the upright position. The load should be moved from the full inboard to the full outboard position using the means of operation that is used on the ship. The test should be repeated with the launching appliance positioned to simulate a combined 20^0 inboard list and 10^0 trim. All the tests should be repeated with a mass equal to that of a fully equipped lifeboat, without persons, or the lightest survival craft intended for the use with the davit to ensure the satisfactory functioning of the davit under very light load conditions. Note: Notwithstanding the 10^0 trim and 20^0 list requirements, lifeboat launching appliances for oil tankers, chemical tankers and gas carriers with a final angle of heel greater than 20^0 should be capable of operating at the final angle of heel on the lower side of the ship, taking into consideration the final damaged waterline of the ship.	The appliance should successfully lower the load under all of the conditions, and there should be no evidence of significant deformation or other damage as a result of the tests. Each launching appliance together with all its lowering and recovery gear should be so arranged that the fully equipped survival craft or rescue boat it serves can be safely lowered against a trim of up to 10^0 and a list of up to 20^0 either way: when boarded, as required by regulation III/23 or III/33, by its full complement of persons; and without persons in the survival craft or rescue boat. A launching appliance should not depend on any means other than gravity or stored mechanical power which is independent of the ship's power supplies to launch the survival craft or rescue boat it serves in the fully loaded and equipped condition and also in the light condition.	Weight of the means of rescue intended for use: LWL ..... kN MWL: ..... kN Test load (1.1 x MWL) : ..... kN Clear of davit horn?** Passed/ Failed Does the appliance successfully lower the load under these conditions without evidence of significant deformation or damage? Passed/Failed Upright (1.1x MWL) Passed/Failed 20^0 inboard list +10° trim (1.1xMWL) Passed/Failed 20^0 inboard list +10° trim (LWL) Passed/Failed Stored power Passed/Failed Start pressure: k Pa Min. pressure: k Pa Pressure drop after one movement: k Pa Time from inboard to outboard: sec Comments/Observations ** if applicable

Means of rescue	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

6.3.3.6.3 Turning in test		**Regulations: LSA Code 6.1.1.3; MSC.81(70) 1/8.1.3**
Test Procedure	Acceptance Criteria	Significant Test Data
A mass equal to 1.1 times the maximum working load should be suspended from the lfiting points with the launching appliance in the upright position. With the appliance in the full upright position the maximum design hoisting load should be moved from the full outboard to the full inboard position using the means of operation that is used on the ship.	The appliance should successfully move the maximum designed hoisting load from the outboard to the inboard position without causing permanent deformation or other damage.	maximum designed hoisting load: ..... kN Does the launching appliance successfully move the load from outboard to inboard? Passed/ Failed Does the launching appliance show any evidence of significant deformation or other damage as a result of this test? Passed/ Failed Comments/Observations

Means of rescue	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

6.3.3.6.4 Winch brake test		**Regulations: LSA Code 6.1.2.5; MSC.81(70) 1/8.1.4**
Test Procedure	Acceptance Criteria	Significant Test Data
Winch drums should be wound to the maximum number of turns permitted and a static test load of 1.5 times the maximum working load should be applied and held by the brake. This load should then be lowered for at least one complete revolution of the barrel shaft. A test load of 1.1 times the maximum working load should then be lowered at maximum lowering speed through a distance of at least 3 m and stopped by applying the hand brake sharply. This test should be repeated a number of times. If the winch design incorporates an exposed brake, one of these tests should be carried out with the brake wetted but in this case the stopping distance may be exceeded. The various tests should achieve a cumulative lowering distance of at least 150 m. Operation of the winch with a load of a mass equal to that of a fully equipped safety hoist, without persons, or the lightest safety hoist intended for use with the winch should also be demonstrated.	The test load should drop no more than 1 m when the brake is applied (except that the stopping distance may be exceeded if an exposed brake is wetted). The launching appliance should successfully lower a mass equal to that of a fully equipped safety hoist, without persons, or the lightest safety hoist intended for use with the winch. Inspection of the stripped winch should reveal no significant damage or undue wear.	Weight of the lightest safety hoist : ..... kN MWL : ..... kN Test 1: Static test load (1.5 x MWL): ..... kN Does the brake test hold the test load (1.5x MWL)? Passed/Failed MWM: kNm Drum diam. mm Wire diam. mm Number of turns Max. lowering speed m/s Test 2 Dynamic Test load (1.1 x MWL): ……..... kN Brake test carried out after > 3m with max lowering speed Stop within 1 metre? Passed/Failed *continued*

Means of rescue	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

6.3.3.6.4 Winch brake test (continued)		**Regulations: LSA Code 6.1.2.5; MSC.81(70) 1/8.1.4**
Test Procedure	Acceptance Criteria	Significant Test Data
Following completion of these test (and 6.3.3.6.5 and 6.3.3.6.6), the winch should be stripped for inspection.		1st stop > 3m 2nd stop: m 3rd stop: m 4th stop: m 5th stop: m Total lowering distance > 150 m Passed/Failed Test 3 (if applicable) Winch design incorporates an exposed brake? Yes/No Wet stopping distance m Passed/Failed Test 4 Test load (LWL) kN Lowering test with LWL satisfactory? Passed/ Failed Does the inspection of the stripped winch reveal any significant damage or undue wear? Passed/Failed Comments/Observations

Means of rescue	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

6.3.3.6.5 Means of rescue recovery speed test		**Regulations: LSA Code 6.1.1.9; MSC.81(70) 1/8.1.5**
Test Procedure	Acceptance Criteria	Significant Test Data
It should be demonstrated that a winch intended for use with a means of rescue is capable of recovering the means of rescue with the number of persons for which it is to be approved and its equipment or an equivalent mass at a rate of not less than 0.3 m/s.	Each means of rescue launching appliance should be fitted with a powered winch motor capable of raising the means of rescue from the water with its full complement of persons and equipment at a rate of not less than 0.3 m/s.	Hoisting load: Measured recovering speed of the boat: m/s Comments/Observations
6.3.3.6.6 Hand operation test		**Regulations: LSA Code 6.1.2.6; MSC.81(70) 1/8.1.6**
Test Procedure	Acceptance Criteria	Significant Test Data
The hand operation of the winch should be demonstrated. If the winch is designed for quick recovery by hand with no load, this should be demonstrated with a load of 1.5 times the mass of the empty lifting arrangements.	An efficient hand gear should be provided for recovery of each means of rescue. Hand gear handles or wheels should not be rotated by moving parts of the winch when the means of rescue is being lowered or when it is being hoisted by power.	Hoisting load: Test 1: Test load (1 x hoisting load): winch can be operated satisfactorily by hand? Passed/Failed Arrangement provided for protection against moving parts and rotating handles? Passed/Failed. Type: Test 2: Only for quick recovery Test load (1.5 x weight of empty lifting arrangement): kN Is quick recovery satisfactory? Passed/Failed Comments/Observations