

TYPE EXAMINATION CERTIFICATE

This is to certify:**That the Marine evacuation systems**

with type designation(s)

LSA 9 m, 11.5 m, 14 m & 17 m - Mk1 and Mk2

Issued to

**Liferaft Systems Australia PTY Ltd.
Derwent Park, TAS, Australia**

is found to comply with

**SOLAS 74 as amended, Regulation III/4 & III/34. IMO Res. MSC 48(66) - Life-Saving
Appliance Code. Tested to IMO Res. MSC 81(70).****Application :****This certificate is recognized by Transport Canada.****This certificate also covers a NON-SOLAS Marine Evacuation System with Open Reversible
Liferafts (ref. HSC 8.10.2), intended for sheltered waters. Designed in accordance with SOLAS
1974, Reg. III/4 & III/34, IMO Res. MSC 48(66) - Life Saving Appliance Code and tested to
IMO Res. MSC 81(70) as appropriate.****Product(s) approved by this certificate is/are accepted for installation on all vessels classed
by DNV GL.**Issued at **Høvik** on **2018-07-01**This Certificate is valid until **2023-06-30**.for **DNV GL**DNV GL local station: **Hobart**Approval Engineer: **Tessa Biever**

**Mårten Schei-Nilsson
Head of Section**

This Certificate is subject to terms and conditions overleaf. Any significant change in design or construction may render this Certificate invalid.
The validity date relates to the Type Examination Certificate and not to the approval of equipment/systems installed.



Product description

A Marine Evacuation System (MES), existing as a SOLAS and NON-SOLAS version, where evacuation is performed by single or twin track slides with the following length:

- LSA 9 m Mk 1 (single track) and Mk 2 (twin track) – 8.9 metre evacuation slide.
- LSA 11.5 m Mk 1 (single track) and Mk 2 (twin track) – 11.6 metre evacuation slide.
- LSA 14 m Mk 1 (single track) and Mk 2 (twin track) – 14 metre evacuation slide.
- LSA 17 m Mk 1 (single track) and Mk 2 (twin track) – 17 metre evacuation slide.

For the SOLAS version the evacuation slides Mk1 and Mk2 shall be used in conjunction with one of the following life raft types:

- 50P SRL Mk 1 (SOLAS A or SOLAS B pack)
- 100P Mk 1 (SOLAS B Pack)
- 100P SRL Mk 1 (SOLAS A or SOLAS B pack)

For the NON-SOLAS version the evacuation slides MK1 and MK2 shall be used in conjunction with one of the following life raft types:

- 128P Mk1 Open Reversible Lifteraft (NON-SOLAS) – which is approved for 150 persons by Transport Canada (ref. Transport Canada certificate T.C.100.035.001)

Application/Limitation

- The arrangement of the MES onboard any vessel, including the passageway and embarkation areas, are subject to approval by the administration to ensure that the flow rate as stated above can be maintained throughout the total evacuation of the number of persons for which the MES is certified for.
- As the associated open reversible liferafts 128P Mk1 comply with HSC Code Annex 11, instead of the LSA code Item 4.2, the NON-SOLAS MES is solely intended for use in sheltered waters. A Heavy Weather Sea Trial (LSA Code Part 1 §12.6.2) has therefore not been conducted on the marine evacuation system in the configuration as detailed in this Type Examination.
- Installation heights:
 - o 9 m Mk 1 and Mk 2: 5.0 - 5.75 m
 - o 11.5 m Mk 1 and Mk 2: 6.4 - 7.5 m
 - o 14 m Mk 1 and Mk 2: 7.6 - 8.63 m
 - o 17 m Mk 1 and Mk 2: 9.0 - 10.26 m
- Maximum Evacuation Capacities (SOLAS version):
 - o Mk 1, single track slide: 300 persons in 17 minutes and 40 sec.
 - o Mk 2, twin track slide: 350 persons in 17 minutes and 40 sec.
 - o Mk 1, single track slide: 400 persons in 30 minutes
 - o Mk 2, twin track slide: 600 persons in 30 minutes
- Maximum Evacuation Capacities (NON-SOLAS version):
 - o Mk 1, single track slide: 400 persons in 30 minutes
 - o Mk 2, twin track slide: 600 persons in 30 minutes
- The NON-SOLAS version of the MES can not be used on vessels following SOLAS Ch. III.
- For the SOLAS version the integrated and associated liferafts shall have separate EC Approval and be wheelmarked. Alternatively on ships where Transport Canada approval is required, liferafts shall have separate Transport Canada approval.
- For the NON-SOLAS version the associated liferafts shall be approved by DNV GL in accordance with the HSC Code, Annex 11 and shall be equipped with HSC emergency pack. Alternatively on ships where Transport Canada approval is required, liferafts shall have separate Transport Canada approval.

- The MES to be installed inside a permanent enclosure on the vessel.
- Each MES and liferaft to be supplied with instruction labels, operating and training information suitable for insertion into the ship's on-board training manual in English and French as per TP14475E item 15.1.2.
- It shall be verified that the ship on which the MES is installed is equipped with a sufficient number of rescue boats to satisfactory marshal and support the bowing and tow away, as applicable, of all the associated life rafts within the times allowed for embarkation as per SOLAS Ch.III/Reg.21.1.3 and 31.1.5.
- Gas cylinders and components in the pressure gas systems shall be of an approved type. On ships where Transport Canada is required gas cylinders shall have separate Transport Canada approval.
- Installation tests are to be carried out in accordance with IMO Res. MSC. 81(70), part 2 item 7. For Canadian vessels each system to be deployed as per LSA Code 6.2.2.2 to the entire satisfaction of the attending Transport Canada Marine Safety Inspector.

The following is to be submitted to the flag administration in each case, either by the yard, owner or equipment manufacturer:

- Plan showing the MES system fully deployed on the specific vessel in side-view and cross-sectional view under required unfavourable conditions of trim and list as the type approval does not cover the requirements to installation covered by LSA Code Ch. 6.2.2.1.4 and SOLAS Ch. III. Details shall be shown.

Type Examination documentation

Tests carried out

The test documentation for the SOLAS version is in accordance with recommendation on testing of Lifesaving Appliances, IMO Res. MSC 81(70), part 1, as reflected in Type Examination Documentation specified above.

The test documentation for the NON-SOLAS version is in accordance with recommendation on testing of Lifesaving Appliances, IMO Res. MSC 81(70), Part 1, except item 12.6.2 – Heavy weather sea trial, as described in type approval documentation specified above.

Marking of product

The product is to be indelibly marked in both French and English according to LSA Code, item 6.2.4, 6.2.5 and Transport Canada TP14475E item 15.1.2. For the NON SOLAS version the marking required in 6.2.4.2.4 shall be replaced with: NON-SOLAS.

Transport Canada Approval

Based on the procedures laid down in the Transport Canada Publication entitled "Approval Procedures for, Life Saving Equipment and Structural Fire Protection Products (TP 14612)", DNV GL confirms that the product listed in this certificate is in accordance with Transport Canada's requirements.

Periodical assessment

DNV GL's surveyor is to be given permission to perform Periodical Assessments at any time during the validity of this certificate and at least every second year. The arrangement is to be in accordance with procedure described in Class Programme DNVGL-CP-0338, Section 4.