

EC-TYPE EXAMINATION CERTIFICATE (MODULE B)

Application of: Directive 2014/90/EU of 23 July 2014 on marine equipment (MED). This Certificate is issued by DNV GL SE based on the notification of the Federal Maritime and Hydrographic Agency of Germany.

This is to certify:

That the Inflatable liferafts

with type designation(s)

LR-TO-6, 8, 10, 12, 16, 20 & 25, throw-over-board type

Issued to

Ocean Safety Ltd
Southampton, United Kingdom

Trade names: OCEAN SAFETY, REVERE

is found to comply with the requirements in the following Regulations/Standards:

Regulation **(EU) 2018/773,**

item No. MED/1.12. SOLAS 74 as amended, Regulation III/4, III/13, III/21, III/26, III/31, III/34 & X/3, LSA Code, IMO MSC/Circ.811 and 2000 HSC Code 8

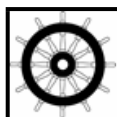
Further details of the equipment and conditions for certification are given overleaf.

This Certificate is valid until **2023-08-19.**

Issued at **Hamburg** on **2018-08-20**

DNV GL local station:
Southampton

Approval Engineer:
Michael Oberländer



Notified Body
No.: **0098**

for **DNV GL SE**

Sven Dudzus
Head of Notified Body

The mark of conformity may only be affixed to the above type approved equipment and a Manufacturer's Declaration of Conformity issued when the production-surveillance module (D, E or F) of Annex B of the MED is fully complied with and controlled by a written inspection agreement with a Notified Body. The product liability rests with the manufacturer or his representative in accordance with Directive 2014/90/EU. This certificate is valid for equipment, which is conform to the approved type. The manufacturer shall inform DNV GL SE of any changes to the approved equipment. This certificate remains valid unless suspended, withdrawn, recalled or cancelled. Should the specified regulations or standards be amended during the validity of this certificate, the product is to be re-approved before being placed on board a vessel to which the amended regulations or standards apply.



Product description

LR-TO-6, 8, 10, 12, 16, 20 & 25 is a throw overboard inflatable liferaft type, available with SOLAS A and B Pack and a cylindrical or rectangular container. The product name of the liferaft model with the rectangular container is LR-CO-6, 8, 10, 12 & 16 and is also available as a lightweight version.

Application/Limitation

LR-TO Cylindrical Model

Type	Persons (82.5kg)	Weight [kg]		Required bollard pull [kN]		Maximum stowage height (m)
		SOLAS A	SOLAS B	2 kn	3 kn	
LR-TO-6	6	84	60	0.5 kN	0.8 kN	50
LR-TO-8	8	97	62	0.7 kN	1.1 kN	50
LR-TO-10	10	113	73	0.8 kN	1.3 kN	50
LR-TO-12	12	121	82	1.1 kN	1.4 kN	50
LR-TO-16	16	148	98	1.1 kN	1.6 kN	50
LR-TO-20	20	181	118	1.5 kN	1.8 kN	50
LR-TO-25	25	206	124	1.6 kN	2.1 kN	50

The liferaft is approved for use with a round container type (GRP/MQ-1-WG, GRP/MQ-63-WG, GRP/MQ-2-WG, GRP/MQ-64-WG, GRP/MQ-3-WG or GRP/MQ-4-WG) and is provided with a single gas-cylinder inflation system.

The liferaft LR-TO-25 (SOLAS A pack) has a mass above 185 kg and may not be used for positions where side to side transfer is necessary.

LR-CO-Rectangular Model

Alternatively the sizes LR-TO-6/8/10/12/16 can be used with a rectangular container type detailed in drawing range (GRP/MQ-73-00 to GPP/MQ-80-00).

Type	Persons (82.5kg)	Weight [kg]		Required bollard pull [kN]		Maximum stowage height (m)
		SOLAS A	SOLAS B	2 kn	3 kn	
LR-CO-6	6	72	60	0.5 kN	0.8 kN	18
LR-CO-6 L*		54	48	0.5 kN	0.8 kN	18
LR-CO-8	8	78	62	0.7 kN	1.1 kN	18
LR-CO-8 L*		62	52	0.7 kN	1.1 kN	18
LR-CO-10	10	93	73	0.8 kN	1.3 kN	18
LR-CO-10 L*		71	60	0.8 kN	1.3 kN	18
LR-CO-12	12	106	82	1.1 kN	1.4 kN	18
LR-CO-12 L*		78	65	1.1 kN	1.4 kN	18
LR-CO-16	16	130	98	1.1 kN	1.6 kN	18
LR-CO-16 L*		92	80	1.1 kN	1.6 kN	18

(L* The rectangular liferaft is also available as a "Lightweight" model utilizing the same liferaft carcass, packed within a carbon fibre container, using a carbon wrapped composite cylinder and a Leafield GIS inflation system.)

- The liferafts shall be packed with SOLAS A Pack or SOLAS B Pack.
- Gas cylinders shall be of an approved type.

- Components of the gas inflation system should be approved according to ISO 15738:2002.
- The liferafts are intended to be installed with external weak link and a hydrostatic release unit.
- The liferafts are to be serviced at intervals not exceeding 12 months, provided where in any case this is impracticable, the administration may extend this period to 17 months, at approved service stations which are authorized by the manufacturer.
- Production tests are to be conducted in accordance with IMO Res. MSC.81(70), Part 2 and recorded by the manufacturer in compliance with the approved Production Quality Assurance System for Module D of the Marine Equipment Directive 2014/90/EC.

Type Examination documentation

The design assessment is based on IMO Res. MSC.48(66)-(LSA Code) Ch. I and IV, as amended by:

- IMO Res. MSC.207(81),
- IMO Res. MSC.218(82),
- IMO Res. MSC.293(87)

Test report : MSC/Circ.980 GL SHA dated 2009-08-10, 2011-12-15 and 2014-03-10 (SHA-14-01152), 2014-12-25, 2015-06-04 and 2016-07-23.

The National Supervision and Testing Center of Fishery Machinery and Instrument 2013 YW 004

Tests carried out

The product has been tested in accordance with the Revised Recommendation on Testing of Life-saving Appliances, IMO Res. MSC.81(70), as amended by:

- IMO Res. MSC.226(82)
- IMO Res. MSC.295(87)
- IMO Res. MSC.323(89)

Additional tests for the SMLR-A-12(I) light version liferaft have been witnessed by DNV GL with test report in accordance with MSC/Circ.980 dated 2017-03-31.

Tests for an increase of the stowage height to 50m have been witnessed by DNV GL for the cylindrical model on 2017-08-15.

Additional tests for the LR-CO-6,-8,-16 lightweight version have been witnessed by DNV GL with verification statement N141KF98 dated 2018-06-27.

Marking of product

The product is to be indelibly marked with name and address of the manufacturer, type designation, date of manufacture and batch or serial number or other elements allowing identification. The marking shall comply with the LSA Code (IMO Res. MSC 48(66)) item 4.1.5, 4.2.6 and 4.2.7.