

EC-TYPE EXAMINATION CERTIFICATE (MODULE B)

Certificate No:
MEDB00001JC
Revision No:
5

Application of: Directive 2014/90/EU of 23 July 2014 on marine equipment (MED), issued as "Forskrift om Skipsutstyr" by the Norwegian Maritime Authority. This Certificate is issued by DNV GL AS under the authority of the Government of Norway.

This is to certify:**That the Inflatable liferafts**

with type designation(s)

12 DKF+, 16 DKF+, 20 DKF+, 20 DKF+GN, 25 DKF+, 35 DKF+, 12 DKF+S30, 16 DKF+S30, 20 DKF+GN S30, 20 DKF+S30, 25 DKF+S30, 35 DKF+S30, 12 DKF+ E, 16 DKF+E, 20 DKF+E, 25 DKF+E, 35 DKF+E

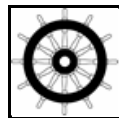
Issued to

**Viking Life-Saving Equipment A/S
Esbjerg V, Denmark**

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 **2021-10-24.**Issued at **Høvik** on **2019-05-13**DNV GL local station:
Denmark CMCfor **DNV GL AS**Approval Engineer:
Tessa BieberNotified Body
No.: **0575****Roald Vårheim**
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 AS 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 This certificate remains valid unless suspended, withdrawn, recalled or cancelled.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.



Job Id: **344.1-003284-42**
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Product description

Davit launched inflatable liferaft with the following type designations:

- 12 DKF+, 16 DKF+, 20 DKF+, 20 DKF+GN, 25 DKF+, 35 DKF+
- 12 DKF+S30, 16 DKF+S30, 20 DKF+S30, 20 DKF+S30, 25 DKF+S30, 35 DKF+S30
- 12 DKF+ E, 16 DKF+E, 20 DKF+E, 20 DKF+E, 25 DKF+E, 35 DKF+E

Liferaft designs with type designation including S30 comply also with MSC.1/Circ. 1328 (extended service intervals).

Application/Limitation

The liferafts are available with features added on to the existing type approved base raft.

S30: added to type designation e.g. 12DKF+ S30. Liferaft tested according to MSC.1/Circ. 1328 and packed in a sealed packing bag to allow for extended service intervals up to 30 months. The raft is subject to an annual onboard inspection.

E: added to type designation e.g. 12 DKF+ E. Environmental packed liferaft prepared for extended service intervals.

GN: added to type designation e.g. 12 DKF+ GN. SOLAS A emergency pack with desalinator partly replacing the water rations according to LSA Code § 4.1.5.1.19.

Notes to below form Capacity and installation heights: Container type designation is given as 16-xxxx, and emergency packs SOLAS A or B is given as "A" and "B". Listed liferaft types covers types S30 and E variants. Each size listed covers variations with the same capacity.

Liferaft type	Towing strain 2 knots	Towing strain 3 knots	25 m	36 m	45 m	60 m	Capacity
12 DKF+ 12 DKF+S30 12 DKF+E	0.5 kN	1.1 kN		A 0114 B 0114 A 690X B 690X			12 persons
16 DKF+ 16 DKF+S30 16 DKF+E	0.5 kN	1.2 kN		B 8000		A 8000	16 persons
20 DKF+ 20 DKF+S30 20 DKF+E	0.5 kN	1.2 kN		B 8000		A 8000	20 persons
20 DKF+GN 20 DKF+GN S30	0.5 kN	1.2 kN	A 5500K*		A 8100*		20 persons
25 DKF+ 25 DKF+S30 25 DKF+E	0.5 kN	1.2 kN		B 8100		A 8100	25 persons
35 DKF+ 35 DKF+S30 35 DKF+E	1.05 kN	1.8 kN		B 8200		A 8400	35 persons

*Equipment based on SOLAS A

Job Id: **344.1-003284-42**
Certificate No: **MEDB00001JC**
Revision No: **5**

Applications / limitations continued:

The liferaft shall be packed with a SOLAS A PACK or SOLAS B PACK.

Gas cylinders shall be of an approved type.

Components in the gas inflation system should be approved according to ISO 15738:2002.

The liferaft is intended to be installed with external weak link and a hydrostatic release unit. Float free arrangement to be checked upon installation on board.

The design assessment is based on International Life-Saving Appliances (LSA) Code, IMO Res. MSC 48(66) as amended by IMO Res. MSC.218(82) and IMO Res. MSC.293(87).

Production testing shall be carried out according to IMO Res. MSC.81(70) part 2.

With ref. to 'Test carried out' the liferafts including type designation S30 are approved for extended service intervals up to 30 months in accordance with SOLAS Ch. III, Regulation 20.8.3 on the condition that:

1. Such extended service intervals has been approved by the ships flag administration.
2. The liferafts are checked onboard in accordance with SOLAS Ch. III Regulation 20.8.3.2 at intervals in accordance with SOLAS Ch. III Regulation 20.8.1.1, according to procedures issued by the manufacturer.
3. The liferafts shall be serviced at approved servicing stations in accordance with the recommendations in IMO Res. A.761(18) at intervals not exceeding 30 months.

Type approval documentation

This certificate replaces MEDB00001JC Rev.4.

Drawings and parts lists as listed below:

Liferaft type	Parts list no.:	Drawing no.
12 DKF+, 12 DKF+S30, 12 DKF+E	43002493.000	43002493.001/002/003
16 DKF+, 16 DKF+S30, 16 DKF+E	43002495.000	43002495.001/002/003
20 DKF+, 20 DKF+S30, 20 DKF+E	43002497.000	43002497.001/002/003
20 DKF+GN, 20 DKF+GN S30	43001921.000	43001921.001/002/003
25 DKF+, 25 DKF+S30, 25 DKF+E	43002499.000	43002499.001/002/003
35 DKF+, 35 DKF+S30, 35 DKF+E	43002502.000	43002502.001/002/003

Tests carried out

- Prototype tests and test reports in accordance with the Recommendation on Testing of Life-Saving Appliances, IMO Res. MSC 81(70) part 1, including IMO Res. MSC 226(82), MSC 295(87) and MSC.323(89), have been witnessed and evaluated and found to be in compliance.
- Tests and reports in accordance with test requirements listed in MSC.1/Circ 1328 item 5.4.2 -5.4.10 have been witnessed by DNV surveyor and evaluated and found to be in compliance (testreport item 5.4.4 dd. 2009-09-01, item 5.4.6 dd. 2009-10-29, item 5.4.7 dd. 2009-10-28, item 5.4.8- 5.4.10 dd. 2009-11-02/2009-11-04)
- Tested according to the MarED recommendation for liferaft occupancy weight increase from 75 kg to 82.5 kg: 1027-1029, 1228, 1395, 1451, 1497, 1509, 1534, 1544, 1554, 1581-1587, 1589, 1591-1593, 1595-1603, 1605-1617, 1620, 1622, 1627-1642, 1655-1657 and 1682-1685

Job Id: **344.1-003284-42**
Certificate No: **MEDB00001JC**
Revision No: **5**

- Test reports supporting the following design changes:

Design change no.	date	Subject	Test reports
10314	2013-03-21	35 DKF+ Leaffield Servo System to be used on VIKING liferafts	1858, 1859, 1895, 1897
10315	2013-03-21	Change to Daniamant RL6 combi light	1881 ~1889
10316	2013-04-08	Plastic strapping around container, replacing bursting bands	1887, 1888, 1901, 1902, 1903, 1904
10317	2013-04-05	S30 aluminum pouch variants	1905~1910
10318	2013-04-15	Eyelink with rubber socket	1916, 1917
10322	2013-09-12	Alternative shackle for lifting arrangement	Strength report no. LX90433 dated 2009-11-02 from Shanghai Jinyi Materials test technology Co., Ltd, China Salt spray test dated 2012-04-30 from Danish technological Institute (DTI), Denmark
10326	2014-03-24	New canopy material (Rivertex 4000 PES PU coated)	1899, 1912, 1803, 1993, 1870, 2015 Material Technical Report 1809 A dated 2012-10-25 from SATRA Technology Centre, UK
10333	2013-12-10	Liferaft painter system arrangement	1454
10334	2013-11-28	Entrance design for 4-25 DK+ and 12-25 DKF+	2033, 2034, 2016
10335	2014-12-11	35 DK+ and 35 DKF+ from 3 to 2 entrances	2120, 2078
10342	2014-09-19	Change to new inflation system :Leaffield GIST For 35 DK+ and 35 DKF+	1428, 1429, 1432, 1433, 2145~2149
10345	2014-12-01	Replacing painterline for liferafts > 25 persons	2168
10346	2015-02-09	Introduction of triple approved pressure cylinders. TPED/DOT/T	
10352	2015-06-02	6-35 DK+ and 12-35 DKF+ protection for operating head	2170 ~ 2173
10363	2015-10-27	Updates for Viking Thermal Control Box.	2246, 1658, 1660, 1661, 1663, 1692, 1693
10364	2015-11-04	Environmental packed	Extended service interval - S30 tests
10385	2016-05-17	Change of installation height (max. 60 m for 25 DKS and 25 DKFS)	2413, 2414, 2415
10411	2017-09-27	New material numbers for non-return valves displayed on GA drawings	
10420	2018-05-18	Fabric NK300C from ContiTech	2595, 2596, 2667, 2733, 2734, 2673, 2674, 2688, 2682, 2683, 2767, 2768, 2675, 2676, 2677, 2678, 2668, 2669, 2686, 2687, 2692, 2685, 2693, 2684, 2752, 2689, 2690, 2691 Additional buoyancy material (NK300C) supported by the following test reports: Prototype test in accordance with IMO Res. MSC.81(70), Part 1: <ul style="list-style-type: none"> - Weft distortion dated 2017-12-18, - Test report no. 2747: Coating Adhesion dated 2018-04-13 - Test report no. 2749: Oil resistance dated 2018-04-13 - Test report no. 2750: Blocking resistance 2018-04-13

Job Id: **344.1-003284-42**
 Certificate No: **MEDB00001JC**
 Revision No: **5**

			<ul style="list-style-type: none"> - Laboratory test report no 1530100000 rev. 13 dated 2018-03-05 for NK300C by Contitech Laboratory Northeim, Germany witnessed by DNVGL surveyor - DNV GL verification statement N141GV0D dated 2018-03-15
10422	2018-05-25	Signal Lamp - in box with spare bulb and battery	2456, 2458, 2464, 2466
10430	2018-09-27	Adding container type 016-690X (alternative for 016-0114) - max. 36m	<ul style="list-style-type: none"> - 2787, 2788 (drop tests) - Drawing No. 16012707 Rev.00 – Container 6901 for 12 DKF S12/S30
10434	2018-10-08	Alternative hardener Desmodur RFE for 4- 35 person liferafts	2834 (3 x overpressure test), 2828, 2829, 2830, 2831, 2833 (seam strength tests)
10437	2018-12-10	Alternative hardener 'Beyond'	2905, 2914, 2915 (3 x overpressure test) 2880, 2881, 2882, 2883, 2884, 2885 (seam strength test), 2920 (strength test- davit launched liferaft)
10438	2019-04-23	Alternative hardener 'TM-93'	2868, 2869, 2870, 2871, 2872, 2873, 2876, 2877, 2878, 2988, 2989, 2990, 3017, 3019
10443	2019-04-23	Improved painter system for liferafts with capacity of 26 and more	3088, 3087, 2952, 2953
10451	2019-04-23	Paintersystem with alternative hardener 'TM-93' and 'Beyond'	3085, 3086

Marking of product

The product is to be indelibly marked with name and address of manufacturer, type designation, dimensions, date of manufacture and the MED Mark of Conformity (see first page). The marking shall comply with the LSA Code Ch. 4.2.6 and 4.2.7.