



Lloyd's  
Register

## CERTIFICATE OF TYPE APPROVAL


This is to certify that

The product detailed below will be accepted for compliance with the applicable Lloyd's Register Rules and Regulations and with the International Convention for the Safety of Life at Sea, (SOLAS), 1974, as amended, for use on ships and offshore installations classed with Lloyd's Register, and for use on ships and offshore installations when authorised by contracting governments to issue the relevant certificates, licences, permits etc.

<b>Manufacturer</b>	Viking Life-Saving Equipment Norge AS
<b>Address</b>	Idrettsvegen 110 NO-5353 Straume Norway
<b>Product Type</b>	<b>MARINE EVACUATION SYSTEMS (MES)</b>
<b>Product Description</b>	Vertical chute gravity deployed marine evacuation system with liferaft – Type “SES-2A 2006 Viking Offshore Evacuation System”
<b>Specified Standards</b>	SOLAS 74, as amended Regulation III/4, 34 and 35 The LSA Code Regulation I/1.2 and VI/6.2 IMO Resolution MSC.81 (70), Part 1 as amended

**The attached Design Appraisal Document forms part of this certificate.**

**This certificate remains valid unless cancelled or revoked, provided the conditions in the attached Design Appraisal Document are complied with and the equipment remains satisfactory in service.**

Date of issue	19 December 2016	Expiry date	18 December 2021
Certificate No.	SAS S170007	Signed	
Sheet No	1 of 5	Name	L. Thomas Surveyor to Lloyd's Register EMEA A Member of the Lloyd's Register Group

**Note:**

**This certificate is not valid for equipment, the design or manufacture of which has been varied or modified from the specimen tested. The manufacturer should notify Lloyd's Register of any modification or changes to the equipment in order to obtain a valid certificate.**

Lloyd's Register Group Limited, its affiliates and subsidiaries and their respective officers, employees or agents are, individually and collectively, referred to in this clause as the 'Lloyd's Register'. Lloyd's Register assumes no responsibility and shall not be liable to any person for any loss, damage or expense caused by reliance on the information or advice in this document or howsoever provided, unless that person has signed a contract with the relevant Lloyd's Register entity for the provision of this information or advice and in that case any responsibility or liability is exclusively on the terms and conditions set out in that contract.



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**ATTACHMENT TO CERTIFICATE OF TYPE APPROVAL No. SAS S170007**

The undernoted documents have been appraised for compliance with the relevant requirements of International Conventions, and this Design Appraisal Document forms part of the Certificate

**EXAMINED DOCUMENTATION**

Drawing/specification numbers:

<u>Dwg No.</u>	<u>Rev No.</u>	<u>DCS</u>	<u>Drawing Title</u>
601918-C02-037	2		General arrangement SES-2A-2006. Keppel Fels B331
980029	-		E12-647 Coverplate Structure Assembly SES-2A 2006
C02-037	0	-	General arrangement SES-2A-2006
78645	02	-	Name Plate Drawing SES-2A-2006
1035-0182 (page 1 &2)	-	-	Parts list for drawing 1035-0180 and 1035-0181
1035-0180	-	-	35 person platform MEP
300-2228	-	-	Assembly of Viking 35 person platform MEP
1011497	-	-	Seilwinde rope winch
74750	-	-	SES-2A 2006 deployed at sea
E12-199	2	-	Cover plate Assembly SES-2A 2006
D01-055	01	-	SES-2A 2006 deployed at sea
D01-054	0	-	Deployed chute w/side motion arrangement, SES-2A 2006
E12-184	2	-	Container Assembly SES-2A 2006
E12-198	-	-	Stabilising Weight Assembly SES-2A 2006
M01-054	02	-	Operation Instruction SES-2A 2006
M01-073	00		Operation Instruction 35 man raft (50DKS downgraded) SES-2B 2007
M02-044	01	-	Maintenance Instructions SES-2A 2006
A-97/27136/EOJ	-	-	Approval of heavy weather sea trail of selantic SES FF 140
-	-	-	Deployment test recorded on DVD, dated 29 May 2008
00079921 (sheet 1 &2)	-	-	Viking SES Chute risk assessment dated 11.08.08
174T4 (page 1-11)	00	-	Nonlinear movement analysis of SES chute escape system 50m length wind velocity 18.8m/s at 10m above sea level, dated 11.08.08
C1125A.200.2	2		Structural analysis of Viking SES-2A 2006, High version. Linear analysis
00079957	-	-	Heavy Weather Sea Trial, SES-2A 2006
C1125B.200.2	2	-	Structural Analysis of VIKING SES-2A 2006, lower version linear analysis and dated 10.02.2012

**TEST REPORTS**

Test of Viking evacuation chute, report No. BGN-ELIN-07.002-53570543, dated 2 October 2007

Cold test of Selantic chute, report No. MNBKD220SUSW040906-9, dated 8 September 2004

Marine evacuation systems MSC/Circ 980 test, witnessed by DNV surveyor, dated 24 April 2008, 16 December 2005, 3 September 2007, 24 April 2008, 28 April 2008





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## Lloyd's Register EMEA

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Load test report prototype SES-2A 2006, report No. N11-061, witnessed by DNV surveyor, dated 7 September 2005

Timed evacuation test, witnessed by DNV surveyor, 11. November 2004

Flow test of Long evacuation chute off shore evacuation system SES-2A 2006, witnessed by DNV surveyor, dated 22 May 2008

Heavy weather sea trial, report No. A-97/27136/EOJ Ark: 561, witnessed by NMD and DNV surveyor, dated 11 January 1999

Heavy weather sea trial MES SES T FF 140, report No. MTP863/LTHA/Lifesaving-J-1471, witnessed by DNV surveyor, dated 22 May 2001

Selantic industrial a/s SES-33 twin chute vertical decent (TCVD) Marine Evacuation System. Harbour capacity test at Fredrikshavn Denmark onboard Stena Nordica, ref MS 3/67/016, witnessed by Department of Transport Surveyor, dated 14<sup>th</sup> September 1993

Heavy weather sea trial test report No. 990047 SES-2A 2006, dated 15<sup>th</sup> June 2010, as witnessed by a Lloyds Register surveyor

Heavy weather sea trial test report 26.11.11 SES-2A 2006, report No. 990047-00085855, rev 1, dated 29<sup>th</sup> November 2011, as witnessed by a Lloyds Register surveyor

Lloyds Register witness report No. BGN 1100680, dated 5<sup>th</sup> December 2011

Load test report (3. part verified) SES-2A 2006, report number 601918-N11-056, dated 2<sup>nd</sup> May 2012, witnessed by Lloyds Register surveyor

Patch test, report Number 1734 dated 30<sup>th</sup> January 2012

Patch test, report Number 1735 dated 26<sup>th</sup> April 2012

Evacuation Trial Timings witnessed by a Surveyor acceptable to LR and dated 11.11.2004

Timed Evacuation Test witnessed by a Surveyor acceptable to LR and dated 11.11.2004

Timed report test of evacuation chute offshore evacuation system SES-2A 81 metres, Doc. No Q01-004 witnessed by a Surveyor acceptable to LR and dated 20.09.2014

#### CONDITIONS OF CERTIFICATION

This MES is constructed with either the Viking 50 DKS (@ 82.5 kg per person), Viking 35 DK+ liferafts, Viking 25 DK+ liferafts or the Viking 20 DK+ liferafts or the Viking 16 DK+ liferafts, Viking 12 DK+ liferafts, DNV-GL Certificate No MED-B-9990 dated 2015/06/03 & MED-B-9991 2015/06/03

1. This MES SES-2A 2006 is for off shore use only

Rating:

Capacity in 10 min: 159 Persons

Overall Capacity 200 Persons in 11 minutes 50 seconds

2. The area directly below MES to have a minimum clear safety area to allow for inflation of platform and liferafts plus an additional 27m





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- When used with life jackets, they are to be of an approved type with crotch strap or an equivalent solution which ensures the life jacket stays in place when used
- Maximum stowage height 64.0 metres
- Following satisfactory testing in conjunction with liferafts of the type below, the marine evacuation system is certified for use off shore to which requirements of Resolution MSC 81 (79) section 7 apply

<u>Manufacturer</u>	<u>Type</u>	<u>SOLAS Pack</u>	<u>Maximum Freefall Drop Height</u>	<u>Required Towing Force @ 2 knots/3knots (kN)</u>
Viking	Viking 50 DKS	A	30m	1.37/2.15
Viking	Viking 35 DK+	A	37m	1.05/1.8
Viking	Viking 35 DK+	B	50m	1.05/1.8
Viking	Viking 25 DK+	A	60m	0.5/1.2
Viking	Viking 25 DK+	B	36m	0.5/1.2
Viking	Viking 20 DK+	A	60m	0.5/1.2
Viking	Viking 20 DK+	B	36m	0.5/1.2
Viking	Viking 16 DK+	A	60m	0.5/1.2
Viking	Viking 16 DK+	B	36m	0.5/1.2
Viking	Viking 12 DK+	A	60m	0.5/1.1
Viking	Viking 12 DK+	B	73m	0.5/1.1

- The MES container is to be marked with the maker's name and trade mark, serial number, approving authority, capacity of the system, SOLAS, date of Manufacture, date when last serviced, maximum stowage height and stowage position
- The MES is to be marked with the maker's name and trade mark, serial number, date of manufacture, approving authority, name and place of last servicing station and the capacity of the system
- A full set of manuals and associated documents are to be provided onboard for use on all operations involved in the inspections, maintenance and resetting of the MES and associated equipment
- Inflatable components or sections of marine evacuation systems are to be serviced at intervals not exceeding twelve months by a person suitably qualified and authorised by the manufacturer
- The production models are to be manufactured in accordance with an approved Production Quality Control Assurance system which ensures that the items are of the same standard as the approved prototype
- Installation onboard:** The on board arrangements and installation of this MES system are not part of this design Appraisal or certificate. This approval does not apply to any aspect of installation of the system on board or the arrangements connected therewith which the Manufacturer shall ensure to be to the satisfaction of the rigs Administration and Classification Society. All such arrangements are to be to the satisfaction of the Surveyors attending on board
- If the specified standards are amended during the validity of this certificate, this product type is to be re-approved prior to it being supplied to vessels to which the amended standards apply
- Production items are to be manufactured in accordance with a quality control system which shall be maintained to ensure compliance with SOLAS Regulation III/5



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14. Production tests are to be conducted in accordance with the applicable requirements of IMO Resolution MSC.81 (70), Part 2 and each item, batch, or lot be delivered with an LR Certificate of SOLAS Production Testing issued by the attending LR Surveyors following their witness of the tests. This does not preclude any further testing to additional requirements of the Marine Administration of the country where the offshore installation is registered (i.e. the flag state) or those acting on behalf of that Administration
15. Should a change of Place of Production from that stated below be required i.e. where the stages of manufacture/assembly/testing of this product take place, the new Place of Production is to be advised to us prior to the change taking place. This Certificate will require to be updated for Approval to be maintained

**Note:** Res. 81 (70) has a test requirement to load the liferaft and platform to their certified capacity with weights representing 82.5 kg/person. The heavy weather sea trail test, dated 29<sup>th</sup> November 2011, was conducted with the liferaft and platform to their certified capacity with weights representing 98 kg/person

#### PLACE OF PRODUCTION

VIKING Life-Saving Equipment Norge AS  
Idrettsvegen 110  
NO-5353 Straume  
Norway



Lijo Thomas  
Senior Specialist  
Statutory Fire & Safety  
Southampton Technical Support Office, Marine & Offshore  
Lloyd's Register EMEA

#### Supplementary Type Approval Terms and Conditions

*This certificate and Design Appraisal Document relates to type approval, it certifies that the prototype(s) of the product(s) referred to herein has/have been found to meet the applicable design criteria for the use specified herein, it does not mean or imply approval for any other use, nor approval of any products designed or manufactured otherwise than in strict conformity with the said prototype(s).*