

EC-TYPE EXAMINATION CERTIFICATE (MODULE B)

Application of: Council Directive 96/98/EC of 20 December 1996 on Marine Equipment (MED) as amended by directive (EU) 2015/559. This Certificate is issued by DNV GL SE based on the notification of the German Federal Ministry of Transport, Building and Urban Development.

This is to certify:

That the "A" Class divisions, fire integrity

with type designation(s)

Roller shutter for closure of Class A-0 bulkhead - Slim Line A-0 Roller Shutter

Issued to

**KAEFER Schiffsausbau GmbH
Bremen, Germany**

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

Annex A.1, item No. A.1/3.11a and Annex B, Module B in the Directive; SOLAS 74 as amended, Regulation II-2/3.2.5 and IMO 2010 FTP Code.

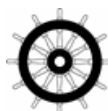
Further details of the equipment and conditions for certification are given overleaf.

This Certificate is valid until **2021-05-11**.

Issued at **Hamburg** on **2016-05-12**

DNV GL local station:
Bremerhaven

Approval Engineer:
John Alan Walton



Notified Body
No.: **0098**

for **DNV GL SE**

Sven Dudzus
Head of Notified Body

A U.S. Coast Guard approval number will be assigned to the equipment when the production module has been completed and will appear on the production module certificate (module D, E or F), as allowed by the "Agreement between the European Community and the United States of America on Mutual Recognition of Certificates of Conformity for Marine Equipment", signed February 27th, 2004.

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 Council Directive 96/98/EC, as amended.

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.

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

Trade name: Slim Line A-0 Roller Shutter

The main components of the roller shutter assembly are:

Steel tubular roller and its bearings mounted above the bulkhead opening enclosed with a steel cover. The roller shutter is wound around the tubular roller. The cover and bearing brackets are bolted to the steel bulkhead.

Each of the two side guides consists of a U and an L shaped profile (2mm thick steel plate) bolted together to form a box type construction each serving as the side guides for the roller shutter. The guides are bolted to the bulkhead and are flared at the top thus directing the roller shutter from the tubular roller down into the side guides.

The roller shutter consists of a series of interlocking slats formed from steel sheet. The contact and closure of the roller shutter on the deck is provided by a glass fabric gasket.

Application/Limitation

The Slim line A-0 roller shutter assembly for closure of a steel Class A-0 bulkhead may be mounted on either side of the bulkhead.

Clear opening size: 2400mm in width and 2640 in height. A roller shutter assembly having this clear opening size has an overall size of 2740mm in width and 2900mm in height.

IMO MSC.1/Circ.1319 Para 2 may be applied for a roller shutter assembly of marginally larger dimensions.

The Slim line A-0 roller shutter assembly may also be manufactured in AISI 304 or 316L stainless steel when constructed as per the respective drawing listed under Type examination documentation.

Any surface materials used on the roller shutter assembly are to be approved for smoke and toxicity and low flame spread characteristics (2010 FTP Code Annex 1, Parts 2 & 5).

Each product is to be supplied with its manual for installation, use and maintenance.

Type Examination documentation

Test Report Nos. 20151367/01 and 20151367/02 dated 23.Feb.2016 issued by MPA Dresden

Drwg No. 2x255278 _Brand Rev A, AISI 304 dated 28.10.2015

Drwg No. 2x255278 Rev A, AISI 316L dated 11.09.2015

Tests carried out

Tested according to IMO Res. MSC.307(88) – (2010 FTP Code) Annex 1, Part 3

Marking of product

The product or packing is to be marked with name of manufacturer, type designation, fire-technical rating, Mark of Conformity and USCG marking if applicable.