

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 Dry chemical powder extinguishing systems

with type designation(s)

Unitor Dry Chemical Powder System

Issued to

**Survitec Fire Solutions Poland Sp. z o.o.
Doluje, Poland**

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

Regulation **(EU) 2017/306,**

item No. MED/3.62. SOLAS 74 as amended, Regulation II-2/1 and IMO IGC Code 11

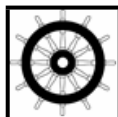
Further details of the equipment and conditions for certification are given overleaf.

This Certificate is valid until **2019-10-30**.

Issued at **Hamburg** on **2018-04-11**

DNV GL local station:
Gdansk CMC

Approval Engineer:
Andrii Pishchanskyi



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 This certificate remains valid unless suspended, withdrawn, recalled or cancelled.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

Fixed dry chemical powder fire extinguishing system for the protection of on-deck cargo areas of ships carrying liquefied gases in bulk.

The system consists of the following main components:

1. Powder units of different capacity (500 kg up to 2500 kg) with approved pressure vessels (ranging from 550 L to 2800 L size) and associated bottle bank of approved 50 L nitrogen cylinders with pressure regulators R21;
2. Powder monitors of DN 65 or DN 50 size;
3. Powder hose reel unit of 160 kg with approved pressure vessel of 180 L;
4. Hose reel station fitted with 2.68 L CO2 pilot cylinder, 33 m hose line and powder pistol of 3.5 kg/s capacity;
5. Dry chemical powder of type RC-BC-Karate (potassium sulphate).

Application/Limitation

All fixed dry chemical powder units are capable of discharging powder for a period of at least 45 s with all attached hand hose lines and monitors operating (MSC.1/Circ.1315, Appendix, paragraph 1). Both monitors (DN65 and DN50) meet the minimum discharge range requirements for a given flow rate as specified in the IGC Code and MSC.1/Circ.1315, Appendix, paragraph 3, respectively.

Flow rates of powder monitors with associated discharge nozzle size accomplished after discharging powder through piping, with max. values as indicated below, during 30 s discharge duration (MSC.1/Circ.1315, Appendix, paragraph 4):

Powder monitor / nozzle size [-]	Flowrate [kg/s]	Pipe length [m] / size [-]
DN65 / 55	25.7	70 / DN80
DN65 / 55	23.3	130 / DN80
DN50 / 40	17.7	70 / DN80
DN50 / 40	16.7	130 / DN80

At the minimum expected storage temperature of -28°C, the fully charged fixed dry chemical powder units are capable of discharging at least 85 % of the dry chemical powder with all attached hand hose lines and powder monitors operating (MSC.1/Circ.1315, Appendix, paragraph 5).

Functional testing after salt spray test of components intended to be placed on open deck was performed with satisfactory results.

Dry chemical powder hose pressure testing at 32 bar (two times working pressure) was carried out satisfactorily.

Type Examination documentation



Job Id: **344.1-007863-1**
Certificate No: **MEDB00003T9**

Tests carried out

The system is tested according to IMO MSC.1/Circ.1315.

Marking of product

The main parts of the system (dry powder units) are to be provided with the mark of conformity (wheel mark). This mark shall be followed by our identification number 0098 and by the year in which the mark is affixed, e.g. 0098/2016.