



RINA

EC TYPE EXAMINATION (MODULE B)

CERTIFICATE Nr. MED023111CS

This is to certify, that RINA, specified as Notified Body N° 0474 by the Italian "Ministero delle Infrastrutture e dei Trasporti Direzione Generale per la navigazione ed il Trasporto Marittimo ed Interno" on 25 November 1998, did undertake the relevant type approval procedures for the equipment identified below which was found to be in compliance with the Fire Protection requirements of Marine Equipment Directive (MED) 96/98/EC as modified by Directive 2009/26/EC

<i>MED Item N°</i>	A.1/3.59
<i>Description</i>	Expansion foam for fixed fire extinguishing systems for chemical tankers
<i>Type</i>	FOMTEC ARC 3x3
<i>Applicant</i>	DAFO FOMTEC AB P.O. BOX 683 SE-135 26 TYRESO SWEDEN
<i>Testing standards</i>	IMO MSC/ Circ. 582 and IMO MSC/ Circ. 799 as amended by MSC.1/Circ.1312
<i>Reference standards</i>	IMO Res. MSC.4(48) - IBC Code

Issued at Genoa on
January 25, 2011

This Certificate is valid until
January 24, 2016

This Certificate consists of this sheet plus an attachment




Francesco Fanciulli
RINA



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**ATTACHMENT TO
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Manufacturer

DAFO FOMTEC AB

Place of Manufacturer

P.O. BOX 683
SE-135 26 TYRESO
SWEDEN

Technical Characteristics

Foam Concentrate FOMTEC ARC 3x3	
Type of foam concentrate	Aqueous Film Forming Alcohol-Resistant low expansion foam concentrate
Mixing Ratio	3%
Specific gravity [g/ml]	1.045
Viscosity at 20°C [mPa.s]	1,350
pH at 20°C	7.0
Min. usage temperature [°C]	- 14
Max. usage temperature [°C]	+ 55
Expansion at 20 °C	7.5
Drainage 25% [min]	6' 50"
Use Concentration	Mix.ratio 3%: hydrocarbon fires and alcohol fires (polar solvents)

Field of Application

Fixed foam fire extinguishing systems using low expansion foam concentrate for extinguishing fires of oil products and chemicals liquids as per list contained in Chapter 17 of the International Bulk Chemical Code (column L - letters A, B and D).

Test Carried Out

According to IMO MSC/Circ.582 - "*Guidelines for the performance and testing criteria and surveys of low-expansion foam concentrates for fixed fire-extinguishing systems*" and MSC/Circ.799 - "*Guidelines for the performance and testing criteria and surveys of low-expansion foam concentrates for fixed fire-extinguishing system of chemical tankers*".

Technical Documentation

- RINA Test Report no. FPE 2004/CS/01/5045 dated 15/12/2004.
- RINA Test Report no. FPE 2005/CS/01/3803/1 dated 30/09/2005.
- RINA Test Report no. FPE 2005/CS/01/3803/2 dated 29/09/2005.
- Declaration of conformity issued by FOMTEC in compliance with MSC.1/Circ.1312.

Remarks

Each foam concentrate container should be marked with complete information needed to identify the liquid and confirm its intended use, in compliance with the requirement of Par. 3.13, MSC.1/Circ.1312.

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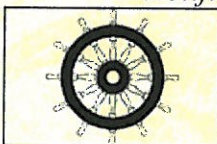


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The mark of conformity may only be affixed to the above type approved equipment and a Manufacturer's Declaration of Conformity issued when the production control phase module (D, E or F) of Annex B of the Directive is fully complied with a written inspection agreement with a Notified Body



XXXX/YY

"WHEELMARK FORMAT"

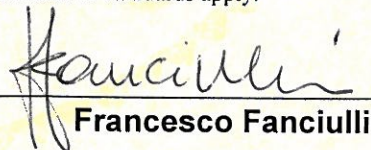
XXXX Notified Body number undertaking surveillance module

YY Last two digits of year mark affixed

General conditions for the approval

- a) The initial conditions verified by RINA at the time of the approval are to be maintained
- b) Any changes to the initial conditions are to be promptly communicated to RINA, which reserves the right to repeat the relevant assessment
- c) This certificate will no be valid if the manufacturer makes any changes or modifications to the approved equipment, which have not been notified to, and agreed with RINA
- d) RINA personnel are to be allowed to witness during the performances of activities, upon their request
- e) The activities are to be carried out in compliance with the RINA Rules and/or other applicable Rules
- f) Should the specified regulations or standards be amended during the validity of this certificate, the product is to be reapproved prior to it being placed on board vessels to which the amended regulations or standards apply.





Francesco Fanciulli