

Certificate Of Fire 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.

Manufacturer	Dafo Fomtec AB
Address	P.O Box 683, SE-135 26, Tyresö, Sweden
Type	Foam Concentrate
Description	Fire Extinguishing Fluoroprotein Low-Expansion Foam Concentrate – Type: "FOMTEC FP 3%" & "FOMTEC FP 6%" (3% & 6% Induction rate respectively), with Extinguishing Performance Class II and Burn-back Resistance Level A, for use on hydrocarbon fires only.
Trade Name	FOMTEC FP3% & FOMTEC FP 6%
Specified Standard	EN 1568-3 : 2008 (E)

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 EMEA of any modification or changes to the equipment in order to obtain a valid Certificate.

The Design Appraisal Document and its supplementary Type Approval Terms and Conditions form 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.

Saji Abraham

Surveyor to Lloyd's Register EMEA
A member of the Lloyd's Register group

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ATTACHMENT TO CERTIFICATE OF TYPE APPROVAL No. LR2058782SF

The undernoted documents have been appraised for compliance with the relevant requirements of International Conventions. This Design Appraisal Document forms part of the Certificate. This certificate is a renewal of certificate no. SAS F140280.

EXAMINED DOCUMENTATION

Lloyd's Register witnessed test reports: HBG 1010012/10 dated 20 December 2010 and HBG 1010012/9/A1 dated 18 November 2020 (revised report for testing conducted on 20 December 2010).

CONDITIONS OF CERTIFICATION

1. Type: "FOMTEC FP 3%" and "FOMTEC FP 6%" are Fluoroprotein (FP) Low-expansion foam concentrates for use on hydrocarbon fires only, with the following fire performance and essential characteristics (determined based on testing with fresh water and simulated seawater, in accordance with EN 1568-3:2008).

Foam concentrate Type	FOMTEC FP 3%	FOMTEC FP 6%
Usage concentration	3%	6%
Extinguishing Performance Class	II	II
Burn-back Resistance Level	A	A
Expansion ratio (Fresh water)*	6.2	6.4
Expansion ratio (Sea water)*	6	5.7
Drainage time (25%) with fresh water (minutes: seconds)*	04:06	04:55
Drainage time (25%) with sea water (minutes: seconds)*	05:28	06:20
Sedimentation (%)	<0.5%	<0.5%
Viscosity at 20°C (mPa.s)	7.8	8
pH value	7.12	7.1
Surface Tension*	40	41.5
Freezing temperature (°C)	-15	-15
Storage temperature range (°C)	-15 to 50	-15 to 50

*values obtained before conditioning

2. To be used with separately approved fixed or mobile low expansion foam fire extinguishing systems.
3. It is to be confirmed that the EN 1568-3: 2008 test standard is acceptable for the project and applications envisaged.
4. This certificate only approves the fire performance and the physical characteristics of the foam concentrate in accordance with EN 1568-3: 2008, as listed above. The use of certain foam concentrates may also be subject to additional requirements, including environmental regulations, depending on the geographical locations and projects where they are to be used. Therefore, the suitability of the foam concentrate for each application must be confirmed at the design stage by the Project Plan Approval authority.
5. Periodical testing of foam concentrates should be carried out not more than 3 years after being supplied to the ship and after that, every year, by independent laboratories or authorised service suppliers acceptable to the Administration.
6. The storage container should be compatible with the foam concentrates throughout the service life of the foam and should be marked in accordance with EN 1568-3:2008 Section 11.
7. Each product is to be supplied with its manual for application, use, transport, storage and maintenance.
8. Chemical composition of foam is to be maintained in production in accordance with originally tested composition formula.
9. Production items are to be manufactured in accordance with a quality control system which shall be maintained to ensure that items are of the same standard as the approved prototype.
10. The certificate holder is solely responsible for the products supplied under this Certificate and to ensure that their products, whether manufactured by themselves or their licensee manufacturers, if agreed by Lloyd's Register, are fully compliant with the relevant statutory regulations and Lloyd's Register Class rules as applicable and designed, manufactured and installed to the same quality and specifications as the prototype tested, including components that are designed and manufactured by third parties.

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PLACE OF PRODUCTION

Dafo Fomtec AB
Garnisonsgatan 47A
254 66 Helsingborg
Sweden



Saji Abraham
Senior Specialist
Fire & Safety, Statutory Discipline Team
UK&I 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).