

MARINE DIVISION

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Certificate number: 20934/A0 BV

File number : ACI 2300/13/1

Product code : 5581H

This certificate is not valid when presented without the full attached schedule composed of 7 sections

TYPE APPROVAL CERTIFICATE

This certificate is issued to

NOBEL FIRE SYSTEMS LTD.
HEYWOOD - UNITED KINGDOM

for the type of product

FIRE EXTINGUISHING SYSTEMS FOR DEEP-FAT COOKING EQUIPMENT

K-5 Fire Extinguishing System for Galley Deep Fat Fryer

Regulations and standards :

BV Rules Part C, Chapter 4 - SOLAS 74 Convention, as amended, II.2/1.2.2.3, II.2/10.6.4 - IMO Resolution MSC 97(73) [2000 HSC Code] § 7.7.6 - ISO 15371(2000)

This certificate is issued to attest that BUREAU VERITAS did undertake the relevant approval procedures for the product identified above which was found to comply with the relevant requirements of the Regulations and standards mentioned above.

This certificate is valid until : 19 Dec 2013

At Neuilly, on : 19 Dec 2008

For BUREAU VERITAS,
By order of the Secretary

Approval office

Local office : BV LONDON
Surveyor : S. Yule

L. COURREGELONGUE



This certificate remains valid until the date stated above, unless cancelled or revoked, provided the conditions indicated in the subsequent page(s) are complied with and the product remains satisfactory in service. This certificate will not be valid if the applicant makes any changes or modifications to the approved product, which have not been notified to, and agreed in writing with BUREAU VERITAS. Should the specified regulations or standards be amended during the validity of this certificate, the product(s) is/are to be re-approved prior to it/they being placed on board vessels to which the amended regulations or standards apply. This certificate is issued within the scope of the General Conditions of BUREAU VERITAS Marine Division. Any Person not a party to the contract pursuant to which this document is delivered may not assert a claim against BUREAU VERITAS for any liability arising out of errors or omissions which may be contained in said document, or for errors of judgement, fault or negligence committed by personnel of the Society or of its Agents in establishment or issuance of this document, and in connection with any activities for which it may provide.

THE SCHEDULE OF APPROVAL

1. PRODUCT DESCRIPTION :

Nobel K-5 Galley Fire Suppression System

The system can be triggered manually or automatically by a heat sensor installed in the ductwork above the fryer.

The system consists in :

- a stainless steel 316L storage cylinder (4.9 L) containing Nobel-K wet chemical suppressant (4.45 L), solid propellant gas generator and burst disc (7-8 bar)
- piping (DN15) and nozzle made of stainless steel, nozzle type BIM11 (full cone spray type - nozzle is fitted with a cover that blows off when the pipe work is pressurised)
- heat detector for automatic activation
- control panel and manual release box

Maximum discharge pressure : 13 bar
Standby pressure : Zero pressure

2. DOCUMENTS AND DRAWINGS :

As per the Manufacturer's technical file NFS K5TF version 2 dated July 2005 and drawings.

3. TEST REPORTS :

Test report n° TR/03/183/Rev. 1 dated 09.03.2006 as per ISO 15371:2000 from Advantica Technologies Ltd, UK.

4. APPLICATION / LIMITATION :

4.1 - May only be installed in galley spaces with a gross volume greater than 26 m³.

4.2 - Suitable for use on single-vat deep fat fryers, having a max./min. cooking surface of 0.2825 m² (tested : 565 x 500 mm) / 0.0833 m² (tested 170 x 490 mm)

4.3 - Approval valid for ships having to comply with SOLAS 74 Convention, as amended, and for units having to comply with IMO Resolution A649 (The "MODU Code").

4.4 - The arrangement of the system (control means, operating instructions, piping arrangement, nozzle location, cabling, pressure vessel scantling calculations, pressure testing...) is to be submitted for each ship application.

4.5 - Installation :

Nozzle height above fryer:	1.0 m to 1.2 m (centred over fryer)
Length of piping:	1.0 m to 10.0 m (a flow restrictor is to be used for lengths up to 5m)
Pipe diameter:	15mm
Maximum number of elbows along piping:	6

4.6 - The fitting aboard to be the same as used for the test.

4.7 - The heat detector is not covered by this type approval certificate and is to be approved separately.

4.8 - The Manufacturer's instruction manual should be kept on board.

5. PRODUCTION SURVEY REQUIREMENTS :

5.1 - The **K-5 Galley Fire Suppression System** are to be manufactured, examined and tested by **NOBEL FIRE SYSTEMS LTD.** in accordance with the type described in this certificate and Bureau Veritas Rules for the Classification of Steel Ships.

5.2 - Production sites are to be recognized by Bureau Veritas as per NR320 for HBV products. To this end **NOBEL FIRE SYSTEMS LTD.** has to make the necessary arrangements for a Society's Surveyor to perform visits and product audits at the production sites.

5.3 - **NOBEL FIRE SYSTEMS LTD.** has declared to Bureau Veritas that the type of product described in this certificate are manufactured at the following production site :

NOBEL FIRE SYSTEMS LTD.

Unit 6

Southgate Industrial Estate

Green Lane

HEYWOOD

UNITED KINGDOM

6. MARKING OF PRODUCT :

The product or packing is to be marked with manufacturer name, type and designation.

7. OTHERS :

7.1 - This approval is given on the understanding that the Manufacturer will accept full responsibility for informing shipbuilders or their sub-contractors of the proper methods of fitting and general maintenance of the approved equipment and the conditions of this approval.

7.2 - Where subcontracting takes place, the manufacturer remains entirely and solely responsible for compliance of the supplied products with the applicable requirements.

***** END OF CERTIFICATE *****