

TYPE APPROVAL CERTIFICATE

This is to certify:**That the Fire Protective Systems for Cables**with type designation(s)
Fire Sec FS 1

Issued to

Fire Security AS
KRISTIANSAND S, Norway

is found to comply with

Det Norske Veritas' Rules for Classification of Ships, High Speed & Light Craft and Det Norske Veritas' Offshore Standards**Det Norske Veritas' interpretation of SOLAS 1974 Convention as amended****IEC 60332-3-22 (2009-02)****Application :****Approved for use as an intumescent fire protective coating on indoor cables.****Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.**This Certificate is valid until **2021-12-30**.Issued at **Høvik** on **2016-12-31**for **DNV GL**DNV GL local station: **Kristiansand S**Approval Engineer: **Ivar Bull**

Andreas Kristoffersen
Head of Section

This Certificate is subject to terms and conditions overleaf. Any significant change in design or construction may render this Certificate invalid. The validity date relates to the Type Approval Certificate and not to the approval of equipment/systems installed.

Job Id:
Certificate No: **TAE00001JA**

Product description

"Fire Sec 1"

Intumescent fire protective coating for cables.
Coating swells and create protective foam during fire.
Average thickness of coating 0.7mm-1.0mm.

Applications/Limitations

Intumescent fire protective coating on indoor cables.
The cable or the bunched cables to be coated on all sides.
In enclosed and semi-enclosed spaces cable runs to be coated at least 1 metre in every 14 metres for horizontal runs and to entire length of vertical runs.

Approval is valid only for coating applied by Fire Security a.s or according to Fire Securities' application instructions.

Compliance with IEC 60331 is accepted for combinations of FS 1 and cables listed below successfully tested for at least 120 minutes:

DNVGL TAC No:	Cable manufacturer and type:	Cable cross sectional area:
E-12533	Nexans MPRXCX 0,6/1 kV	3x 25 mm ² up to 3x 120 mm ²

Type Approval documentation

Marking of product

The product or packing is to be marked with name of manufacturer and type designation.
Protected cables onboard shall be marked with a Manufacturer name –Type designation – IEC 60332-3.

Periodical assessment

Det Norske Veritas' surveyor is to be given permission to perform Certification Retention Surveys at any time during the validity period of this certificate. The arrangement is to be in accordance with procedure described in item class programme DNVGL-CP-0338 item 4.

END OF CERTIFICATE