

TYPE APPROVAL CERTIFICATE

This is to certify:**That the Jet Fire Protection**

with type designation(s)
J-FRIJ-90

Issued to

DAEYOUNG INTECH CORP
Geoje-si, Republic of Korea

is found to comply with
DNV GL offshore standards

Application :

Approved for use as jet fire protection of steel pipes.

Issued at **Høvik** on **2020-01-22**

This Certificate is valid until **2025-01-21**.

DNV GL local station: **Gimhae Station**

for **DNV GL**

Approval Engineer: **Helge Bjørnara**

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Mårten Schei-Nilsson
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.



Product description

"J-FRIJ-90",

Steel pipe with outer diameter 114,3 mm and wall thickness 8,5 mm ($H_p/A = 127 \text{ m}^{-1}$) insulated with a flexible jacket system consisting of the following layers:

The system is composed of the following layers:

- flexible jacket (outer layer)
 - o Outer cloth, glass fibre.
 - o Mesh, stainless steel.
 - o Inner cloth, glass fibre.
- Insulation layer
 - o 5 x ceramic fibre layer with aluminium foil in between.

Total thickness of the insulation system is approximately 100 mm. For details, see dwg. "Jet Fire -90" from manufacturer.

The blanket is fastened to the steel pipe with PVC coated stainless steel wire. The flexible jacket has a 100 mm overlap. Wires/joints are protected by a MUFF consisting of flexible jacket with 2 layers of insulation.

The product is manufactured at the premises of DAEYOUNG INTECH CORP, Geoje-si, Korea.

Application/Limitation

Approved for use as a jet fire protection of rating (Type of fire/Type of application/Critical temperature rise (°C)/Period of resistance (minutes)):

Any project specific design solutions arrived at on basis of this certificate are to be further validated by project specific approvals carried out by the appointed verifying authority for each project in each case at the detail engineering stage.

The approval refers only to the jet fire resistance properties of the system.

The protective insulation system is not defined as non-combustible, and should not be used in accommodation or in enclosed areas.

Each product is to be supplied with its manual for installation and maintenance.

Type Approval documentation

Certification in accordance with Class Programme DNVGL-CP-0338, September 2018.

Test Report No. KOSORI-EFRC-TR-1903-082, Rev.1, dated 9 August 2019 from KOSORI, Gyeongsangnam-do, Korea.

Drawing "Jet Fire-90" from manufacturer.

Tests carried out

Tested according to ISO 22899-1:2007.

Marking of product

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

Periodical assessment

DNV GL's surveyor is to be given permission to perform Periodical Assessments at any time during the validity of this certificate and at least every second year. The arrangement is to be in accordance with procedure described in Class Programme DNVGL-CP-0338, Section 4.