

TYPE APPROVAL CERTIFICATE

This is to certify:**That the Insulation Materials for Gas Carriers**

with type designation(s)

Flexible Insulating Material: "F" type and "M" type

Issued to

You Shin Dan Yeol Co., Ltd.
Ulsan, Republic of Korea

is found to comply with

Gaztransport & Technigaz Specification Nr. M3504, Insulating Material, Rev. A, January 2007**Application :****For use in No. 96 type LNG carriers built under GTT's license.**Issued at **Høvik** on **2019-07-04**This Certificate is valid until **2024-07-03** .DNV GL local unit: **Ulsan**for **DNV GL**Approval Engineer: **Gisle Hersvik**

Rikard Törnqvist
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

"F" type and "M" type; Flexible Insulating Materials (Polyurethane foams)

Application/Limitation

The material is only approved for use in No. 96 Containment Systems built under licence from GAZTRANSPORT & TECHNIGAZ SAs (GTT). Deliveries to actual shipbuilding projects shall be in compliance with the "Insulating Material", GTT Technical Specification Nr. M3504, latest revision dated January 2007, and the product shall have a valid approval from GTT.

This Type Approval certificate is not valid for designs, components, equipment, systems or products which are subject to classification by DNV GL.

Any significant changes in design and / or quality of the material will render the approval invalid.

Type Approval documentation

Tests carried out

Type Testing carried out according to **Type Approval documentation**.

Marking of product

Product shall be marked with *manufacturer's name*; **You Shin Dan Yeol Co., Ltd., Ulsan, Korea**, or *manufacturer's identification letter(s), Lot No., Size, Quantity and type designation*.

The marking is to be carried out in such a way that it is visible, legible and indelible. The marking of product is to enable traceability to the DNV GL Type Approval Certificate.

Periodical assessment

The scope of the Periodical Assessment is to verify that the conditions stipulated for the Type Approval is complied with and that no alterations are made to the product design or choice of materials.

Periodical Assessment to be performed after 2 and 3.5 years (Certificate Retention) and at renewal after 5 years (Certificate Renewal).

The main elements of the Periodical Assessment are to:

- Ensure that **Type Approval documentation** is available.
- Review design, materials, production process, and performance with respect to possible changes, in order to ensure compliance with **Type Approval documentation** and/or referenced material specifications.
- Ensure traceability between manufacturer's product marking and the DNV GL Type Approval Certificate.

This certificate is only valid if required periodical assessments are carried out with satisfactory results. To check the validity of this certificate, please look it up in <https://approvalfinder.dnvgl.com>

END OF CERTIFICATE