

TYPE APPROVAL CERTIFICATE

This is to certify:**That the Insulation Materials for Gas Carriers**with type designation(s)
LNG PERLITE CR-615

Issued to

KYUNGdong ONE CO., LTD.
Seoul, Republic of Korea

is found to comply with

Gaztransport & Technigaz Specification Nr. M3501, Perlite, Rev. A, January 2007**Application :****For use as insulation material in NO96 LNG carriers built under GTT's licence.**Issued at **Høvik** on **2018-12-12**This Certificate is valid until **2023-12-11**.DNV GL local station: **Seoul**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

LNG Perlite CR-615, mineral based, water repellent thermal insulation material for NO96 LNG carriers.

Manufactured by

Kyungdong One Co., Ltd. (Anjung Factory), Anjung National Corp. 7-5B, Anjungri, Kwang-do-Myeon, Tongyeong City, Kyeong-Nam, Korea

DNV GL local station: Seoul

Kyungdong One Co., Ltd. (DSME Site Factory), 1, Aju-Dong, Geoje-City, Kyungnam, Korea

DNV GL local station: Seoul

Responsibility

The Company (stated on the front page of this Certificate) takes the responsibility that both design and production are in compliance with Rules, Standards and/or Regulations listed on page 1 of this certificate.

Application/Limitation

The material is only approved for use in NO96 LNG carriers built under licence from GAZTRANSPORT & TECHNIGAS S.A.S. (GTT).

Deliveries to actual shipbuilding projects shall be in compliance with the Perlite Specification, GTT Specification Nr. M3501, "Perlite", Rev. A, Jan. 2007.

Type Examination documentation

Tests carried out

Type Testing carried out in accordance with **Type Approval documentation**, including test results for grain size distribution, chemical composition, sinking and thermal conductivity.

Marking of product

Product shall be marked with *manufacturer's name*; **Kyungdong One Co., Ltd.**, *place of production* (**Anjung Factory, Kyungnam, Korea** and/or **DSME Site Factory, Geoje, Korea**) 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.



Job Id: **262.1-017648-2**
Certificate No: **TAK00001EN**

- Ensure traceability between manufacturer's product marking and the DNV GL Type Approval Certificate.

END OF CERTIFICATE