DNV·GL

Certificate No:
TAK000007C

TYPE EXAMINATION CERTIFICATE

This is to certify:

That the Adhesive Materials for use in Insulation of Gas Carriers

with type designation(s)
Load Bearing Mastic; ULBM 100/200

Manufactured by
Uni-Tech Co., Ltd.
ANSAN KYONGGI-DO, Republic of Korea

is found to comply with
Gaztransport & Technigaz Specification Nr. M3004, Load Bearing Mastic, Rev. B, Jan 2008

Application :

For use in MARK III type LNG carriers built under GTT's license.

This Certificate is valid until **2021-01-18**.

Issued at **Høvik** on **2016-01-18**

for **DNV GL**

DNV GL local station: **Seoul**

Approval Engineer: **Helene Bjerke**

Martin Strande
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 Examination Certificate and not to the approval of equipment/systems installed.

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Job Id: **262.1-012088-3**
Certificate No: **TAK000007C**

Product description

ULBM100/200; Two-component epoxy mastic.

ULBM 100: Resin
ULBM 200: Hardener

Application/Limitation

The material is only approved for use in MARK III type LNG carriers built under licence from GAZTRANSPORT & TECHNIGAZ SAs (GTT). Deliveries to actual shipbuilding projects shall be in compliance with the "Load Bearing Mastic" Specification, GTT document no. M 3004, latest revision dated January 2008, and the product shall have a valid approval from GTT.

Type Examination documentation
Tests carried out

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

Marking of product

Product shall be marked with *manufacturer's name*; **Uni-Tech Co., Ltd., Ansan, 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 Examination Certificate.

Periodical assessment

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

Periodical Assessment to be performed after 2.5 years (Certificate Retention) and at renewal after 5 years (Certificate Renewal).

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

END OF CERTIFICATE