DNV·GL

Certificate No:
TAK00001VX

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Insulation Materials for Gas Carriers

with type designation(s)
Aluminium Wedge Elements, Aluminium Reinforcement Elements

Issued to
Tanktech Co., Ltd.
Busan, Republic of Korea

is found to comply with
Gaztransport & Technigaz Specification Nr. M3000, Specification for GTT Material and Prefabricated Elements – Guidelines
Gaztransport & Technigaz Specification Nr. M3021, Aluminium for Reinforcement Elements, Rev. 01

Application :

For use in GTT MK III/Flex type containment systems built under GTT's License.

Issued at **Høvik** on **2020-03-25**
This Certificate is valid until **2025-03-24** .
DNV GL local unit: **Gimhae Station**

Approval Engineer: **Stefan Marion**

for **DNV GL**

Gustav Heiberg
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.

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Product description

Aluminium Wedge Elements: Casted elements using A356 (AlSi7Mg0.3) T6 type aluminium

Aluminium Reinforcement Elements: Extruded elements using 6061-T6 type aluminium

Manufactured by

Aluminium Wedge Elements: Yujin Nonferrous Metal Co., Ltd., 156, Goldenroot-ro 129, Juchon-myeon, Gimhae-si, Gyeongsangnam-d, Republic of Korea

Aluminium Reinforcement Elements: Oneel Altek Co., Ltd., Ju-Chon, Gimhae-si, Gyeong-Sang-Nam-Do, Republic of Korea

Responsibility

The Owner of the 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 GTT MK III/Flex type containment systems built under licence from GAZTRANSPORT & TECHNIGAZ SAs (GTT). Deliveries to actual shipbuilding projects shall be in compliance with:

- GTT Specification Nr. M3000 (rev. 6), Specification for GTT Material and Prefabricated Elements – Guidelines (relevant for Aluminium Wedge Elements)
- GTT Technical Specification Nr. M3021 (rev. 1), Aluminium for Reinforcement Elements

and the product shall have a valid approval from GTT.

Type Approval documentation

Tests carried out

Type Testing carried out in accordance with **Type Approval documentation**.

Marking of product

The product or package shall be marked with *manufacturer's name*, *place of production* 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 or package 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 assessments (for Certificate Retention and Certificate Renewal) shall be performed according to DNVGL-CP-0338.

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