

# TYPE APPROVAL CERTIFICATE

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

with type designation(s)

**Fiber Glass Wool: YSDY-GW21-20,****Fiber Glass Wool: YSDY-GW21-34,****Fiber Glass Wool; YSDY-GW21-40**

Issued to

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

is found to comply with

**Gaztransport & Technigaz Specification Nr. M3016, Glass Wool, Rev. 02, November 2015****Application :****For use in Mark III and No. 96 type Containment Systems of 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**

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**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.



Job Id: **262.1-011017-3**  
Certificate No: **TAK00001RH**

## Product description

**YSDY-GW21-20, YSDY-GW21-34 and YSDY-GW21-40**; Fiber Glass Wool

- YSDY-GW21-20 (22 kg/m<sup>3</sup>)
- YSDY-GW21-34 (35 kg/m<sup>3</sup>)
- YSDY-GW21-40 (40 kg/m<sup>3</sup>)

## Application/Limitation

The material is only approved for use in Mark III and No. 96 Containment Systems of LNG carriers built under licence from GAZTRANSPORT & TECHNIGAZ SAs (GTT). Deliveries to actual shipbuilding projects shall be in compliance with the "Glass Wool", GTT Technical Specification Nr. M3016, latest revision dated November 2015, 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 Examination documentation**.

### Marking of product

Product/package shall be marked with the *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 Examination 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