

TYPE APPROVAL CERTIFICATE

This is to certify:**That the Glass Fibre Products**

with type designation(s)

Quadri-axial; +45°/90°/-45°/0° (430-3000 g/m²) with or without CSM (50-450 g/m²)

Issued to

**AHLSTROM GLASSFIBRE OY, MIKKELI PLANT
MIKKELI, Finland**

is found to comply with

DNV GL rules for classification – High speed and light craft

DNV GL class programme DNVGL-CP-0467 – Type approval – Uni- and multi-axial multi-ply fabrics made of glass fibres

Det Norske Veritas Standards' for Certification No. 2.21, Craft, 2010

Det Norske Veritas' Standards for Certification No. 2.20, Lifeboats and Rescue Boats, 2007

Application :

For use in marine vessels according to stated Rules/Standards.

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.

This Certificate is valid until **2021-06-21**.

Issued at **Høvik** on **2016-06-22**

DNV GL local station: **Helsinki**

Approval Engineer: **Gisle Hersvik**

for **DNV GL**

**Arnstein Gloppen
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

Quadri-axial Glass Fibre products, of +45°/90°/-45°/0° orientations:

- +45°/90°/-45°/0° (430-3000 g/m²) with or without CSM (50-450 g/m²)

Legends:

Quadri-axial: +45°, 90°, -45° and 0°

CSM: Chopped Strand Mat

Application/Limitation

The approval covers the weight ranges listed above.

Type Approval documentation

- 1.
- 2.
- 3.
- 4.

Tests carried out

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

Marking of product

Product shall be marked with manufacturer's name: **Ahlstrom Glassfibre Oy, Mikkeli Plant, Finland** 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 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.

END OF CERTIFICATE