DNV·GL

Certificate No:
TAK00000YS

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Glass Fibre Products

with type designation(s)
G-TAPE U300 to U1000

Issued to
CHOMARAT TEXTILES INDUSTRIES S.A.S.
LE CHEYLARD, France

is found to comply with
DNV GL class programme DNVGL-CP-0467 – Type approval – Uni- and multi-axial multi-ply fabrics made of glass fibres
Det Norske Veritas' Type Approval Programme 1-501.8, 2009, Glass Fibre Reinforcements
DNV GL rules for classification – High speed and light craft
DNV GL standard DNVGL-ST-0342 – Craft
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.

Issued at **Høvik** on **2017-10-09**
This Certificate is valid until **2022-10-08**.
DNV GL local station: **Marseille**

Approval Engineer: **Gisle Hersvik**

for **DNV GL**

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 Approval Certificate and not to the approval of equipment/systems installed.

© DNV GL 2014. DNV GL and the Horizon Graphic are trademarks of DNV GL AS.

Product description

G-TAPE U300 to U1000; Glass Fibre Tape.
- Weight range: 300 - 1000 g/m^2
- 0°-direction (warp): fiberglass E- and ECR- (200/300/320/600/1200 or 2400 tex) > 90%
- 90°-direction (weft): coated fiberglass or fiberglass (34-136 tex) or Polyester (40-280 dtex) <10%

G=Glassfibre
TAPE=Ruban
U=Uni-directional

The following indicative properties have been verified by Type Testing of laminates:

Property	**Test Method**	**G-TAPE U595P**		
Tensile Strength - Warp	NF EN ISO 527-4,5	1015	mean	MPa
Tensile Modulus - Warp	NF EN ISO 527-4,5	42	mean	GPa
Tensile Elongation - Warp	NF EN ISO 527-4,5	2,54	mean	%
Flexural Strength - Warp	NF ISO 14125	961	mean	MPa
Flexural Modulus - Warp	NF ISO 14125	17	mean	GPa
Flexural Elongation - Warp	NF ISO 14125	5,86	mean	mm
Fiber ratio (volume)	NF EN ISO 1172	52,93	mean	%
Resin	SICOMIN SR8100/SD8822 (epoxy resin)			
Curing Procedure used for Type Testing	24 hrs at room temperature, 24 hrs at 43°C			

mean = Mean of Type Test results

Property	**Test Method**	**G-TAPE U990P**		
Tensile Strength - Warp	NF EN ISO 527-4,5	1172	mean	MPa
Tensile Modulus - Warp	NF EN ISO 527-4,5	41	mean	GPa
Tensile Elongation - Warp	NF EN ISO 527-4,5	2,83	mean	%
Flexural Strength - Warp	NF ISO 14125	1028	mean	MPa
Flexural Modulus - Warp	NF ISO 14125	35	mean	GPa
Flexural Elongation - Warp	NF ISO 14125	4,19	mean	mm
Fiber ratio (volume)	NF EN ISO 1172	59,65	mean	%
Resin	SICOMIN SR8100/SD8822 (epoxy resin)			
Curing Procedure used for Type Testing	24 hrs at room temperature, 24 hrs at 43°C			

mean = Mean of Type Test results

Application/Limitation

The Type Approval is valid for the above-mentioned weight range.

Type Approval documentation

Tests carried out

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

Marking of product

Product/package shall be marked with *manufacturer's name*; **CHOMARAT TEXTILES INDUSTRIES S.A.S., France** 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.
- Ensure traceability between manufacturer's product marking and DNV GL Type Approval Certificate.

END OF CERTIFICATE