

**TYPE APPROVAL CERTIFICATE****This is to certify:****That the Glass Fibre Products**

with type designation(s)

**RXMT Combimat (400-1500 g/m<sup>2</sup>): WR (300-900 g/m<sup>2</sup>) with CSM (100-600 g/m<sup>2</sup>)**

Issued to

**RYMATEX Sp. z o.o.****Rymanow, Poland**

is found to comply with

**DNV GL rules for classification – High speed and light craft****Det Norske Veritas' Type Approval Programme 1-501.8, 2009, Glass Fibre Reinforcements****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 :****Manufacturing of FRP laminates.****Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.**Issued at **Høvik** on **2020-12-22**for **DNV GL**This Certificate is valid until **2025-12-21**.DNV GL local station: **Katowice CMC**Approval Engineer: **Gisle Hersvik****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.



## Product description

**RXMT COMBIMAT:** Woven Rovings (300-1900 g/m<sup>2</sup>) with Chopped Strand Mat (100-600 g/m<sup>2</sup>)

RXMT: 400 to 1500 g/m<sup>2</sup>

WR: 300 to 900 g/m<sup>2</sup>

CSM: 100 to 600 g/m<sup>2</sup>

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

Properties	Test Method	RXMT-900-600-300		
Tensile strength	ISO 527	321	MPa	mean
Tensile modulus	ISO 527	19.8	GPa	mean
Flexural strength	ISO 178	374	MPa	mean
Fibre content	ISO 1172	52,5	%	mean
Resin:	Estromal 11-LM-02			
Curing procedure used for Type Testing:	24 hrs at room temperature			

Legends:

mean: Mean of Type Test results

## Application/Limitation

The approval covers the weight ranges listed above.

Any significant changes in design and / or quality of the material will render the approval invalid.

## Type Approval documentation

1. Assessment Report from DNV GL Katowice of 2020-12-21.
2. DNV GL Technical Report No. 2020-3245, Rev. 0 "LAMINATE TESTING FOR DNV GL TYPE APPROVALS. Testing of GRP laminates" for Rymatex Sp z o. o. of 2020-12-16.
3. Product Datasheets RXMT range. WR + CSM sewn together.
4. OCV Control Report: 2400 dtex batches.
5. Certificate: ISO 9001, ISO 14001, PN-N 18001
6. Application for Type Approval of 2018-08-29.

## Tests carried out

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

Note that the DNV GL Class Programme DNVGL-CP-0467 – Type approval – Uni- and multi-axial multi-ply fabrics made of glass fibres, is not dedicated for WR-based products, hence the DNV TAP No. 1-501.8 may be used as reference for these kind of products until a specific DNVGL-CP is established for CSM products. The acceptance criteria stated in DNVGL-CP-0467 do not apply for this product.

## Marking of product

Product shall be marked with *manufacturer's name*: **RYMATEX** 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.



Job Id: **262.1-029264-1**  
Certificate No: **TAK00001ZC**

## **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