



Certificate No:
TAK000022H

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Gelcoats and Topcoats

with type designation(s)
NEOGEL® ECO

Issued to

BÜFA Composite Systems GmbH & Co. KG
RASTEDE, Germany

is found to comply with

DNV class programme DNV-CP-0083 – Type approval – Polyester resin, vinylester resin, gelcoat and topcoat

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.

Issued at **Hamburg** on **2022-01-27**

This Certificate is valid until **2027-01-26**.

DNV local station: **Hamburg – CMC**

for **DNV**

Approval Engineer: **Joachim Rehbein**

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Thorsten Lohmann
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.

LEGAL DISCLAIMER: Unless otherwise stated in the applicable contract with the holder of this document, or following from mandatory law, the liability of DNV AS, its parent companies and their subsidiaries as well as their officers, directors and employees ("DNV") arising from or in connection with the services rendered for the purpose of the issuance of this document or reliance thereon, whether in contract or in tort (including negligence), shall be limited to direct losses and under any circumstance be limited to 300,000 USD.



Form code: TA 251

Revision: 2021-03

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Product description

NEOGEL®ECO: Gelcoat based on unsaturated ISO/NPG polyester resin.

The following properties have been established by type testing of cured resin.

Property	Test Method	Value ¹	Unit
Tensile strength	ISO 527-2	59	MPa
Tensile modulus	ISO 527-2	4153	MPa
Elongation at break	ISO 527-2	2.8	%
Flexural strength	ISO 178	104	MPa
Flexural modulus	ISO 178	4169	MPa
Barcol hardness	ASTM D 2583	52	-
Heat deflection temperature (HDT)	DIN EN ISO 75-2	75	°C
Water absorption ²	DIN EN ISO 62	81	mg
Density	DIN EN ISO 2811-1	1.2	g/cm ³
Curing procedure	24h at RT and post curing 24h at 50°C		
1) mean values.			
2) water absorption is 1.3% above required value for grade 1 resin.			

Application / Limitation

Approved for maritime applications.

The resin complies with the applicable requirements of DNV and is compatible to the fibres, adhesives and core materials.

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 Approval documentation**.

Marking of product

Product shall be marked with *manufacturer's name* and *type designation*.

Assessed production site(s)

BÜFA Composite Systems GmbH & Co. KG
Hohe Looe 2-8
26180 Rastede
Germany

Periodical assessment

Periodical assessments for type approvals with a validity period of five years will be required after 2 years and after 3.5 years.

If an approval of manufacturer certificate which is still valid for at least one year is available, an exemption from the obligation concerning retention and renewal surveys listed in the class programme will apply.

END OF CERTIFICATE