DNV·GL

Certificate No:
TAK00001XY

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Gelcoats and Topcoats

with type designation(s)
ISO/NPG VinalkydGel G-3-A,
ISO/NPG VinalkydGel H,
ISO/NPG VinalkydGel CWS,
ISO/NPG VinalkydGel CWH,
ISO/NPG VinalkydGel S,
ISO/NPG Special VinalkydGel H

Issued to
Orgachim Resins AD
Ruse, Bulgaria

is found to comply with
DNV GL class programme DNVGL-CP-0083 – Type approval – Polyester resin, vinylester resin, gelcoat and topcoat
DNV GL rules for classification – High speed and light craft
DNV GL standard DNVGL-ST-0342 – Craft

Application :

Gelcoats for use in marine vessels in accordance with 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 **2020-09-18**
This Certificate is valid until **2025-09-17**.
DNV GL local station: **VARNA**

Approval Engineer: **Gisle Hersvik**

for **DNV GL**

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.

LEGAL DISCLAIMER: Unless otherwise stated in the applicable contract with the holder of this document, or following from mandatory law, the liability of DNV GL AS, its parent companies and subsidiaries as well as their officers, directors and employees ("DNV GL") 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.

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Product description

ISO/NPG Gelcoats:
ISO/NPG VinalkydGel G-3-A (thixotroped)
ISO/NPG VinalkydGel H (thixotroped)
ISO/NPG VinalkydGel CWS (thixotroped)
ISO/NPG VinalkydGel CWH (thixotroped)
ISO/NPG VinalkydGel S (thixotroped)
ISO/NPG Special VinalkydGel H (thixotroped)

Base resin: Vinalkyd 350 NPP/66 PF, a neo-penthylglycol, non-accelerated, non-thixotropic unsaturated polyester resin.

The following properties have been verified by type testing of cured resin samples:

Property	**Test Method**	**Vinalkyd 350 NPP/66 PF**	**Units**	
Density	ISO 1675	1.167	g/cm^3	mean
Tensile strength	ISO 527-2	64.3	MPa	mean
Tensile modulus	ISO 527-2	3855	MPa	mean
Flexural strength	ISO 178	99.3	MPa	mean
Flexural modulus	ISO 178	2977	MPa	mean
Barcol hardness	ASTM D2583	40	-	min.
HDT	ISO 75-2, Method A	80.4	°C	mean
Water absorption	ISO 62	6.8	mg	mean
Curing Procedure used for Type Testing		24hrs at 23°C + 24hrs at 50°C + 2hrs at 100°C		

Application/Limitation

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 in accordance with **Type Approval documentation**.

Marking of product

Product shall be marked with *manufacturer's name;* ***Orgachim Resins AD, Bulgaria*** 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 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