



Certificate No:
TAK000021F

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Polyester Resins

with type designation(s)
POLYLITE® 413 Series

Issued to

Polynt Composites Norway AS.
Gamle Fredrikstad, Norway

is found to comply with

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

Application :

Polyester resin for construction of laminates made of fibre reinforced plastics.

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

Issued at **Høvik** on **2021-05-21**

This Certificate is valid until **2026-05-20**.

for **DNV**

DNV local station: **Sandefjord**

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.

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

POLYLITE® 413 Series, Unsaturated polyester resin in styrene, Orthophthalic, including the following variants:

POLYLITE® 413-000
POLYLITE® 413-677

Manufactured by

Reichhold AS, Lilleborggata 4, NO-1630 Gamle Fredrikstad, Norway

DNV local station: Sandefjord

Polynt Composites Poland Sp. z o.o., Grabska 11d, 32-005 Niepolomice, Poland

DNV local station: Gdansk

Responsibility

The Company (stated on the front page of this Certificate) takes the responsibility that both design and production are in compliance with Rules, Standards and/or Regulations listed on page 1 of this certificate.

Application/Limitation

Manufacture of FRP components for applications including marine vessels - and rotor blades within wind energy (ref. DNVGL-ST-0376).

The approval covers the variants stated above. For specific product information and properties, please refer to manufacturer's technical data sheets.

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

Remarks:

- The requirements to Grade 1 resin as per DNV Rules and DNVGL-CP-0083 are complied with, except for water absorption.
- The water absorption values are higher than the acceptance criteria given in DNVGL-CP-0083 (max. 100 mg) and the resin series should therefore not be used in applications / areas where Grade 1 and Grade 2 resins are expected, ref. DNV Rules.

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 and type designation, lot number, gross weight/net weight and manufacturing date*.

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 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

Job Id: **262.1-035794-1**
Certificate No: **TAK000021F**