DNV·GL

Certificate No:
TAK00001VW

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Vinyl Ester Resins

with type designation(s)
Derakane Momentum™ 411-200 and Derakane Momentum™ 411-350

Issued to
INEOS COMPOSITES HISPANIA, S.L.
Sant Just Desvern, Barcelona, Spain

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 :

Grade 1 resin 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 **2020-04-21**
This Certificate is valid until **2025-04-20**.
DNV GL local station: **Barcelona FIS**

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.

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Job Id: **262.1-016737-3**
Certificate No: **TAK00001VW**

Product description

DERAKANE MOMENTUM™ 411-200 and **DERAKANE MOMENTUM™ 411-350**; Bisphenol-A Epoxy based Vinyl Ester Resins.

The following properties have been verified by Type Testing cured resin:

Property	**Test Method**	**411-350**	**411-200**		
Fracture Elongation	ISO 527-2	6.6	6.1	%	mean
Tensile Strength	ISO 527-2	64	66	MPa	mean
Water Absorption	ISO 62	55.4	50.4	mg	mean
HDT	ISO 75	79.8	79.8	ºC	mean
Curing Procedure used for Type Testing		24 hrs at room temperature, 24 hrs at 60ºC			

Legend:
mean: mean of Type Test results.

Remark:
The Barcol hardness specified by the manufacturer is lower than required by the DNV GL Rules, however the material is accepted for use in DNV GL classed marine vessels. Manufacturer's stated values shall be considered.

Manufactured by

INEOS Composites Hispania, S.L, Partida Povet 37, 12580 Benicarló, Spain

DNV GL local station: Barcelona

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.

Type Approval documentation

Tests carried out

Type Testing carried out in accordance with **Type Approval documentation**.

Marking of product

Product/package shall be marked with *manufacturer's name*; **INEOS Composites Hispania, S.L., Spain**, *place of manufacture, batch number* 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