

TYPE APPROVAL CERTIFICATE

This is to certify:**That the Epoxy Systems**with type designation(s)
PRO-SET LAM-135

Issued to

Wessex Resins & Adhesives Ltd.
Romsey, Hampshire, United Kingdom

is found to comply with

DNV GL rules for classification – Ships**DNV GL rules for classification – Yachts****DNV GL class programme DNVGL-CP-0089 – Type approval – Epoxy resin systems****Application :****Laminating 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 GL.**Issued at **Hamburg** on **2020-03-03**for **DNV GL**This Certificate is valid until **2024-03-04**.DNV GL local station: **Newcastle-upon-Tyne**Approval Engineer: **Joachim Rehbein****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.



Job Id: **262.1-026985-1**
Certificate No: **TAK00001GC**
Revision No: **1**

Product description

Two component epoxy resin system.

Approved variants

Epoxy resin PRO-SET LAM-135 with following hardener:

- PRO-SET LAM-224 Fast Cure
- PRO-SET LAM-226 Medium Cure
- PRO-SET LAM-229 Slow Cure
- PRO-SET LAM-237 Extra Slow Cure

Type Approval documentation

- Technical Data Sheets
- Material Safety Data Sheets
- Test Report order no. A0424120 issued by Wessex, dated 2017-10-24.
- Test Report issued by Applied Polymer Developments DMA & DSC Tg Summary Document for DNV-GL Approval, dated 2017-11-03.
- Test Report C17032-1 by R-TECH Materials, dated 2017-10-31.
- Tensile and flexural tests by Applied Polymer Developments, dated 2017-09-13.
- Tensile and flexural tests of immersed specimens by Applied Polymer Developments, dated 2018-12-07 and witnessed by DNVGL.
- Type Approval Assessment report TA401, issued 2019-01-21

Material Properties

Properties	Test Method	LAM-135 Resin	LAM-224 Fast Cure ¹	LAM 226 Medium Cure	LAM 229 Slow Cure	LAM 237 Extra Slow Cure	Unit
Density at 21°C	ISO 1183-1B	1.16	1.00	0.98	0.97	0.97	g/cm ³
Viscosity at 21.5°C	Brookfield LVDE	4500 – 6500	45 - 60	30 – 40	30 – 35	25 - 30	mPa·s

Notes:

¹ Water aging properties are documented

Application/Limitation

Applicable for the construction of FRP - laminates, on condition that the resin is compatible to fibre reinforcements, adhesives and core materials.

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

Assessed production site

Wessex Resins & Adhesives Ltd.
Cupernham House, Cupernham Lane
Romsey
Hampshire SO51 7LF
United Kingdom

Periodical assessment

A production site with a valid Approval of Manufacturer (AoM) certificate for material in question is exempted from the obligation concerning retention and renewal assessments.

For manufacturer without a valid AoM a periodical assessment after 2.5 years and at renewal after 5 years is required.

END OF CERTIFICATE