

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Epoxy Systems

with type designation(s)
Epoxy Resin L - Series

Issued to

R&G Faserverbundwerkstoffe GmbH
Waldenbuch, Germany

is found to comply with

DNV GL class programme DNVGL-CP-0089 – Type approval – Epoxy resin systems

Application :

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

Issued at **Hamburg** on **2018-02-21**

This Certificate is valid until **2023-02-20**.

DNV GL local station: **Hamburg Materials & Welding**

for **DNV GL**

Approval Engineer: **Guido Michalek**

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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.



Job Id: **262.1-027992-1**
Certificate No: **TAK000015C**

Product description

Two component epoxy resin system.

Approved variants

Epoxy Resin L with following hardener

- GL 1
- GL 2

Type Approval documentation

- Technical Data Sheet
- Material Safety Data Sheet
- Test Report No. P 8602-1 and P 8602-2 issued by KIWA Polymer Institut GmbH
- Workshop Inspection Report issued by DNV GL Hamburg, dated on 2017-12-20.
- Quality assurance/control documentation

Material Properties

Properties	Test Method	Epoxy Resin L	GL 1	GL 2	Unit
Density at 23°C	ISO 2811-2	1.14 – 1.16	0.99 – 1.01	0.93 – 0.95	g/cm ³
Amine Value	CTP-TS 31-97	N/A	465 – 565	555 - 575	mgKOH/g
Viscosity at 25°C	ISO 3219	1150 – 1350	50 – 150	12 - 16	mPa·s

Limitation

The resin complies with the applicable requirements of DNV GL 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.

Assessed production site

Stahlstrasse 60
65428 Rüsselsheim
Germany

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.

Remarks

This certificate supersedes the type approval WP 1420015 HH.

END OF CERTIFICATE