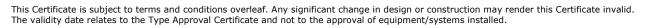


Certificate No: **TAK00000Z2**

TYPE APPROVAL CERTIFICATE

This is to certify:	
That the Epoxy Systems	
with type designation(s) Sinone E501A - Series	
Issued to Guangzhou Pochely New Material Guangzhou, China	s Technology Co., Ltd.
is found to comply with DNV GL class programme DNVGL-CP-0089 - Type approximately 100 - Type app	pproval – Epoxy resin systems
Application: Laminating resin for construction of laminates made	
Issued at Hamburg on 2017-10-06 This Certificate is valid until 2022-10-05 . DNV GL local station: Hamburg Materials & Welding	for DNV GL
Approval Engineer: Guido Michalek	Thorsten Lohmann Head of Section





Form code: TA 251 Revision: 2016-12 www.dnvgl.com Page 1 of 2

Job Id: **262.1-026926-1** Certificate No: **TAK00000Z2**

Product description

Two component epoxy resin system.

Approved variants

Epoxy resin Sinone E501A with following hardener

- L503B
- L505B

Type Approval documentation

- Technical Data Sheet
- Material Safety Data Sheet
- Test Report No. 20110610 issued by the DNV GL approved testing laboratory of Shanghai FRP (Approval No. GL-LZ 1208 HH, dated on 2011-09-09.
- Workshop Inspection Report issued by DNVGL Shanghai, dated on 2017-01-20.
- Quality assurance/control documentation

Material Properties

Properties	Test Method	Sinone E501A	Sinone L503B	Sinone L505B	Unit
Density	ISO 2811-3	1.10 - 1.20	0.90 - 1.00	0.90 - 1.00	g/cm³
Epoxy value	ISO 3001	0.51 - 0.56	N/A	N/A	eq/100g
Amine Value	ISO 9702	N/A	450 - 550	400 - 500	mg KOH/g
Viscosity at 25°C	ISO 2555	1800 - 2500	70 – 90	50 - 80	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

No. 12, Xiantang Road, Yonghe Economic District Economic and Technological Development Zone Guangzhou, Guangdong, 511356 P.R. China

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 1220016 HH.

END OF CERTIFICATE

Form code: TA 251 Revision: 2016-12 www.dnvgl.com Page 2 of 2