DNV·GL

Certificate No:
TAK0000116

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Epoxy Systems

with type designation(s)
Lapox ARL-135

Issued to
Atul Ltd.
Atul 06, India

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 **2017-11-16**
This Certificate is valid until **2022-11-15**.
DNV GL local station: **Hamburg Renewables Certification**

Approval Engineer: **Guido Michalek**

for **DNV GL**

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.

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Job Id: **262.1-026357-1**
Certificate No: **TAK0000116**

Product description

Two component epoxy resin system.

Approved variants

Epoxy resin Lapox ARL-135 with following hardener
- Lapox AH-334

Type Approval documentation

- Technical Data Sheet
- Material Safety Data Sheet
- Test Report No. 34793 issued by Central Institute of Plastics Engineering & Technology in Chennai, dated on 2011-03-04.
- Workshop Inspection Report issued by DNVGL RC Shanghai, dated on 2017-05-03.
- Quality assurance/control documentation

Material Properties

Properties	Test Method	Lapox ARL-135	Lapox AH-334	Unit
Epoxy Equivalent	ASTM D 1652	5.4 – 5.9	N/A	Eq/kg
Density at 25°C	ISO 1183	1.1 – 1.2	0.98 – 1.04	g/cm³
Viscosity at 25°C	ASTM D 2196	1700 – 2500	50 – 150	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

Atul Ltd.
Polymer Division
Dist. Valsad, 396 020 Gujarat
India

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 1120036 HH.

END OF CERTIFICATE