

TYPE APPROVAL CERTIFICATE

This is to certify:**That the Epoxy Systems**

with type designation(s)
Araldite LY 1564 - Series

Issued to

Huntsman Advanced Materials (Switzerland) Sàrl
MONTHEY, Switzerland

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 **2017-12-22**

This Certificate is valid until **2022-12-21**.

DNV GL local station: **Hamburg Renewables**
Certification

for **DNV GL**

Approval Engineer: **Margarita Glöckner**

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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: **262.1-027818-1**
Certificate No: **TAK000012H**

Product description

Two component epoxy resin system.

Approved variants

Epoxy resin Araldite LY 1564 with following hardeners

- Aradur 3486 xx
- Aradur 3486 Blue xx
- Aradur 3487 xx

Approved combinations of resin and hardeners (parts per weight)

Araldite LY 1564 SP	100	100	100	100	100
Aradur 3486 xx	-	8.5	17	25.5	34
Aradur 3486 Blue xx	-	8.5	17	25.5	34
Aradur 3487 xx	34	25.5	17	8.5	-

xx = e.g. CH (Switzerland), BD (Germany), etc.

Type Approval documentation

- Technical Data Sheet
- Material Safety Data Sheet
- Test Report No. 32/99 and 141/2001 issued by Kunststoff-Zentrum in Leipzig
- Workshop Inspection Report issued by Germanischer Lloyd Industrial Services GmbH
- Quality assurance/control documentation

Material Properties

Properties	Test Method	Araldite LY 1564	Aradur 3486	Aradur 3486 blue	Aradur 3487	Unit
Epoxy Equivalent	ISO 3001	5.8 – 6.05	N/A	N/A	N/A	Eq/kg
Amine Value	ISO 9702	N/A	8.55 – 9.30	8.55 – 9.30	9.30 – 10.20	Eq/kg
Viscosity at 25°C	ISO 12058-1	1200 – 1400	10.0 – 20.0	10.0 – 20.0	30.0 – 70.0	mPa·s
Density at 25°C	ISO 1675	1.10 – 1.20	0.94 – 0.95	0.94 – 0.95	0.98 – 1.00	g/cm ³

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

Huntsman Advanced Materials
Route l'Île-au-bois
1870 Monthey 1
Switzerland

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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 1320043 HH.
- The following production site is also approved by DNV GL:
Huntsman Advanced Materials (Deutschland) GmbH
Trottäcker 24-26
79713 Bad Säckingen
Germany

END OF CERTIFICATE