



TYPE APPROVAL CERTIFICATE

Certificate No:
TAK0000197
Revision No:
1

This is to certify:

That the Adhesive

with type designation(s)
BÜFA®-Bonding Paste 0110

Issued to
BÜFA Composite Systems GmbH & Co. KG
RASTEDE, Germany

is found to comply with
DNV class programme DNV-CP-0086 – Type approval – Adhesive systems
DNV rules for classification – Ships
DNV rules for classification – Yachts

Application :

Two component vinyl ester resin for bonding of laminates

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV.

Issued at **Hamburg** on **2023-03-27**

for **DNV**

This Certificate is valid until **2028-03-26**.

DNV local unit: **Hamburg**

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.

LEGAL DISCLAIMER: Unless otherwise stated in the applicable contract with the holder of this document, or following from mandatory law, the liability of DNV AS, its parent companies and their subsidiaries as well as their officers, directors and employees ("DNV") arising from or in connection with the services rendered for the purpose of the issuance of this document or reliance thereon, whether in contract or in tort (including negligence), shall be limited to direct losses and under any circumstance be limited to 300,000 USD.



Product description

BÜFA® - Bonding Paste 0110: Two component vinyl ester resin

Approved Variants:

- 740-0110
- 740-0111
- 740-0114

Application/Limitation

The resin complies with the applicable requirements of DNV 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.

Type Approval documentation

1. Product specification.
2. Test report no. 852.0111 issued by MPA Hannover, dated 2002-09-12
3. Previous Type Approval Certificate WP 1540008 HH, dated 2015-11-23
4. Type Approval Assessment report, dated 2016-11-23

5. Type Approval Assessment report 90.02a, dated 2018-04-04
6. Letter of conformity, dated 2018-03-05
7. Three CoA(APZ) for each variant, issued by BÜFA
8. Technical data sheet version 16, dated 2017-04-18
9. MSDS Vers. 01, date revised 2017-09-07
10. Test reports according CP-0086, issued by BÜFA
11. Test report KT-PB-A418542 (DMA) issued by Fraunhofer IFAM, dated 2018-06-25

TAK0000197 rev. 01 Renewal 2023

Application for Type Approval TAA901 of 2022-09-13;
Type Approval assessment report TA 401 of 2022-11-08;
Tensile lap-shear test report issued by BÜFA, Rastede of 2022-12-08;
Hardness test report issued by BÜFA, Rastede of 2022-12-21;
Test report no. 20033945 DMA issued by Fraunhofer IFAM Bremen of 2023-02-09.

Tests carried out

Type Testing carried out according to **Type Approval documentation**.

Marking of product

Product shall be marked with *manufacturer's name* and *type designation*.

Assessed production site(s)

BÜFA Composite Systems GmbH & Co. KG
Hohe Looe 2-8
26180 Rastede
Germany

Periodical assessment

The scope of the periodical assessments is to verify that the conditions stipulated for the certification follow the Type Approval documentation and that no alterations are made to the product design or choice of materials.

Periodical assessments will be carried out bi-yearly (Certificate Retention) and at renewal after 5 years (Certificate Renewal).

When possible, these assessments may be harmonized with normal surveys for product certification and / or other surveys and audits carried out.

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.

END OF CERTIFICATE