Technical Data Sheet

Gelcoat Plus

BÜFA®-BOND 001

BÜFA®-Bond 001 Adhesive Prod. No. 660-0001

Product description

BÜFA®-Bond 001 is a 2-component bonding paste filled in a cylindrical, 380 ml plastic cartridge. The resin/peroxide mixing ratio is 10 to 1. **BÜFA®-Bond 001** is a fibre reinforced bonding paste based on special, unsaturated polyester resin in paste form. The paste contains styrene and a peroxide indicator that changes the colour from mint green to white.

Applications

BÜFA®-Bond 001 can be used for bonding cured GRP laminates with GRP laminates, iron and ferrous steel, e.g. ST 37. The suitability of **BÜFA®-Bond 001** on other substrates must be tested in advance. In any case, the substrate must be prepared. The surface of the substrate must be generally free of grease, oil and dust. When bonding metal, OLDOPAL Metal Adhesion Promoter 742-0079 must be used for priming after the substrate has been prepared and cleaned. **BÜFA®-Bond 001** can also be used as an alternative to UP bonding paste for structural bonding as well as for quick fixation.
Levelling (nips/gaps should not exceed 8 mm) and application on thin laminates (print effect in the laminate through a high peak exotherm) should be carried out carefully.

Specifications / technical data

Property	Test method	Value	Unit
Density at 20 °C		approx. 1,25	g/ml
Viscosity at 20 °C Brookfield RV/DV-II Spl 7 rpm 5	ISO 2555	500 000 - 700 000	mPas
Styrene content		28 - 31	%
Flash point	DIN 53 213	+ 32	°C

Curing

Reactivity values:
BÜFA method in accordance with DIN 16 945 6.2.2.1
(Bonding paste with hardener – 100 g bonding paste metered from the cartridge into a cup)

20 - 30 °C	8 - 14 min
20 °C - Tmax	11 - 18 min
Tmax	140 - 160 °C

Gel time at 20 °C in a 100 g cup

BÜFA®-BOND 001

BÜFA®-Bond 001 Adhesive Prod. No. 660-0001

Gel time: 8 - 14 min

Further orientation data on curing:

Bonding of GRP laminate, glue line 4.5 mm thick
(Bonding past with hardener – metered from the cartridge)

20 - 30 °C	8 - 14 min
20 °C - Tmax	11 - 18 min
Tmax	65 - 75 °C

Gel time at 20 °C in the 4.5 mm thick glue line
Gel time: 8 - 14 min

Fixation of adherends

- Working time:	7 - 9 min
- Fixation time:	20 - 25 min

Attention! The information given above exclusively to the use of the static mixer named and the temperatures given. Lower or higher working temperatures may yield different results.

Mechanical Properties

Orientating characteristic mechanical values of bonded test specimens

Bonding GRP / GRP laminates

- Substrate preparation:
  - Use of peel ply at the substate surface is best (guarantees clean, grease-free surfaces)
  - If peel ply has not been used, the surface should be cleaned with acetone.
  - The substrate must then be grinded down to the glass matrix.
  - Remove dust from the surface.
  - No further cleaning measures are necessary (if necessary, we recommend cleaning with MMA).
  - In the bonding process consider the minimum thickness from 1.5 mm
  - The **BÜFA®-Bond 001** achieve the optimal properties after

BÜFA®-BOND 001

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the postcuring process (conditions: 80 °C for 6 hours).

Property*	Test method	Value
Shear strength	DIN EN 1465	8 MPa
Tensile G modulus	DIN EN 1465	1054 MPa
Elongation at break	DIN EN 1465	0.8 %

Bonding ferritic steel / steel

- Substrate preparation:
  - The surface must be cleaned with acetone (grease and oil-free)
  - The surface of the substrate must then be mechanically cleaned with sandpaper/sandblasting material (reproducible surfaces)
  - Remove dust from the surface.
  - Clean again (we recommend acetone)
  - Allow to evaporate for 15 min., then prime the surface with OLDOPAL Metal Adhesive Primer 742-0079, applying in a thin layer. Allow to evaporate for 15 min.
    Bonding must take place within 90 min. If this cannot be carried out, the entire substrate preparation operation must be repeated.
  - In the bonding process consider the minimum thickness from 1.5 mm.
  - The **BÜFA®-Bond 001** achieve the optimal properties after the postcuring process (conditions: 80 °C for 6 hours).

Property*	Test method	Value
Shear strength	DIN EN 1465	27 MPa
Tensile G modulus	DIN EN 1465	949 MPa
Elongation at break	DIN EN 1465	3.3 %

Please note that these characteristic values were determined on a

BÜFA®-BOND 001

BÜFA®-Bond 001 Adhesive Prod. No. 660-0001

laboratory scale, following the procedures described above and are only given for your orientation. To determine these characteristic values, single lap shear test specimens were produced and tested!

Directions for use

BÜFA®-Bond 001 is a polyester adhesive that can be metered with the aid of a 2-component cartridge. The 380 ml cartridges come with a static mixer and an opener for the cartridges. Metering is carried out with a hand metering gun or a pneumatic metering gun through the attached static mixer which ensures that the peroxide is homogenously mixed with the bonding paste. Please note that the correct mixing ratio is not guaranteed at the beginning of the metering process (approx. 15 - 20 ml).

Note:

Because of the fibre reinforcement, viscosity may increase over time.
A layer maximum 8 mm thick should be used for bonding because the bonding paste is highly reactive and thicker layers could lead in the curing process to a high maximum temperature.

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A company of BÜFA and DSM Composite Resins