

### ECO 3

**As a one-component product conforms with D 3, and with D 4 when mixed with hardener**

#### Properties

RAKOLL®-ECO 3 is a PVAc adhesive with good water resistance which meets the requirements of class D 3 as a one-component product and mixed with RAKOLL®-GXL-3-Härter meets the requirements for D 4 standard DIN EN 204.

RAKOLL®-ECO 3 sets very quickly. If heat is applied, very short pressing times can be achieved. The bonded joints are characterised by a good high-temperature resistance.

Machining the joints causes very little wear on the tools.

D4: Interior with frequent long-term exposure to running or condensed water. Exterior exposed to weather but with adequate protection by a surface coating.

- Surface gluing of decor-finish film
- High-frequency bonding
- Stationary edgebanding with veneers, plastic laminates and solid wood strips
- Surface bonding of HPL/CPL in short cycle presses
- Carcase and assembly gluing
- Bonding joints in boards and block gluing of softwoods and chipboard as well as hardwoods

#### Durability Class in accordance to DIN EN 204

single component: D 3  
(Expert report by WKI + Institute für Fenstertechnik e.V., Rosenheim)

mixed with RAKOLL®  
GXL-3-Hardener D 4  
(Institute für Fenstertechnik e.V., Rosenheim)  
KOMO-Certificate is available.

#### Applications

Examples of climatic conditions and areas of application

D 3: Interior with frequent short-term exposure to running or condensed water and/or heavy exposure to high humidity. Exterior not exposed to weather.

#### Instructions for use

The open time and setting time depend strongly on working conditions such as temperature, humidity, absorbency of the materials being worked and amounts applied.

Good results will be achieved if the following conditions are observed:

Room and material temperature 18 ... 20 °C

Moisture content of wood 8 ... 10 %

Relative humidity 60 ... 70 %

Amounts of adhesive to apply  
For surface bondings 80 ... 140 g/m<sup>2</sup>  
For assembly gluings 160 ... 180 g/m<sup>2</sup>

Open time at 150 g/m<sup>2</sup> 8 ... 12 min

Press pressure, depending on type of bonding 0,1 ... 0,8 N/mm<sup>2</sup>

Minimum pressing times:  
 Surface gluing of decor-  
 finish film in short cycle presses 5 ... 10 sec  
 High-frequency bonding with  
 longitudinal heating from 15 sec

Surface gluing of HPL/CPL in  
 short cycle presses at +70 °C from 45 sec  
 Assembly gluings 8 ... 15 min  
 Boards and block gluing 10 ... 15 min

Laminating of wooden window profiles:  
 In accordance with the Quality Guidelines of i.f.t.  
 Rosenheim, "Laminated Profiles for Wooden  
 Windows", the wood moisture content must be 13 ±  
 2%. The room temperature and the wood  
 temperature must be at least +15 °C.

### Mixing ratio

100 parts by weight RAKOLL®-ECO 3 with  
 5 parts by weight RAKOLL®-GXL-3-Härter

Mix the adhesive and the hardener together  
 thoroughly.

### Pot life

Approx. 24 hours at normal temperature.  
 Temperatures above 20 °C reduce the pot life.

### Wood preparation

All parts should mate well and be dust and grease  
 free. Over tolerances will lead to longer setting  
 times and weaker bonds.

The joints should be cut shortly before bonding.

### Applying the adhesive

Apply RAKOLL®-ECO 3 thinly and evenly to one side  
 or, if a high degree of water resistance is required,  
 to both sides, using a spreading machine, glue  
 roller, serrated trowel, glue brush or another  
 suitable device.

### Presses

Lay the items to be bonded together within the  
 workable time and press them for as long  
 a time as is needed to achieve the required initial  
 firmness upon release.

The pressure should be high enough to ensure  
 contact of the parts over the entire area of the  
 joint. Depending on the material and the type of  
 bond being used, the mechanical firmness required  
 for further processing of the parts is achieved  
 within the shortest possible space of time. The  
 higher levels of water resistance form more slowly  
 and should be tested not earlier than 7 days after  
 bonding.

### Wood discoloration

Because of the varied nature of wood components,  
 e.g., depending on the area of growth and the type  
 of pre-treatment, unpredictable discoloration may in  
 some cases appear on different types of wood,  
 such as beech, cherry and others.

In addition, it is possible that iron together with the  
 tannin in wood can cause discoloration, especially in  
 the case of oak.

We recommend you test this for yourself.

### Cleaning

Clean machines and utensils with water before the  
 adhesive dries.

### Chemical-technical Data

RAKOLL® ECO 3

	RAKOLL® ECO 3	RAKOLL® GXL-3- Härter	Mixture
Basis:	PVA Dis- persion	Polyisocya- nate	
Colour:	white	colour-less	white
Viscosity:	approx. 13.000 mPa.s	—	approx. 11.500 mPa.s
	Brookfield HB, Spindle 3, 20 rpm, +20 °C on the day of production		
White point:	approx. +7 °C	—	approx. +7 °C
pH value:	approx. 3	—	approx. 3

Properties of storage tanks, pipelines and sprading devices made from steel, galvanised steel aluminium or other non-ferrous metals cannot be re-commended on account of the slightly acidic nature of the dispersion, as there is a danger of corrosion.

For this reason, we recommend the use of storage tanks, pipes and spreading devices made from stainless steel or plastic (hard PVC, poly-ethylene, polyester resin).

### Labelling

RAKOLL®-ECO 3 is not subject to the marking regulations in accordance with the Dangerous Goods Act in its present version.

RAKOLL®-GXL 3-Härter is not subject to the marking regulations in accordance with the Dangerous Goods Act in its present version, but it does contain a small amount of isocyanate.

### Technical stage of development: May 2007

The data of former leaflets which differ from this version are no longer valid

### Safety advice

Please observe the information given on our EC-safety data sheets! (Please request).

### Storage

Store RAKOLL®-ECO 3 away from frost in tightly closed original containers. Storage temperatures in excess of 25 °C considerably reduces the minimal storage time.

RAKOLL®-ECO 3 can thicken a little after pro-longed storage. The adhesive should then be thoroughly mixed and is then ready for use again.

**Shelf life is at least 9 months.**



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#### OBSERVATIONS

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