RAKOLL®
Woodworking Adhesives

Technical Data Sheet

ECO 4

As a one-component product conforms with D 4 and DIN EN 14257

RAKOLL®-ECO 4 is a PVAc adhesive with excellent water resistance.

Durability Class in accordance to DIN EN 204 - D4 and DIN EN 14257 (WATT 91): 8 N/mm²
(Expert report by ift - Institute für Fenstertechnik e.V., Rosenheim)

Features

- One component.
- Fast setting.
- Short press time.
- It is possible to process wood species like pine or spruce with pressing times of minimum 12 minutes
- Improved adhesion on difficult wood species (oak, larch)
- No discolouration of the glue line due to the influence of process heat (e. g. HF-press).
- Improved heat- and water resistance when using high process temperatures (e. g. +70 °C).

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, material and adhesive temperature	18 … 20 °C
Moisture content of wood	8 … 10 %
Application quantity for assembly gluing	150 … 180 g/m²
Open time at 150 g/m²	8 … 9 min
Chalk point:	approx. 8 °C
Press pressure for stress free workpieces	0,1 … 0,5 N/mm²
Minimum pressing times:	
Assembly gluing	8 … 15 min
Short cycle press at +70 °C	approx. 60 sec
Boards and block gluing	15 …. 30 min

Window scantlings , dependng on type of wood:
. Softwood (e. g. spruce): from 15 min
. Hardwood /e. g. oak, beech): approx. 2 hours

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.

Wood preparation

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

The joints should be processed shortly before bonding.

Application of the adhesive

Apply RAKOLL®-ECO 4 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.

Pressing
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 the 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.

Labelling
RAKOLL®-ECO 4 is not subject to the marking regulations in accordance with the Dangerous Goods Act in its present version.

Chemical-technical Data

RAKOLL® ECO 4

Basis:	PVA dispersion
Colour:	white yellowish
Viscosity: (Brookfield HB, Spindle 2, 20 rpm, at +20 °C, on the day of production)	5000 - 6000 mPa.s
pH value	approx. 3,5

Equipment
Properties of storage tanks, pipelines and spreading devices made from steel, galvanised steel aluminium or other non-ferrous metals cannot be recommended on account of the slightly acidic nature of the dispersion, as there is a danger of corrosion.
If RAKOLL®-ECO 4 comes in contact with iron the adhesive will discolour blue.
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).

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

Storage
Store RAKOLL®-ECO 4 at room temperature from +15 °C up to +23 °C in tightly closed original containers. The shelf life is 9 months.

Technical stage of development: March 2012
The data of former leaflets which differ from this version are no longer valid

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