



Rakoll® GXL 4 Plus

Type of Adhesive One-component PVA adhesive.

- Product Benefits**
- Durability Class in accordance to DIN EN 204 - D4 and WATT 91: > 7 N/mm²
 - excellent water resistance
 - fast setting
 - short press time
 - 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)

Typical Applications This product is suitable for laminating of wooden window profiles.

Suitable substrates Wooden based materials.

Typical Properties

Property	Value
Base	PVA dispersion
Colour	white
pH	approx. 3.5
Viscosity (Brookfield HB, Sp2, 20rpm, at 20°C)	approx. 3 500 mPa.s
Shelf life	6 months



Application Instructions

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: approx. 10 minutes (measured at 23°C/50% rel. humidity)
- chalk point: approx. 8°C

Press pressure for:

- stress free workpieces 0,1 – 0,5 N/mm²
- soft wood 0,1 – 0,3 N/mm²
- hard wood 0,5 – 0,8 N/mm²

Minimum pressing times:

- assembly gluing: 8 – 15 minutes
- short cycle press at 70°C: > 1 minutes
- boards and block gluing: 20 – 40 minutes
- window scantlings, depending on type of wood:
 - softwood (e.g. spruce): from 15 minutes
 - 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 the adhesive 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. For bonding of hardwood we recommend a double-sided application.



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 Instructions	Clean machines and utensils with water before the adhesive dries.
Typical Packaging	Please contact your local Sales Office for available packaging options.
Storage Conditions	In original sealed packaging protected from sun, dust, moisture and high temperatures. Please store at clean and dry conditions from +5°C to +20°C.
Disposal Advice	Please refer to the MSDS for disposal instructions.
Safety Advice	Please refer to the MSDS for safety advice.

Our Focus is Clear. Perfecting Adhesives.

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