Duplit AL

D 4 adhesive with RAKOLL®-Duplit-Härter

Properties

RAKOLL®-Duplit AL is a PVA adhesive which on reaction with RAKOLL®-Duplit-Härter forms joints that are to a large extent water resistant. It meets the requirements of classification D 4 according to DIN EN 204.

As a two-component system, RAKOLL®-Duplit AL with RAKOLL®-Duplit-Härter is characterised by its long pot life of more than 20 days at normal temperature. It is simple and easy to work with. The bonded joints are characterised by high strength and good heat resistance; tools are subjected to minimal wear in processing.

Durability class according to DIN EN 204 - D 4

KOMO certificate is available.

Applications

Examples for areas of application

- D4: Internal areas with frequent intense exposure to running water or condensation; External areas: exposed to the weather, but with adequate surface protection.
- Water-resistant gluing of windows, doors and staircases according to DIN EN 204 - D4
- Surface bonding of HPL sheets
- Carcass and assembly gluing with preheating of one side of the joint
- High-frequency bonding
- Surface bonding of decor-finish film
- Bonding joints in boards and block gluing of softwoods, chipboard and hardwoods
- Edge-trimming in stationary presses with plastic laminates and solid wood strips

Instructions for use

RAKOLL®-Duplit AL should only be used mixed with RAKOLL®-Duplit-Härter.

The setting process is a physical process in the first phase, i.e. setting takes place through migration of the water into both sides of the joint. The higher degree of water resistance is obtained after a longer period. As for all normal PVA adhesives, the open time and the required pressing times depend on the prevailing temperature, humidity, absorbency of and tension in the materials to be bonded and the amount of adhesive applied.

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

Room, material and adhesive temperature	18 ... 20°C
Wood moisture content	8 ... 10%

In accordance with the guidelines “Laminated profiles for wooden windows” of the ift, Rosenheim, the moisture content of the wood must be in the range 13 ± 2%.Furthermore, the temperature of the room and of the wood at the time of gluing must be between 15 and 20°C.

Relative humidity	50 ... 70%

Amounts of adhesive to apply:	
for surface bonding	80 ... 140 g/m²
for assembly gluing	150 ... 180 g/m²

Open time at 150 g/m²	9 ... 11 min

Press pressure for stressfree Workpieces	0,1 ... 0,5 N/mm²
Minimum pressing times:	
Assembly gluing	8 ... 15 min
Surface bonding of laminated materials	
at normal temperatures	30 ... 40 min
in short-cycle presses +70°C	from 1 min
Bonding joints in boards and block gluing	20 ... 40 min

Mixing ratio

RAKOLL®-Duplit AL 100 parts by weight

RAKOLL®-Duplit-Härter to 5,0 parts by weight or 3,0 parts by volume

Mix RAKOLL®-Duplit AL and RAKOLL®-Duplit-Härter thoroughly until the mixed glue has developed an even light grey colour. Mixing is best performed using motor-driven agitating vanes or cages.

Wood preparation

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

Pot life

Approx. 20 days at normal temperature. Temperatures above +20 °C considerably reduced the pot life.

Glue spread

Apply RAKOLL®-Duplit AL + 5% RAKOLL®-Duplit-Härter thinly and evenly to one side, or to both sides if a higher degree of water resistance is required, using a spreading machines, glue roller, toothed trowel, brush or other equipment.

Pressing

Lay the items to be bonded together within the open time and after a brief closed period press them for as long as is needed to achieve adequate initial strength. As the reaction between RAKOLL®-Duplit AL and RAKOLL®-Duplit-Härter which produces good water resistance is of longer duration, tests for water resistance should be carried out only after an intermediate storage of 7 day.

Wood discoloration

Unpredictable discoloration from substances contained in the wood, which depend on the area of growth and any pre-treatment of the wood, among other things, may occur in isolated cases with certain types of wood, e.g. beech, cherry and others. Iron together with tannic acid in the wood can cause a black discoloration - particularly with oak. We recommend you test this for yourself.

Cleaning

Clean tools with water before the adhesive dries.

Chemical-technical data

RAKOLL®-Duplit AL and RAKOLL®-Duplit-Härter

	RAKOLL Duplit AL	RAKOLL DUPLIT Härter	Glue mix
Basis	Polyvinyl acetate dispersion (PVA)	Inorganic metal salt solution	
Colour	white	green to dark blue	grey
Viscosity	Approx. 9.000 mPa.s		Approx. 6.000 mPa.s
(Brookfield HB, spindle 3, 20 rpm, +20°C, measured on day of production)			
White point	approx. 0°C	- - -	approx. +4°C
pH value	approx. 4,5	- - -	approx. 3

Properties of storage tanks, pipelines and spreading devices

Storage tanks, liquid lines 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.

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

Safety recommendations

Please observe the information given in our EC Safety Data Sheets. (Available on request!)

Labelling

RAKOLL®-Duplit AL is not subject to marking regulations pursuant to the Dangerous Goods Act in its present version. RAKOLL®-Duplit-Härter is classified as an irritant in accordance with the Dangerous Goods Act in its present version.

Note

RAKOLL®-Duplit-Härter is strongly acidic. Take appropriate precautions when handling.

Storage

Store RAKOLL®-Duplit AL and RAKOLL®-Duplit-Härter in tightly closed original containers protected from frost.

Technical stage of development: March 2002
The data in former leaflets which differ from this version are no longer valid.