

# KLEIBERIT 304.1

## Water resistant PVAC adhesive

**Two-component adhesive with colourless hardener for waterproof bonding according to DIN/EN 204, bond quality D 4**

### Fields of application

- production of window frames, doors, glued boards and similar elements made from hardwood, softwood and exotic timbers
- bonding laminate boards

### Types of gluing

- warm, cold and high frequency bonding of dovetail, tenon and similar board joints and wooden components of window frames

### Properties of the bond

- KLEIBERIT 304.1 with Hardener 304.3 meets the requirements of the DIN/EN 204, bond quality D 4. (test report no. 16-000922-PR02 / 21.04.2016)
- KLEIBERIT 304.1 with Hardener 304.3 tested according to EN 14257 (WATT 91) (test report no. 2615238 / 02.02.2016)
- high bond strength
- tough-elastic glue film minimises wear on application devices and ensures long tool life

### Properties of the glue

<b>Glue:</b>	PVAC dispersion
<b>Hardener:</b>	aluminium chloride solution
<b>Mixing ratio:</b>	304.1 + 5 ppw 304.3
<b>Density of mixture, 20° C:</b>	approx. 1.12 g/cm <sup>3</sup>
<b>pH value of mixture:</b>	approx. 5
<b>Colour of mixture:</b>	white
<b>Consistency of mixture:</b>	medium viscosity
<b>Viscosity at 20° C (on the day of production)</b>	
<b>Brookfield RVT Sp. 6/ 20 rpm:</b>	
304.1	16,000 mPa·s ± 3,000 mPa·s
304.1 + 5 ppw 304.3	approx. 10,000 mPa·s
<b>Chalk point of mixture:</b>	approx. +7° C

### Identification:

**304.1:** See our safety data sheet

**304.3:** See our safety data sheet

## Application methods

- manually using a brush, spatula or glue roller
- glue application machines
- apparatus for gluing tenons and dovetails

**Application tools and appliances must be manufactured from V2A steel or plastic material.**

## Processing:

**Mixing ratio for general bonding:**

304.1 + 5 ppw Hardener 304.3

**Mixing ratio for high frequency bonding:**

304.1 + 6 ppw Hardener 304.3

Both components are mixed together using a hand drill or stirring device fitted with a stirring paddle or dispersion disc

**Pot life at 20°C:** approx. 1 week  
Higher glue temperatures will shorten the pot life

**Application temperature:** 18-20°C  
do not process at temperatures below +10° C

The materials to be glued must be free of dust, oil and grease, and be acclimatised to the immediate surroundings

**Wood moisture for window frame production:** 10-15%

**Wood moisture for interior use:** 8-12%

**Application quantity:** 120-200 g/m<sup>2</sup>  
Generally, single-sided glue application is sufficient. When working with those types of wood which are more difficult to bond, application to both sides is recommended in order to improve the bonding strength

**Open time:** 5 - 10 min  
According to the amount used and the application conditions

## KLEIBERIT 304.1

**Press pressure:** 0.4 - 1.0 N/mm<sup>2</sup>

**Press times:**

Application	Temp.	Press time
joint bonding	20°C	from 20 min
joint bonding	50°C	from 8 min
surface bonding (HPL)	20°C	from 30 min
surface bonding (HPL)	50°C	from 6 min

**General Information:**

The press times shown above can vary according to differing room temperatures, air humidity and moisture of the wood, and also to the region of the world in which the trees were grown.

The bond will reach its final strength (to comply with DIN/EN 204) after 7 days storage at 20° C

Avoid allowing the glued material to come into contact with iron and other ferrous materials, this could cause discolouring.

Wood and wooden materials are natural products, therefore, in isolated cases discolouring can occur due to the region in which the trees were grown and the individual properties of the timber itself.

**Cleaning**

Application devices, machines and containers can be cleaned with water.

**Packaging**

**KLEIBERIT 304.1 Glue:**

plastic pail, 9.5 kg net  
 plastic pail, 26.0 kg net  
 one-way drum, 120 kg net  
 IBC plastic one-way container, 1,000 kg

**KLEIBERIT 304.3 Hardener:**

carton with 12 bottles at 1.30 kg net each  
 carton with 12 bottles at 0.5 kg net each  
 plastic canister, 25 kg net

Additional packaging sizes available upon request.

**Storage**

Both components can be stored in the original factory sealed containers for approx. 12 months at 5-25° C.

The glue should be transported and stored in frost-free conditions. To -30°C, it can be thawed again. Storage at temperatures above 25°C will alter the viscosity.

Version 30/09/2021 al; replaces previous versions

**Waste Disposal**

Disposal of contents and/or containers should comply with all applicable federal, state and local regulations.  
 Our containers are made of recyclable material.

**Service**

Our application department may be consulted at any time without obligation. The statements made herein are based on our experience gained to date. They are to be considered as information without obligation. Please test and establish for yourself the suitability of our products for your particular purposes. No liability exceeding the value of our product can be derived from the foregoing statements. This also applies to the technical consultancy service which is rendered free of charge and without obligation.