

## Technical Data Sheet

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# Hranicoll D4

**Characteristics** Hranicoll D4 is a 1-component ready to use water based adhesive with high water and heat resistance. Unfilled PVAc-based adhesive with crosslinkable groups. Polyvinylacetate (PVAc).

**Field of application** For parts which are exposed to the weather, however, with appropriate surface protection. Due to its high heat resistance particularly suitable e. g. for segmented profiles, window scantlings and window edges.

For the bonding of wood and wooden materials, bonding of joints in boards and block gluing of soft wood, hard wood (after preliminary tests) and surface bonding.

**Properties** Hranicoll D4 is a highly water resistant wood adhesive which corresponds to the durability class D4 according to DIN EN 204. Good heat resistance:  $\geq 7$  N/mm<sup>2</sup> according to DIN EN 14257 (WATT 91). Hranicoll D4 achieves a high final strength with short pressing time, especially with additional heat.

**Technical data**

Viscosity (on the day of manufacture)	approx. 6.000 mPa·s (Brookfield RVT, 20 °C, Sp. 6, 20 rpm.)
pH- value	approx. 3
Min. film forming temperature (MFFT)	+8 °C
Density	approx. 1,08 g/cm <sup>3</sup>
Open time at 150 g/m <sup>2</sup>	max. 8 - 12 min.

For good results we recommend the following working conditions:

Room-, material- and adhesive temperature	18 – 22 °C
Relative air humidity	60 – 70 %
Wood moisture (should correlate with the later wood moisture):	
Interior use approx.	8 – 10 %
Exterior use approx.	11 – 15 %
Coating weight: depending on application	80 – 150 g/m <sup>2</sup>
Press pressure for tensionless work pieces	0,1 – 1 N/mm <sup>2</sup>
Minimum pressing time:	
Lamination of window scantlings	20 – 25 min.
Assembly gluing	8 – 15 min.

**Instruction for use** *Modification Hardener:*  
Hranicoll D4 is a 1-component ready to use adhesive. It is not necessary to add any hardener (no pot life has to be considered!).

*Wood preparations:*  
Work pieces should be properly planed and free of dust and grease. Tolerances cause prolonged setting times and less mechanical strength.

Among others, the temperature, humidity and absorption of the materials, the coating weight and the tension within the material have different influence on the open time, the setting time and the pressing time. Heat accelerates the setting procedure and shortens the open time.

Hranicoll D4 is applied with the common application tools on one or both sides. The coating weight depends on the absorption and the surface conditions of the materials to be bonded. Do not apply below +12 °C (room and material temperature).

Within the open time the parts are to be joined and pressed.

The compatibility with other adhesives has to be checked before mixing.

The final water resistance is built up after approx. 7 days.

*Wood discoloration:*

Usually, Hranicoll D4 does not lead to wood discoloration. Because of the varied nature of wood components unpredictable discoloration may in some cases appear. E. g. iron together with the tannin in wood may cause discoloration. We recommend to do your own trials.

<b>Cleaning:</b>	Fresh and not yet dried adhesive can be removed with water immediately after use.
<b>Safety advice:</b>	Please consider the material safety data sheet of the product prior to handling.
<b>Storage:</b>	In original containers under suitable conditions Hranicoll D4 can be stored for 9 months. The material should be stored cool and free from frost. A storage temperature of above 25 °C minimizes considerably the storability of the product. The characteristics which are necessary for the products' allowance are checked by our quality control department during production and before delivery. Dependent on the storage temperature and the time the values can change and fall below or exceed the indicated limits. The viscosity of Hranicoll D4 may increase after a longer storage time. In this case we recommend to stir the product before use. However, this does not influence the adhesion properties of the product.
<b>Packaging:</b>	Bottle of 800 ml; 10 and 25 kg bucket
<b>Remarks:</b>	For further information concerning handling, transport and disposal, please refer to the Safety Data sheet. The information given in this leaflet represents neither a performance guarantee nor a guarantee of properties, nature, condition, state or quality. No liability may be derived from these indications nor from the recommendations made by our free technical advisory service. It is necessary to perform your own test.