

## Technical Information

### Wood & Specialty Adhesives

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## Hardener Prefere 5111

Fast curing, filled, liquid hardener for edge-lamination with Prefere 4110

### Use

Hardener Prefere 5111 is designed for edge-lamination (solid wood panels) of pine and spruce in both hot presses and RF presses. The hardener can be used with the thermosetting urea-formaldehyde resin Prefere 4110.

Hardener Prefere 5111 is formulated with a view to use in automatic metering/mixing equipment for mixing small batches of adhesive and hardener. If greater batches are mixed by hand, there is a risk that heat evolved will raise the temperature of the glue mix and reduce the pot life.

At pressing temperatures above 60°C, Prefere 4110 with Prefere 5111 requires shorter pressing times than PVAc adhesives. When using this thermosetting adhesive system, the small delaminations at the ends of the edge-laminated material typical for PVAc adhesives (due to stresses caused by shrinking and swelling), is avoided. Furthermore, use of Prefere 5111 gives flexible glue lines when compared to traditional hardeners for urea-formaldehyde resins. In effect, Prefere 4110 with Prefere 5111 combines the best properties of urea-formaldehyde and PVAc adhesive systems.

Solid wood panels produced with Prefere 4110 and Prefere 5111 are of E1-quality, and the bonds conform to the requirements for C3 quality to EN 12765/205.

### Technical data

Appearance	Yellow liquid
Viscosity at 25°C (sp 2, 100 rpm)	ca 500 mPa.s
pH at 20°C	2,7 – 2,8
Density at 25°C	ca 1.08 g/cm <sup>3</sup>

### Storage

Prefere 5111 may be stored for 6 months at 20°C in the original containers. It must not be allowed to freeze. NOTE: The hardener must not be stored in unlaquered tin containers due to the risk of rust formation and discoloration of the glue.

### Safety precautions

Reference is made to the Safety Data Sheet for hardener Prefere 5111.

When the adhesive and the hardener are mixed a chemical reaction will start. The pH of the mixture will be in between the value for the adhesive and the hardener. The free formaldehyde content for the adhesive will be reduced. The acid/salt concentration of the hardener will be diluted.

When handling the adhesive, hardener and the gluemix it is recommended that certain precautions normally taken when handling chemicals is observed. Skin contact with the uncured glue should be avoided, since people with particularly sensitive skin may be affected. It is recommended to wear protective gloves, likewise eye protection where there is a risk of splashes. Hands and forearms should be thoroughly washed with soap and warm water at the end of the working day.

Adequate ventilation of the workshops should be maintained.

*The suggestions given in these notes are based on data gained from experience and tests. However, since operating conditions in the user's plant is beyond our control, we cannot assume responsibility for any risks or liabilities, which may result from the use of our products.*

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