



Technical Data Sheet

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Hardener Prefere 5278

Liquid, formaldehyde binding hardener for use with Prefere 4152

Use

The hardener Prefere 5278 is a formaldehyde binding, filled liquid hardener. Prefere 5278 is recommended for veneering, Board on Frame (BoF) bonding and for production of curved plywood assemblies. Prefere 5278 gives relatively long assembly times and pot lives. Prefere 5278 is suitable for hot bonding operations and can also be used under radio frequency (RF) heating conditions.

Prefere 4152 with Prefere 5278 can give glue lines of durability class C3 according to EN12765/EN205 and MR quality according to BS1203. It is a prerequisite that the gluing is done at hot conditions and that the glue line is fully cured.

The hardener is formulated with a view to be used in automatic mixing equipment, preparing small batches of resin and hardener. It is not recommended to mix larger batches by hand, as the heat evolved will raise the temperature of the glue mix, thus reducing the pot life.



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Technical data

	Prefere 5278
Appearance	Greyish to white viscous liquid
Viscosity at 25°C, mPas	1500 – 5000
pH	4.0 – 4.5
Density at 25°C, g/cm ³	ca 1.21
Shelf life at 20°C	ca 3 months

Containers

Plastic drums and 1000 litre IBC containers.

Storage

Prefere 5278 may corrode metal. This must be taken into consideration when selecting materials for storage tanks, pipelines and valves.

Prefere 5278 may get very thick upon storage, but will regain its original consistency upon stirring.

Prefere 5278 must not be stored at temperatures below 10°C. It is recommended to store the hardener below 20°C. Higher storage temperatures may reduce the shelf life of the product.

Mixing ratio

The hardener is mixed with Prefere 4152 in the following ratios:

Prefere	kg	litre
4152	10	10
5278	2	2.2

It is warned against changing the hardener dosage, e.g. to obtain a longer pot life or shorter pressing time. The correct hardener dosage is important, for several reasons. If the glue mixture is not suitable, our Technical Department will be able to recommend an alternative.



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Pot life

The pot lives of the glue mixture made with Prefere 4152 and Prefere 5278, at different temperatures, are given in the table below.

Prefere	Pot life in hours at				
	10°C	15°C	20°C	25°C	30°C
5278	8	4	2	1	½

Pressing times

The pressing times of Prefere 4152 with Prefere 5278, at different temperatures, are given in the table below.

Prefere	Setting time in seconds at				
	70°C	80°C	90°C	100°C	110°C
5278	150	90	70	55	40

The pressing times (basic setting times) stated refer to glue line temperature only and allowance must be made for the heat to travel from the press platens. The heat penetration time will vary depending on press temperature, the heat capacity of the press, the heat transfer of the wood material and distance to the farthest glue line.

When veneering with veneer thicknesses below 1mm, the heat transfer at temperatures above 100°C can be calculated to be 1-2 seconds per 0.1mm veneer thickness. For other applications the table below can be used as a guide to the additional; time required for low and medium density timbers.

Press temperature	Additional time per mm distance to furthest glue line
70-80°C	2 minutes
90-100°C	1 minute

The pressing times apply when bonding soft wood. Denser and less absorbent materials, such as hardwoods and special particleboard grades (moisture resistant) require extended pressing times. On the other hand, the gluing of absorbent materials, such as low density woods, fibre board, particleboard etc. can be done with shorter pressing times.

Because so many local conditions affect the pressing times, it is recommended to establish the correct pressing times by running trials using the customer's own equipment.



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Safety precautions

Reference is made to the relevant Material Safety Data Sheets for Prefere 4152 and Prefere 5278.

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

When handling the adhesive, hardener and the glue mix it is recommended that certain precautions normally taken when handling chemicals are 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 and 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 a working day.

Adequate ventilation of the workshops should be maintained.



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Caution

TS Resins adhesives and hardeners are generally quite harmless to handle provided that certain precautions normally taken when handling chemicals are observed. The uncured materials must not, for instance, be allowed to come into contact with foodstuffs or food utensils, and measures should be taken to prevent the uncured materials from coming into contact with the skin, since people with particularly sensitive skin may be affected. The wearing of impervious rubber or plastic gloves will normally be necessary; likewise the use of eye protection. The skin should be thoroughly cleansed at the end of each working period by washing with soap and warm water. The use of solvents is to be avoided. Disposable paper – non cloth – towels should be used to dry the skin. Adequate ventilation of the working area is recommended. These precautions are described in greater detail in Material Safety Data sheets for the individual product. These are available on request and should be referred to for fuller information.

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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