



Technical Data Sheet

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Prefere 4152 with Separate-Application Liquid Hardeners

Liquid urea adhesive

Use

Prefere 4152 with separate application hardeners enable the rapid gluing of close-fitting joints, particularly where specialised heating equipment is not available. The hardeners are suitable for use with a variety of Prefere resins. This enables glues for close-fitting joints to be prepared with Prefere 4152, which the user may have obtained for a different purpose.

Technical data

	Prefere 4152
Appearance	Semi-opaque viscous liquid
Viscosity at 25°C (mPas)	1000 – 2200
SG at 25°C (g/cm³)	1.270 – 1.310
pH	8.0 – 9.0
Solids Content (%)	64.0 – 68.0

All resin-hardener systems given in this instruction sheet comply with BS 1204: Part 2 (Type INT) and with BSEN 12765 Class C2. These resins with hardener Prefere 5334 also meet the requirements of BS 1204: Part 2 (Type MR) and with BS EN 12765 Class C3.



Technical Data Sheet

Instructions For Use

Choice of hardeners

Hardener Prefere 5354 is used when no appreciable assembly time is involved and is particularly useful when gluing at low temperatures. Hardeners Prefere 5353 and 5334 provide a range of assembly and pressing times and, if required, may be allowed to dry out before the joint is made.

Preparation of Materials for Bonding

Surface Preparation

Ensure that the surfaces to be bonded are smooth, clean and free from dust or other deposits. Plywood veneers, lippings etc. should be of uniform thickness. To avoid wetting difficulties that may arise through case-hardening it is good practice to sand plywood before gluing even though it may appear to have been sanded at manufacture.

Moisture Content

For best results with Dynea resins, the moisture content of the surfaces to be bonded should be within the range 7-13%, but when pressing at temperatures above 105°C moisture content should not exceed 10%. Variation between the adjacent surfaces should not be greater than 3% moisture content.

Application

Spread the resin by means of a conventional glue-spreader, wooden rod or clean brush*, on one of the surfaces to be joined. Apply the hardener to the other surface, using a clean brush*, felt pad, sponge or similar iron-free applicator*. The surface should be just moistened – free-standing excess hardener should be avoided. Hardeners Prefere 5353 and 5334 may be allowed to dry out completely and provided that the surfaces are kept free from contamination, the hardener-coated components may be stored for some time before assembly. With Hardener Prefere 5354, the surface must be damp when the joint is made.

*See note on avoidance of iron contamination

Spread Rates

Using a mechanical spreader, resin spreads of 100-200 grams per square metre are obtainable, whereas with hand application, spreads of 150-300 grams per square metre are more usual. Hardener coverage is in the order of 50-75 grams per square metre.



Technical Data Sheet

Open/closed assembly time

Closed assembly time

After the surfaces have been brought together, full pressure should be applied as quickly as possible. This is essential when using Hardener Prefere 5354, although the other hardeners will tolerate some closed assembly within the limits given in table 1.

Pressing or clamping times

Cold and warm pressing times are given in table 2.

Notes

Contact between hardener and resin

Except where it is part of the prescribed gluing process, contact between hardener and resin must be carefully avoided. For example, if the applicator used to spread the hardener is dipped into the resin container, the resin immediately starts to thicken and set and becomes useless.

Avoidance of iron contamination

Care should be taken to avoid contact of resin or hardener with nails, etc., or with ferrous fitments (for example, on brushes or containers), since this can lead to staining on timber. Staining is caused by the formation – under acid conditions – of iron-tannin compounds (especially on woods with high tannin contents, such as oak or ash).

Accidental discoloration due, for example to squeeze-out of the adhesive against a G-clamp may be removed by wiping the affected area with an absorbent pad moistened with 10% citric acid solution.

Since citric acid may itself cause colour changes in certain types of wood, it is advisable first to test its effect on an off-cut.

Storage

Prefere 4152 and hardeners should be stored firmly sealed in their original container in a cool (5°C – 15°C) dry place. Shelf life under these conditions is at least 3 months for Prefere 4152 and considerably longer for the hardeners.



Technical Data Sheet

Table 1 - Closed assembly time

Times given in minutes

Hardener	Glue-line Temperature				
	10°C	15°C	20°C	25°C	30°C
Prefere 5353	25	12	6	4	3
Prefere 5334	120	60	40	20	12

Table 2 - Cold and warm pressing times

Hardener	Glue-line Temperature						
	10°C	15°C	20°C	25°C	30°C	35°C	40°C
Prefere 5354	10 m	8 m	4 m	3 m	2 m	1¼ m	1m
Prefere 5353	2 h	55 m	25 m	14 m	9 m	7 m	5 m
Prefere 5334	7 h	4¼ h	2¾ h	1½ h	¾ h	30 m	15 m

Note Pressing or clamping time quoted is the time required to give 1.33 kN dry shear strength on joints conforming to BS 1204 : part 2. If the glue line is liable to be strained immediately after removal of pressure, the above times should be increased. Prefere 4152 glues will continue to gain strength until after several days, full water-resistant properties are developed.

High density woods and panel products such as MDF and moisture resistant particleboard may require longer pressing times due to their higher heat capacity and slower rate of water absorption. All pressing times should be used as a guide and not taken as a specification.



Technical Data Sheet

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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