



Technical Data Sheet

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Prefere 4111M and Prefere 5313 for Paper Foil Bonding

Use

The above system can be used on thermo-laminating roll presses, using separate application of urea resins and liquid hardeners as the adhesive system. It is immaterial whether the resin is applied first, followed by the hardener, or the hardener followed by the resin.

In either case, the first component is applied to the substrate, usually chipboard or medium density fibreboard, and partially dried by passing under heaters, prior to the second component being applied. The paper foil is then continuously fed onto the substrate. The laminated product is then passed through a heated roll press to cure the adhesive almost instantly. This type of production gives extremely fast production rates, using foils down to 23 g/m², and achieves excellent surface quality, when compared to conventional laminating processes.

Advantages of the System

- Quality of adhesion
- Speed of cure
- Low glue spread rate
- Good washdown
- Low formaldehyde emission
- Cleanliness of the spreader rollers
- Excellent shelf life



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	Prefere 4152	Prefere 5313
Appearance	Semi-opaque viscous liquid	Clear amber liquid
Viscosity at 25°C (mPas)	2500 – 3500	35 – 65
SG at 25°C (g/cm³)	1.270 – 1.320	~1.140
pH	7.5 – 9.0	-
Solids Content (%)	67.0 – 71.0	-

As stated above, the resin can be applied to the substrate either before or after the hardener, with a short heating zone between the two application points.

Application

Spread Rates

The resin has excellent wetting out properties, achieving very low spread rates of 30 – 50g/m², depending on the type of paper foil being used. Thus providing a very cost effective system.

Shelf Life

The viscosity is very stable with age, with a shelf life at 20°C in excess of 3 months.

Dilutability

Prefere 4111M has a very good tolerance to water, which it retains throughout its shelf life. This improves its washing characteristics and general cleanliness.

The hardener Prefere 5313 is specifically designed for laminating paper foils onto panel substrates in continuous roller presses, and provides the necessary speed of cure to enable these presses to run at their optimum. The recommended hardener spread weight is 3 – 10g/m², ie approximately 10 – 16% of the resin spread.

This adhesive application system is designed to be 'self-cleaning', and prevents contamination on the spreader and laminating rollers.

Other hardeners are available. The hardener choice is dependent on the pressing equipment, and the required production speed.



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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. The information provided were believed to be accurate at the time of preparation, or obtained from sources believed to be generally reliable. However, TS Resins Ltd makes no warranty concerning their accuracy, and TS Resins Ltd will not be liable for claims relating to any party's use of or reliance on information or recommendations contained herein, regardless of whether it is claimed that the information or recommendations are inaccurate, incomplete or otherwise misleading. Further, TS Resins Ltd makes no warranty concerning any product, except that the product shall conform to contracted specifications.

PdW 05.2018