

Mokka Tips

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Create a unique tactile experience with Sappi's Touch Collection release papers

Sappi's Mokka texture is a fantastic Nubuck type grain that redefines the perception of what is possible with release paper. Attaining the desired visual and tactile properties requires a focused attention to detail and optimized manufacturing conditions. Mokka is a new class of release paper and will require a modified set of operating parameters and expectations. While by no means unattainable, this tip sheet highlights key process and chemical variables.

Selecting the Right Paper

Customers using single component PU adhesives, semi-PU and PVC constructions should select Ultracast® Universal Mokka release paper. Customers who are using cross-linked two-component PU adhesive materials should select Ultracast ADVA Mokka release paper for their application.

Pinholes/Wetting

The micro structure of the Mokka texture can exaggerate pinholes and wetting defects in the first skin. The most obvious visual indication of pinholes or skin coating defects is the presence of small glossy points that sparkle in an otherwise matte surface. These defects are most easily seen under bright direct lighting.

To minimize entrapped air and pinholes we recommend the following:

- Use Trough or reservoir system (Counter knife) for applying PU
- Use a very low viscosity preskin (<800 cps).
- Low volatile solvent (DMF) should be the dominant solvent in the skin formulation, check for water content in solvent and minimize if present.
- De-aerate materials prior to use.
- Reduce temperature ramp rate in first oven to prevent premature film formation.
- Apply heat primarily from back side of the web in the first oven.
- Wetting agents in first coating if needed.
- Reduce coating speed.

- Employ backing dams in coating heads. **Figure 1**
- **Without a back dam, the pond of liquid plastic is constantly rolling, falling over onto the running release web, trapping air as it falls.** With a back dam, this rolling motion is eliminated and the chances of trapping air are greatly diminished. The higher the pond is kept, the more pressure is exerted at the interface with the paper and the less air will slip under the back dam.
- Tilt the knife towards the backing dam to increase hydrodynamic pressure. **Figure 1**

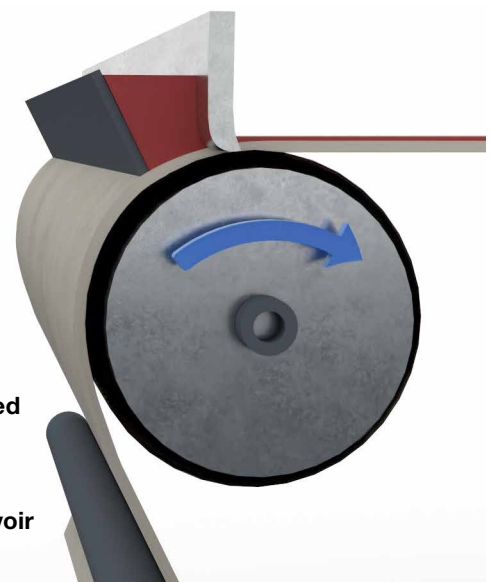


Figure 1:
Recommended coating head configuration featuring trough/reservoir

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Release

Release is directly related to surface area of the release paper, chemical interactions between the cast film and the release paper and the speed at which the cast film is removed from the release paper. The Mokka texture has a very high surface area which is the unique nature of the Mokka engraving that creates this fantastic nubuck feel and effect. This fundamentally increases the release force compared to simple shallow textures.

When using ADVA release paper, minimizing chemical interaction towards the release paper is critical, especially when using reactive two component (NCO or melamine cross-linked) PU adhesives.

- Eliminate pinholes as they negate the barrier properties of the skin.
- Apply the adhesive with a margin of 1.5cm narrower than the skin.
- Reduce residual solvent levels post substrate lamination prior to off machine aging to reduce skin resolution.

The modulus (stiffness) of the PU or PVC coatings will influence the apparent release force. Softer urethanes and higher plasticizer content PVC's will result in harder release. Sometimes this is unavoidable to meet targeted design properties but it is important to realize the softness of the cast material is a component in the release equation.

There are some basic rules regarding stripping station configuration that apply to all release papers but the nature of the Mokka texture magnifies the need to adhere to the following recommendations: **Figure 2**

- Always strip the product from the paper – not the paper from the product.
- The forces generated at the point of strip are directly proportional to the stripping speed; therefore when stripping offline a proper paper stripping machine is recommended.
- The coated fabric should be cooled to room temperature prior to stripping.

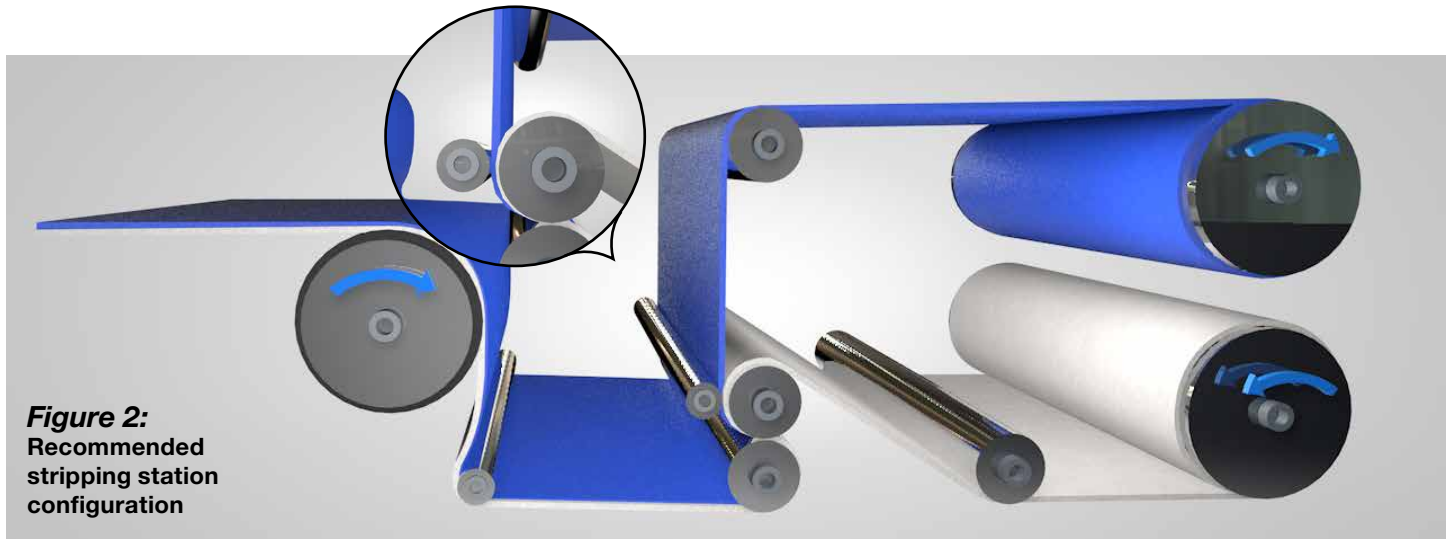


Figure 2:
Recommended
stripping station
configuration

Optimum Color and Reuse

Attention should be paid to previous colors runs to eliminate damaged or soiled paper being used.

The use of Aniline dyes is not recommended, as they have a tendency to migrate and transfer to the paper surface.

Recommended Formulation

We have successfully produced multiple coated fabric manufacturing runs using the Mokka release paper, examples of which can be seen in our Trend Books. The formulation we used for these productions runs is as follows:

Sample Mokka Formula

1st Head – KORR 30/40 GPSM Wet

<u>Materials</u>	<u>Parts</u>
Low Modulus PU	100.00
Solvent to Dilute	15.00
Black Pigment	12.00
Silicone	02.00

2nd Head – KOR 120 GPSM Wet

<u>Materials</u>	<u>Parts</u>
OCS Type Adhesive	100.00
Solvent to Dilute	20.00
Pigment	15.00

Laminated to Semi Dry Coag Base with heat and pressure

Cured at 150° C for 2 minutes

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