

Maqua® Pad MAP

Handling instructions for water-based pad printing with Maqua® Pad MAP

Pad
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A **water-based** pad printing ink for sensitive applications – Maqua® Pad MAP is the world's first ink system of this kind. From the standpoint of handling and processing, a changeover to **water-based** pad printing, therefore, needs to be carefully prepared. This Tech Info is meant as a guide to mastering these methods.

The following points must be taken into account for a satisfying result:

1. Ambient Conditions

Temperature and humidity are the most important parameters for the successful printing of a water-based pad printing ink:

Room temperature must be kept at **20–25 °C**.

Air humidity: Values between **40–55 % r. h.** (relative humidity) are ideal for best results. The humidity in the environment of the printing machine should never fall below 40 % r. h. and should be regulated by means of a humidification system, if necessary. Extremely high humidity, on the other hand, can slow ink drying.

2. Printing Machines

Maqua® Pad MAP is suited for printing machines with a closed ink cup system. It is particularly important to ensure **well lapped doctor rings**, otherwise the ink on the cliché may start to leak and build up.

In the case of multicolour prints, sufficient **intermediate drying** is essential. To enhance a

clean transfer of the following colour, blowing the print surface with air is recommended.

3. Clichés

We recommend the use of photopolymer clichés. Clichés made of ceramics, thin steel, or hardened steel may be used as well (steel > 53 Rockwell).

When using thin steel and full steel clichés, a **spring steel quality** is essential to **avoid rusting**. If a poorer steel quality is used, rusting can be prevented by adding **Anti-Rust Additive AR**. All clichés must be cleaned immediately after use and preferably greased for storage.

In general, it is important to ensure **100 % flatness** of the clichés and – especially with photopolymer and thin steel clichés – of the base plates.

Recommended **cliché depth**:

Photopolymer 35 µm (120 L/cm) / Steel 20–24 µm

4. Pads

The printing pads used should be **super dry** (= lowest possible silicone content).

The hardness of the pads must be at least **8 Shore A**.

5. Auxiliaries

As with solvent-based ink systems, **ink adjustment** can be necessary during longer print runs. It may also be required in the event of slight deviations in air humidity or increased temperatures and is achieved with **Retarder WV 1** (maximum 5 % addition). If the ink's viscosity needs to be adjusted, distilled water can be added (maximum 2–3 %).

Rusting of low-quality steel clichés can be avoided by adding 5–10 % **Anti-Rust Additive AR**.

In the event of any queries, please contact:

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