

INKLAND

Waterbased Coatings – Storage and Usage Recommendations

In order to preserve our range of waterbased coatings and to get the best out of them, to help ensure they are at optimum conditions ready for press use the following guidelines on storage and transport should be followed where possible:

Storage

- Protect against frost – avoid conditions below 5°C and store on pallet racking away from cold floors.
- Store in original packaging ideally between 5-30°C.
- Higher temperature storage can cause premature evaporation of water content leading to an increase in viscosity.
- If possible store coatings for minimum of 24hours at pressroom conditions to “acclimatize” the coatings to press temperatures.

Shelf life for the majority of coatings is 12 months from date of manufacture – however, please check technical datasheet for each product for confirmation as this can vary depending on the product in exceptional cases.

Frozen coatings

Storage below 5°C can result in the freezing of some or all of a waterbased coating in its drum. Should this happen it is important to move the affected drums to a warmer area and they should be allowed to slowly thaw out over time – DO NOT FORCE HEAT – as this can cause over-evaporation of the water content and change the viscosity profile of the coatings. It is highly important to stir the coating well after it has thawed to ensure all constituents are evenly distributed as some materials are more affected by frost than others. Always test the first few sheets when running a previous frozen coating, to ensure they meet their typical standards required.

Viscosity changes

When waterbased coatings are stored for several months without being used, they can occasionally appear to thicken within the drum. This is exacerbated by storing in extreme warm or cold temperatures, but can also occur rarely during ideal storage conditions. If this appears the case – ensure the coating has been stirred well and not contaminated with anything and check viscosity. If it still measures high in viscosity, then it is possible to dilute with water (1-3% recommended depending on reading) – adding 1% water will reduce the viscosity by approx. 5seconds in viscosity (Din4@25C), for the majority of coatings with a standard viscosity of 30-60seconds. This will in no way affect the properties of the coating as long as clean equipment is used to mix the water and the water is a natural source without pressroom chemical contaminants in.

Transport

In terms of transport then the same rules apply as for typical pressroom storage – avoid excesses of heat and cold. For winter months in certain countries it may be required to select shipping with special heated vehicles to guard against cold. For exceptionally warm countries then air conditioned transport may be a consideration, however, both add to the costs of typical shipping. Therefore it is highly important to follow these storage and recommendation guidelines should the coatings be exposed to extremes beyond our recommendations.

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Recommendations for Use

- **STIR WELL BEFORE USE** – always stir coatings before use to ensure consistency throughout the drum. Many pipeline coating systems re-circulate the coating during use which helps with the continual mixing theory. Some companies offer mechanical automatic stirring devices are used, however, a simply drill with plaster mixing attachment is more than adequate to quickly and efficiently stir most coatings into a homogenous solution. If not available then even shaking before use is better than nothing.
- Once opened use the coating as soon as possible. If for any reason a drum is part used then replace lids tightly avoiding contamination of other pressroom chemicals and to protect against evaporation.
- Check Coating pipelines and anilox are cleaned regularly and when starting afresh ensure no contaminants are in the coating system that could affect printing conditions.
- Inks should ideally be wax-free and alkaline resistant for best results. Test ink suitability prior to production runs and that inks are suitable for use with waterbased coatings.
- Maintain stack temperature between 27-36°C for best results to avoid re-wetting the coating and or insufficient drying of the sheets.
- Ensure return pipes are positioned correctly to avoid unnecessary aeration of the coating prior to use. Down the side of the barrel and slightly beneath the coating surface is ideal – also check no holes are evident in the pipeline.
- As a measure of best practice and if possible avoid coating glue folds as a greater bond can usually be achieved over unprinted paper/board.
- For Gluing/Foiling/Laminating/UV Varnishing best results are a combination of many factors so always test initial acceptance for any given job and allow the prints to completely dry before conducting these – minimum 24hours later.
- Avoid polluting the coating with washing fluids or other coatings. Flush coating system with water and cleaning agents when changing from one coating to another.

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Recommended Anilox Roller Sizes

The recommended anilox cell size determines the amount of coating being transferred to the printed sheet and can have a significant influence on the results in terms of drying, rub and scuff resistance, slipperiness, gloss and overall protection to the design, therefore the correct choice of anilox is an important factor to consider when applying waterbased coating. Many presses already have their own standard anilox size fitted which may not be as we suggest below, however, these are meant for guidelines and to be used as best practice to get best results, and it is important that the customer/printer understands this is not a strict recommendation and other sizes can still work well.

Product type	Hexagonal Anilox Cell volume	Tri-helical Cell Volume
High Gloss Coatings	15-20cm ³ /m ²	13-18cm ³ /m ²
Gloss/Matt WB coatings including non porous boards	9-15cm ³ /m ²	11-13cm ³ /m ²
Blister pack/ Barrier/Calendar coatings	13-22cm ³ /m ²	11-20cm ³ /m ²
Inline/Offline primers and anti slip coatings	13-16cm ³ /m ²	11-14cm ³ /m ²
Drip Off coatings	9-11cm ³ /m ²	8-10cm ³ /m ²
Pearlescents	13-20cm ³ /m ²	11-18cm ³ /m ²

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