

**Permaset Aqua**  
Screen Printing Inks

# Technical Data Sheet

*Permaset  
Aqua*



## **PERMASET PRINT RETARDER**

**PERMASET PRINT RETARDER** is designed to slow the drying of Permaset and other printing products. This has benefit of retarding the drying of Permaset ink in the screen, thus increasing open time and reducing drying in or clogging of the screen. Addition of PERMASET PRINT RETARDER also improves screen release, both ink through the screen and screen from the print.

### **ADDITION LEVELS**

PERMASET PRINT RETARDER is normally\* added from 1-3% (10-30mL/L) of the total volume of ink. The exact amount of RETARDER required for any print job in any print shop should be determined by testing at an individual shop level, due to varying temperature, humidity and other local conditions. Generally, high temperature, low humidity and high airflow in the printing environment increase the tendency to dry in and thus the application benefits for higher additions of PERMASET PRINT RETARDER.

### **BENEFITS**

PERMASET PRINT RETARDER slows drying of the ink in the screen, allowing a longer open time and saving screens from clogging. PERMASET PRINT RETARDER also allows a slightly easier release of the screen from the print during the printing process.

### **\*USAGE INSTRUCTIONS:**

As a general guide, add RETARDER at 1-3% in Permaset Aqua and Permatone, 2-5% in SuperCover and 1-2% for PermaPrint Premium. **Stir in thoroughly.**

Alternatively, PERMASET PRINT RETARDER can be diluted from 50-90% with water in a spray bottle and sprayed over the ink film on the screen between prints.

A highly recommended additional option is to spray the diluted mixture over the screen say 10 minutes before use, but definitely after registering the screen and taping off all crop/registration marks. Allow to soak in for 5-10 minutes. Then, with a lint-free rag, wipe over all dry areas of emulsion, top and bottom and wipe excess mixture off the screen. When the screen/image area no longer feels damp, add ink into the screen and commence printing.

### **DRYING and CURING**

As the addition of PERMASET PRINT RETARDER slows down the drying times in the screen, it is also likely to slow drying either when air-drying or when placing wet prints into oven or tunnel dryers. In these instances it may be necessary to increase the time/temperature cycle to ensure that the print is dried and cured thoroughly.

The extra time required to dry the print will depend upon the amount of RETARDER added to the ink as well as local factors such as heating capacity, air movement, humidity and moisture content in the base fabric. Usually, adding 10-20% extra drying time will suffice in drying the wet print. Once thoroughly dry, prints should need no extra time for curing the print. However, they will require extra time to become touch-dry.

Incomplete removal of PERMASET PRINT RETARDER from the printed ink during the drying process can:

- 1) with textile products, compromise early wash resistance and
- 2) in paper or other flat stock products, increase the tendency to block.

Thus it is imperative that prints be thoroughly dried and cured, before washing in the case of textiles or stacking and/or rolling in the case of paper stock. With textiles, it is strongly recommended that test samples be washed to assess effectiveness of the drying and curing regime employed.

### **IMPORTANT**

Prior to attempting any print run, it is strongly recommended that one or more test pieces are run through the dry and/or cure cycle to test for adhesion, wash, dry-clean and rub resistance in the case of textile prints and for wash and block resistance in the case of paper prints.

### **SIDE EFFECTS**

Addition of PERMASET RETARDER will reduce viscosity of the inks to which it is added. It is important to allow for this whilst printing and back off squeegee pressure. Excessive squeegee pressure at lower viscosity can cause the ink to strike through the fabric, rather than remaining on the surface. Unintended consequences of this can be stiffer handle of the finished print and diminished apparent opacity.

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NOTE: PERMASET Products are manufactured and laboratory tested under strictly controlled conditions. While the above information is offered in good faith and is believed to be reliable, it should not be construed as a specification. Prospective users must conduct tests in order to satisfy themselves that a particular product is suitable for their specific application and/or conditions. As Colormaker Industries cannot control the conditions under which products may be used, the products are sold without warranty, either expressed or implied, and liability is therefore limited to replacement of product only, if proven faulty.



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