

Permaset®



PERMASET® PRINT RETARDER

PERMASET® Print Retarder is designed to slow the drying of **PERMASET®** inks 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% (10-30 mL/L) of the total volume of ink. The exact amount of **PERMASET® Print 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 **PERMASET Print Retarder** at 1-2% in **PERMASET AQUA®** and **PERMATONE®** inks, 2-5% in **PERMASET SUPERCOVER®** inks and 1-2% for **PERMAPRINT® Premium** inks. 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 around 10 minutes before use, but definitely after registering the screen and taping off all crop and 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 drying 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.

Permaset®



The extra time required to dry the print will depend upon the amount of **PERMASET® Print 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.

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® Print 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.

STORAGE & HANDLING

Containers should be kept in a cool dark place out of direct sunlight and away from sources of heat. Containers should be tightly closed when not in use. Keep out of reach of children.

NOTE: The information and recommendations contained in this Technical Data Sheet, as well as technical advice otherwise given by representatives of our business, whether verbally or in writing, are based on our present knowledge and believed to be accurate. However, no guarantee regarding their accuracy is given as we cannot cover or anticipate every possible application of our products and because manufacturing methods, printing stocks and other materials vary. For the same reason, our products are sold without warranty and on condition that users conduct their own tests to satisfy themselves that they will fully meet their particular requirements. Our policy of continuous product improvement might make some of the information contained in this Technical Data Sheet out of date and users are requested to ensure that they follow current recommendations.

PERMASET, PERMASET AQUA, PERMASET SUPERCOVER, PERMATONE and PERMAPRINT are registered trade marks.