



AQUACLAVE

PROCESS INDICATOR INK

(Prefix ACW)

DESCRIPTION

This is a water based indicator ink which will give a permanent colour change after steam sterilisation by autoclave. The ink is supplied as a two-pot system to extend the shelf life.

TYPICAL PROPERTIES

Formulated to be lightfast to B.W.S. 6 before sterilising.
 Lightfast to B.W.S. 8 after sterilising.
 Contains no lead compounds.
 Suitable for 121°C 16 minute autoclave sterilisation cycles.
 There is little or no change in colour with dry heat cycles.

SUBSTRATES

The Aquaclave ink has been formulated primarily for paper and board materials.

REDUCERS

Water.
 If the ink dries too quickly then retarders can be provided.
 NB: Care should be taken in the use of retarders as they may lead to set-off in the reel and reduced water resistance.

COLOURS

Aquaclave indicator ink can be supplied as blue, green and **pink**.
 After processing through a steriliser cycle there is a permanent colour change to dark brown.
 Note:
 Supplied as a two-pot system.
 Once product is blended the ink will gradually darken over a 3-week period.
 The product is supplied as a part A and part B blended 2 parts A to 1 part B.

QUALITY ASSURANCE

Products with the prefix and product name specified above are Quality Controlled to Mirage Inks Test Specification No26 as described in the test manual. Details of all tests are available on request from our technical department.

*When printed product is stored wet and above room temperature, (25°C), the printed product is unstable and undergoes a colour change (pink to brown). This occurs within a week at 40°C. Following these results the stability of printed product under tropical conditions cannot be guaranteed.

*Aquaclave inks are not tested to ISO11140-1 'standards for class 1 process indicators'.
 Therefore before use, it is a requirement of Mirage Inks Limited that a disclaimer is signed & returned.
 The user of the Aquaclave product then takes full responsibility for ensuring that the inks are 'fit for purpose' & for the end use.*

Mirage Inks Ltd liability and responsibility for these inks passes to the customer at point of delivery.

The information given above is supplied as a guide only with the properties achieved under laboratory conditions. Mirage Inks Limited strongly recommend that you satisfy yourself as to the suitability of the product with trials. Please consult our laboratory to discuss any different requirement. As particular conditions of use and variations in quality of materials and substrates being used are outside our control, & therefore it is not possible to guarantee the performance of our products.

Products supplied under this ink name / prefix, are best used within a four month period from the date of manufacture (as specified on the product label). In-line with Mirage Inks Ltd ISO 9001 procedures, retained batch samples for any product supplied under this ink name / prefix, are retained & stored at room temperature for a period of four months from the date of manufacture.

Should the product be used outside of this four month period, Mirage Inks Ltd. have no reference sample for comparative & test purposes, so cannot investigate or be held responsible for any print related problems.

Setting Up

Viscosity

The viscosity of the ink will dictate the strength of the final print. Ideally the ink should be printed 'neat' with no reduction as this will give the maximum colour density.

However, reduction may be required, due to the printing process, or design. If this is the case use the minimum amount of water necessary. Care must be taken as small additions of water can result in a significant reduction in viscosity.

At the start of the print run, an operating viscosity should be established with a 'viscosity flow cup'. The viscosity should then be monitored every hour and additions of water made to correct to this viscosity.

pH

There should be no need to take a pH measurement at the start of the run. Measurements should be made every 2-3 hours on longer runs especially where the coverage area is low and the print unit is not being replenished with fresh ink. See below for addition recommendations.

Additives available

Stabiliser (ref. AX319)

This additive is used to raise the pH of the ink, which will drop naturally over time due to evaporation. For optimum performance, the ink should be maintained at a pH of 8.5 to 9.5.

As a guide, an addition of 100ml AX319 every 2 hours to a bucket of ink is appropriate. However, as pH fluctuation can be affected by factors other than time (e.g. rate of ink usage) it is advisable to measure pH using a pH meter before making additions.

Effect of over addition: The ink will become very slow drying and take much longer to achieve water resistance. The odour of the ink will become very strong.

Defoamer (ref. AX338)

Only use this additive when all other possible explanations for foaming have been eliminated.

Effect of over addition: The effectiveness of the defoamer will be reduced and the drying speed and water resistance of the ink may be affected. Print quality may be affected with the presence of 'pinholes'.

Retarder (ref. MS195)

When the ink is drying too fast the retarder can be added to reduce its drying speed. A maximum of 2% retarder should be added at a time to a maximum of 5%. Care should always be taken when using retarder to ensure the ink is fully dry after printing and that the required properties have been achieved.

Effect of over addition: Drying speed will be reduced and the print may never gain full resistance properties.