GNA-
LABORATORY
TEST METHODS

GNA004

SAMPLE ON TEXTILE PREPARATION FOR GNA CHEMICAL TESTING

AIM OF THE TEST:

To produce samples of the inks, pigments and auxiliaries for external laboratory testing in accordance with the GNA Standard. The samples need to be prepared in accordance with Bureau Veritas requirements as well as GNA. Please note that these requirements are frequently adjusted - before carrying out the work please confirm the method with GNA via the website and Bureau Veritas.

EQUIPMENT:

- Manual printing press (e.g. M&R SIDEWINDER™)
- Quartz Flash Cure Unit (e.g. M&R RED CHILI model D™)
- Dryer (e.g. M&R SPRINT® 2000 SERIES Screen Printing Conveyor Dryer)
- Woven fabric 100% cotton

PROCEDURE:

Please note: It is best to request fresh samples of the required product or use the most recent retain. **Wear clean gloves while performing the work to avoid contamination.**

A.
READY TO USE INKS:
INCLUDES:
BASES
BINDERS
SPECIAL EFFECTS
PROCESS COLOURS

1. Replace the paper on the printing pallet you will use (do not apply any glue), alternatively cover pallet with a clean woven fabric. This needs to be done to eliminate possibility of fabric contamination from the pallet.
2. Attach the woven fabric to the clean pallet/fabric covered pallet using masking tape.
3. Mask the screen with print area of 20 cm x 20 cm (7.87 in x 7.87 in).
4. Print using the advised printing conditions from the product's TDS.

   Example of the printing conditions:

FABRIC:	White woven 100% cotton
SCREEN:	43T
PRINTING CONDITIONS:	2 strokes / flash / 2 strokes
FLASH CONDITIONS:	4 seconds at 100°C
CURING:	at 165°C (330°C F) for 2.5 minutes

5. When placing the print in the dryer, place the print on top of clean woven fabric to avoid contamination from the dryer.
6. Wrap the printed fabric in aluminium foil. Label with the product name (same exact name as on the product's label) and the batch number.

   For special effects products, do not apply any foil, glitter or flock.
   It is the ink alone that needs testing. If in doubt, contact GNA via the website.

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B. PIGMENTS:

1. Add 5% of the pigment into a suitable base (e.g. MagnaPrint® Aquaflex V2 Neutral where it is known the base will comply with GNA requirements). Please note that the required pigment concentration might vary - confirm concentrations with the latest Laboratory Test Method from the GNA website.
   Note: it is acceptable to carry out a single test for a pigment range by incorporating multiple pigments into the sample to be tested as long as the following criteria are met:
   - The base used for the test passes a separate GNA test at 100%
   - Each pigment under test is present in the sample under test at the maximum loading level – currently 5%, and that formula is stable and suitable for sample preparation for the GNA testing.
   - Only pigments of the same type can be incorporated into the single test sample, for example, the following groups:
     - Standard colours
     - Fluorescents
     - Metallics
     - Glitters
   - It is accepted that if the sample fails, it means all pigments under test have failed, and need to be retested and pass before they can obtain GNA accreditation.
2. Replace the paper on the printing pallet you will use (do not apply any glue), alternatively cover pallet with a clean woven fabric. This needs to be done to eliminate possibility of fabric contamination from the pallet.
3. Attach the woven fabric to the clean pallet/fabric covered pallet using masking tape.
4. Mask the screen with print area of 20cm x 20 cm (7.87 in x 7.87 in).
5. Print using the advised printing conditions from the product's TDS.
   Example of the printing conditions:

   FABRIC: White woven 100% cotton
   SCREEN: 43T
   PRINTING CONDITIONS: 2 strokes / flash / 2 strokes
   FLASH CONDITIONS: **4 seconds at 100°C**
   CURING: at 165°C (330°C F) for 2.5 minutes
6. When placing the print in the dryer, place the print on top of clean woven fabric to avoid contamination from the dryer.
7. Wrap the printed fabric in aluminium foil. Label with the product name (same exact name as on the product's label) and the batch number.

C. ADDITIVES/ AUXILIARIES:

1. Addition levels for this group of products vary depending on the application. We recommend adding maximum possible concentration into a suitable base (e.g. MagnaPrint® Aquaflex V2 Neutral) where it is known the base will comply with GNA requirements. Maximum possible concentration will be the upper addition level on Technical Data Sheet for the product.
2. Replace the paper on the printing pallet you will use (do not apply any glue), alternatively cover pallet with a clean woven fabric. This needs to be done to eliminate possibility of fabric contamination from the pallet.

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CONTINUED:

C. ADDITIVES/ AUXILIARIES:

3. Attach the woven fabric to the clean pallet/fabric covered pallet using masking tape.
4. Mask the screen with print area of 20cm x 20 cm (7.87 in x 7.87 in).
5. Print using the advised printing conditions from the product's TDS.
   Example of the printing conditions:

FABRIC:	White woven 100% cotton
SCREEN:	43T
PRINTING CONDITIONS:	2 strokes / flash / 2 strokes
FLASH CONDITIONS:	4 seconds at 100°C
CURING:	at 165°C (330°C F) for 2.5 minutes

6. When placing the print in the dryer, place the print on top of clean woven fabric to avoid contamination from the dryer.
7. Wrap the printed fabric in aluminium foil. Label with the product name (same exact name as on the product's label) and the batch number.

D. **Blank preparation**

1. For testing on textile BV requires blank for their zero reading. Use the same exact fabric used for sample preparation and cut at least 40 cm x 40 cm (15.74 in x 15.74 in)
2. Cure the blank fabric at 165oC for 2.5 minutes. When placing the fabric in the dryer, place the print on top of clean woven fabric to avoid contamination from the dryer.
3. Wrap the blank fabric in aluminium foil and label "Blank fabric cured at 165°C for 2.5 minutes".

Please note: If possible cure all the printed samples at the same temperature for the same amount of time. Sample of blank fabric needs to be cured to the same conditions as your printed sample. If it is necessary to use varying curing conditions, you need to prepare blank sample for each of the curing times & temperatures. Group your products by curing times & temperatures into separate plastic wallets and place the correct blank sample into each wallet.