

# GNA - LABORATORY TEST METHODS



## GNA001

### SAMPLE 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:

- Greaseproof paper
- Tin foil
- K-bar (ideally 10mm in diameter)
- Dryer (e.g. M&R SPRINT® 2000 SERIES Screen Printing Conveyor Dryer)

#### PROCEDURE:

**Please note:** Do not use the products kept in the lab for Quality Control as these might be contaminated. 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:

1. Place small amount of the product onto a greaseproof paper and draw down using K-bar. The coat cannot be too thick as it will require longer curing time to dry.
2. Place the greaseproof paper in a suitable lab dryer set to cure at 165°C for 3 minutes.
3. Peel the product off the greaseproof paper and collect at least 20 grams. It might be necessary to repeat steps 1-3 in order to collect enough.
4. Wrap the peel-off in aluminium foil. Label with the product name (same exact name as on the product's label) and the batch number.

#### 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:
    - o Standard colours
    - o Fluorescents
    - o Metallics
    - o 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. Place small amount of the product onto a greaseproof paper and draw down using K-bar. The coat cannot be too thick as it will require longer curing time to dry.
  3. Place the greaseproof paper in a suitable lab dryer set to cure at 165°C for 3 minutes.
  4. Peel the product off the greaseproof paper and collect at least 20 grams. It might be necessary to repeat steps 1-4 in order to collect enough.
  5. Wrap the peel-off in aluminium foil. Label with the product name (same exact name as on the product's label) and the batch number.

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#### CONTINUED:

#### C. BINDERS/ 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. Place small amount of the product onto a greaseproof paper and draw down using K-bar. The coat cannot be too thick as it will require longer curing time to dry.
3. Place the greaseproof paper in a suitable lab dryer set to cure at 165°C for 3 minutes.
4. Peel the product off the greaseproof paper and collect at least 20 grams. It might be necessary to repeat steps 1-4 in order to collect enough.
5. Wrap the peel-off in aluminium foil. Label with the product name (same exact name as on the product's label), the batch number and the addition level in %.

