



OPERATOR'S GUIDE

YELLOWING TEST KIT
Model 285

James H. Heal & Co. Ltd.
Halifax, England.



THE QUEEN'S AWARDS
FOR ENTERPRISE:
INTERNATIONAL TRADE
2012

Publication 290-285\$F

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Setting the Standard

Published by: -

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INTRODUCTION

The yellowing test is a simple, and relatively low cost, predictive test to assess the potential of white or pastel-coloured yarns, fabrics or garments to yellow in transit or in storage.

The test is specific to phenolic yellowing, that is the discolouration of textiles caused by the action of oxides of nitrogen on yellowable phenols.

It is not intended to deal with the many other causes of discolouration, e.g., the migration or fading of optical brightening agents, gas fume fading, the oxidation of fabric lubricants, etc.

However, the Yellowing Test Kit has proved to be an effective means of controlling the quality of white and pastel-coloured goods and has considerably reduced the incidence of yellowing complaints.

BACKGROUND

The phenolic yellowing test was developed by Courtaulds Research - a division of Courtaulds plc - for investigating complaints arising from storage yellowing.

The test is now widely used and is recommended by a number of major retailers including Tesco, Marks and Spencer and Adidas.

The test is of a predictive nature and has been found to be effective in reducing the incidence of yellowing in storage, but no guarantees are offered. No liability is accepted, therefore, for consequential loss, including third party claims, howsoever arising.

Although there is no evidence of any dermatological reaction, the test papers should be handled with care and normal laboratory precautions should be taken.

The right is reserved to alter the specification or modify the appearance without notice.

INSTALLATION

UNPACKING - Check all packaging and contents from the case.

Do not dispose of any packaging material until all items are accounted for. Report any discrepancies to your local agent or distributor.

IDENTIFICATION OF PARTS

The following is a list of items supplied with the **Recommended Initial Starting Kit**.

However, the items received may well vary according to the requirements of each customer.

- Check the items against the original order.
- Please notify the supplier immediately in the event of discrepancies.

Recommended Initial Starting Kit

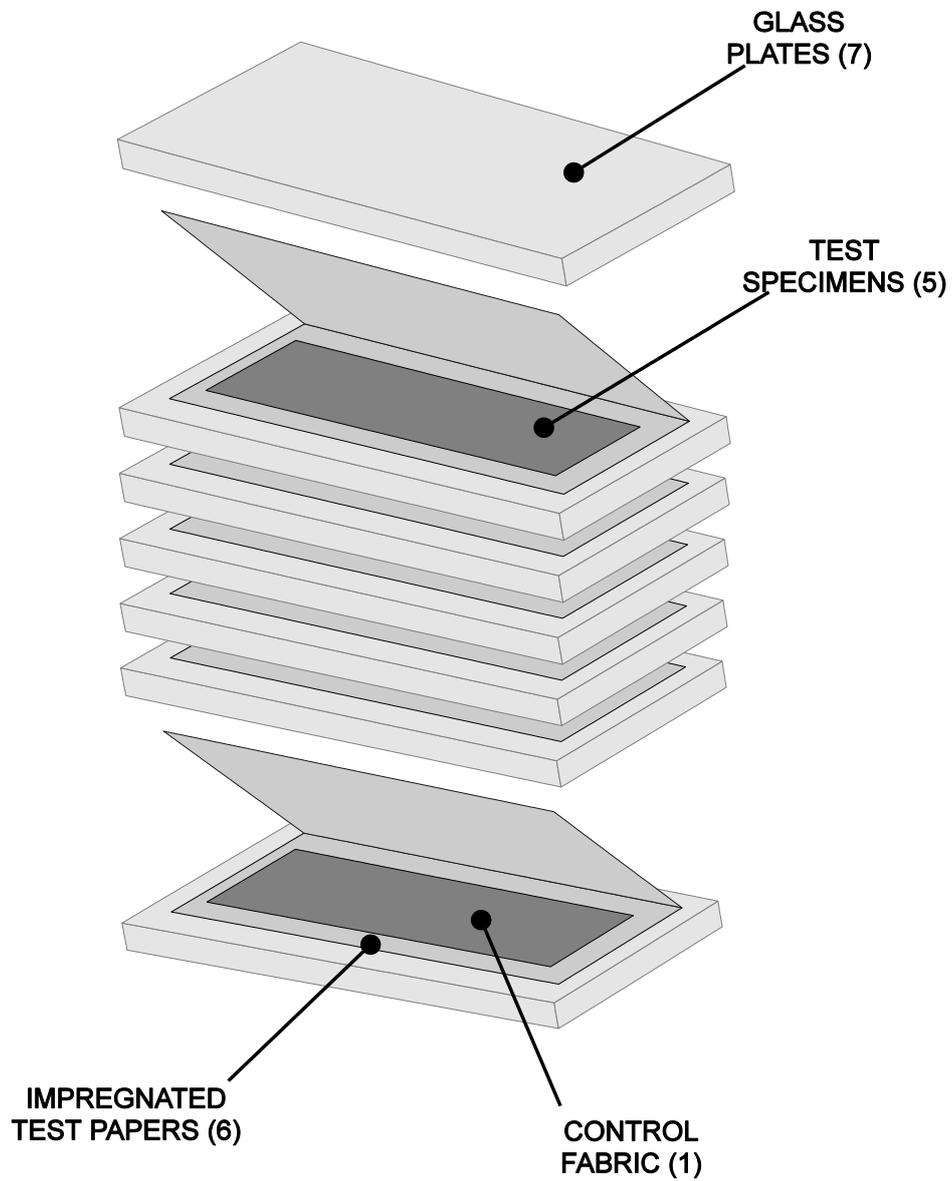
- 1 x Perspirometer 290/1 750-601
- 1 x ISO Weight 750-602
- 1 x Incubator/Oven 730-420
- 3 x Packs (10) Glass Plates 716-813
- 1 x Grey Scale for Assessing Staining 766-201
- (ISO 105 A03)
- 2 x Packs (150) Test Papers* 706-708
- 2 x Packs (25) Control Fabrics* 706-709
- 2 x Boxes (100) BHT-free Polythene Film 706-792

* Sufficient for 50 test packages = 50 x 5 test specimens = 250 individual specimens

ASSEMBLY OF TEST PACKAGE

Place the Incubator/Oven, Perspirometer and accessories on a suitable bench and prepare the Test Package as follows:

TEST PACKAGE



DETAILED OPERATION

The following is a description of the general method of test as described in ISO 105-X18. If appropriate, reference must be made to specific retailers test methods.

- The principle of method of test is to prepare a sealed test package consisting of 7 glass plates each (100 x 40) +/- 1mm x 3mm +/- 0.5mm, 6 test papers each 100 x 75mm, 5 specimens and 1 control fabric each 100 x 30mm.

DO NOT USE ACRYLIC / PLASTIC PLATES

- Each specimen and the control fabric are individually placed between a test paper folded in half along the 100mm axis making a total of 6 sandwiches. Each sandwich is placed between the glass plates so that each sandwich is separated from the other by a glass plate.
- The stack of plates, test papers, specimens and control fabric is wrapped firmly in 3 layers of BHT free polythene film and sealed with adhesive tape to create an air tight package.
- This package is placed in a Perspirometer unit and loaded with a total weight of 5kg.
- The Perspirometer unit is then placed on its side inside an incubator/oven for a period of 16 hours at 50°C + or - 3°C.
- On removal of the package from the incubator/oven and Perspirometer unit, it is allowed to cool.
- The package is then opened. The control fabric is examined in the first instance to ensure it has yellowed. This proves the test is valid. Secondly, the specimens are evaluated against the original material from which the specimens were prepared. Any intensity of yellow colour developed on the specimen is assessed by use of the Grey Scale for Assessing Staining.
- It is recommended that assessment is made in accordance with ISO105-A01 and A03 using the Grey Scale for Assessing Staining.
- Since the colour may fade on certain materials, assessment must be made as soon as the package is opened.
- Each Perspirometer unit can accept 3 packages, one placed on top of the other.
- A 30 litre Incubator/Oven can accept 4 Perspirometer units. 2 placed on their sides in the bottom and 2 on a shelf above.
- If less than 5 specimens are being tested, 7 glass plates should still be used in the package.

- Use new test papers, control fabric and film for each test.
- ALWAYS STORE THE TEST PAPERS AND CONTROL FABRIC IN THEIR SEALED PACKAGING IN A COOL DRY ENVIRONMENT.
- After opening, the test papers should be used within 3 months.

MAINTENANCE

- Clean the glass plates thoroughly between each test.
- Keep the Perspirometer unit(s) and Incubator/Oven clean.
- Always store the test papers and control fabric in the sealed packaging provided in A COOL DRY ENVIRONMENT.
- The test papers should be used within 3 months, after opening.

TEST MATERIALS

Replacement Test Materials can be ordered from James Heal:

706-720	Impregnated Test Papers 100 x 75 mm - per pack (50)
706-820	Impregnated Test Papers 100 x 75 mm - per pack (150)
706-822	Impregnated Test Papers 100 x 75 mm - per pack (200)
706-709	Control Fabrics 100 x 30 mm - per pack (25)
706-792	BHT-free Polythene Film - 63 microns - per box (100 pieces : 400 x 200 mm)
766-201	Grey Scale for assessing Staining ISO 105-A03
750-602	ISO Weight
716-813	Glass Plates - Pack (10)