

Perspirometer

COLOUR FASTNESS TESTER



PHENOLIC YELLOWING TESTER

Perspirometer

AND INCUBATOR

The *Perspirometer* applies a specified pressure to a package of test specimens separated by acrylic or glass plates. The spring loaded mechanism ensures the correct pressure is maintained when the loading Weight is removed. Two loading Weights are available to accommodate the requirements of the ISO and AATCC test methods.

Manufactured from high grade stainless steel, the *Perspirometer* is rigid and corrosion resistant.

The *Incubator* provides, and accurately maintains, the controlled environmental conditions for the duration of the test specified by the standards.

ISO Certificates of Calibration are available which provide validation of instrument performance and specification.

Colour Fastness to Perspiration, Water and Sea Water

To test colour fastness to perspiration, specimens (fabric, yarn or fibre) in contact with Multifibre Adjacent Fabric, are treated in two different solutions containing histidine, one alkaline and one acidic.

The specimens are subsequently drained and placed under constant pressure between separator plates in the Perspirometer. Up to 20 test specimens can be accommodated.

The units are then placed in an Incubator for 4 hours at 37°C (body heat).

After drying, change in colour of the specimens and staining of the adjacent fabrics are assessed with Grey Scales.

Separate Perspirometer units must be used for alkaline and acidic tests to avoid chemical interaction.

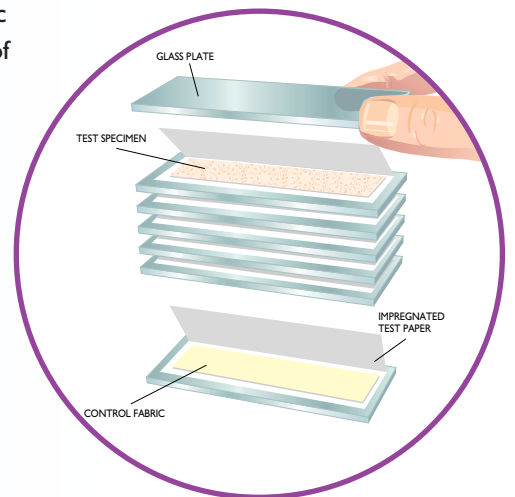


Phenolic Yellowing

This is a simple, predictive test, typically used to assess the potential of white or pastel-coloured textiles to transit or storage yellowing. 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 and so on.

Based on a technique originally developed by Courtaulds Research, the *HEALS Phenolic 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 arising from storage yellowing.

Launched in 1995, the *HEALS Phenolic Yellowing Test Kit* has since become established as the *benchmark industry standard* and is widely specified by a number of major retailers.



The risk of phenolic yellowing is evaluated by a contact test. Each test specimen is folded between a phenol-impregnated test paper. The test package consists of 5 test specimens and one standard control fabric wrapped and sealed in BHT – free polythene film. Constant pressure on the package is maintained by the *Perspirometer*, and the specified environmental conditions are provided by the *Incubator*.

On removal from the Incubator the specimens are compared with their originals and the intensity of yellowing assessed using the standard Grey Scale for Staining.

Standards

COLOUR FASTNESS TO PERSPIRATION, WATER AND SEA WATER

ISO 105 E01 – Colour Fastness to Water

ISO 105 E02 – Colour Fastness to Sea Water

ISO 105 E04 – Colour Fastness to Perspiration

AATCC 15 – Colour Fastness to Perspiration

PHENOLIC YELLOWING

M&S C20B

TESCO TM/137/01



Technical data

INCUBATOR/OVEN

Air Circulation	Fan assisted
Internal Dimensions	300mm (high) x 305mm (wide) x 310mm (deep)
Usable Volume	30 litres
Capacity	Up to 4 Perspirometer Units
Interior	Corrosion-resistant stainless steel
No. of Shelves	2 (removable)
Temperature Range	Ambient – 220 °C
Temperature Stability	± 0.2 °C
Controls	Proportional Digital Temperature Controller – displays preset and actual temperatures

Specify single phase voltage and frequency

Larger Incubators/Ovens are available

How to Order

PERSPIROMETER – MODEL 290 **750-601**
Without weight or separator plates

INCUBATOR – MODEL HX30 **730-420**
220–240V 50/60Hz

INCUBATOR – MODEL HX30 **730-422**
110–120V 50/60Hz

ISO CERTIFICATE OF CALIBRATION **201-290**
For weight and up to 2 Perspirometers

ISO CERTIFICATE OF CALIBRATION **201-730**
For Incubator

COLOUR FASTNESS

ISO Weight **750-602**

AATCC Weight **750-603**

Pack (21) Acrylic Plates **750-604**

Pack (10m) Multi-Fibre Adjacent
Fabric Type 2 DW **702-376**

Test Kit – Sufficient for approximately
200 litres of Alkaline and acid test solutions **706-799**

Grey Scale for assessing Change in Colour
ISO 105 A02 **766-471**

Grey Scale for assessing Staining ISO 105 A03 **766-472**

PHENOLIC YELLOWING

ISO Weight **750-602**

Pack (10) Glass Plates **716-813**

Pack (150) Impregnated Test Papers **706-708**

Pack (25) Control Fabrics **706-709**

Pack (10m) BHT-free Polythene Film **706-710**

Template for cutting the BHT-free
Polythene Film **772-129**

Grey Scale for assessing Staining ISO 105 A03 **766-472**