

COLOUR FASTNESS TO PERSPIRATION AND YELLOWING

PERSPIROMETER & INCUBATOR



Instrument to check the colour fastness of textiles and leather to water and perspiration under the action of different agents such as:

- **acid and alkaline perspiration**, according to EN ISO 105 E04; AATCC 15; etc.
- **water and seawater**, according to EN ISO 105 E01; EN ISO 105 E02; AATCC 106; AATCC 107; etc.
- **phenolic yellowing of materials**; according to EN ISO 105 X18.

This test is important to assess and predict yellowing of white and pastel colour garments in transit or storage.

Test procedure:

the specimens (fabrics, yarns or fibres) in contact with Multifibre Adjacent Fabric are exposed to two different histidine solutions (one acid and one alkaline). To avoid contamination, one perspirometer is used for each solution. Subsequently the specimens are drained and placed under specific load in between two acrylic or glass plates inside an Incubator for a defined time and pre-set temperature. At the end, the Perspirometers are removed from the Incubator, the specimens are dried and the change in colour of the specimens and staining of the Adjacent fabrics are assessed with Grey Scales (for change in colour, according to EN ISO 105 A02 and for colour staining, according to EN ISO 105 A03).

For colour fastness tests, acrylic plates are used at +37°C and for yellowing tests, glass plates at +50°C.

PERSPIROMETER CODE 257A INCUBATOR CODE 251L

PERSPIROMETER, Code 257A

Stainless steel support complete with intermediate plate with springs, designed to keep a uniform pressure on the specimens.

TECHNICAL FEATURES

Supplied complete with a set of 21 Plexiglass plates 115 x 60 mm. Weights (ISO or/and AATCC) have to be added.

DIMENSIONS / POWER SUPPLY

Weight: with 21 plates, 3 kg (without ISO or AATCC weights)
Dimensions: (L) 80 x (W) 210 x (H) 170 mm

OPTIONAL ACCESSORIES

UNI EN ISO mass, for a total weight of 5 kg	Code	257.20
AATCC mass, for a total weight of 10 pounds (4.54 kg)	Code	257.4
Chemicals for ISO Perspiration Tests, according to UNI EN ISO 105 E04:		
L-histidine mono-hydrochloride mono-hydrate, bottle of 100 g	Code	310.24
Sodium chloride	Code	310.26
Sodium dihydrogen orthophosphate dihydrate, pack of 250 g	Code	310.28
Disodium hydrogen orthophosphate dihydrate, pack of 250 g	Code	310.30
Products for Yellowing Tests, according to UNI EN ISO 105 X18:		
Phenolic impregnated paper	Code	257.12
Phenolic control fabric	Code	257.14
BHT free 63 micron film	Code	257.16
Set of 10 glass plates 100 x 40 x 3 mm, for phenolic yellowing, UNI EN ISO 105 X18	Code	257.18
Alkaline sweat solution, 500 ml bottle	Code	257.24
Grey Scale UNI EN ISO 105 A02 for colour change assessment	Code	267C
Grey Scale UNI EN ISO 105 A03 for colour staining assessment	Code	267A
Grey scale AATCC for colour change assessment	Code	267D
Grey Scale AATCC for colour staining assessment	Code	267E
Grey Scale GB/T 250 (UNI EN ISO 105 A02) for colour change assessment	Code	267F
Grey Scale GB/T 251 (UNI EN ISO 105 A03) for colour staining assessment	Code	267G
Plexiglass plate 115 x 60 x H 1,5 mm	Code	257.6
Pre cutted sheet soft pvc for leather fastness 50 x 30 mm, 10 pcs	Code	257.22
PVC white film 10 x 4 cm	Code	257.442
Calibration report	Code	257.CC1

ADJACENT FABRICS

Multi-fibre fabrics DW 010, UNI EN ISO 105 F10, 10 m roll	Code	257.424
Multi-fibre fabrics TV, UNI EN ISO 105, SDC 10 m roll	Code	257.426
Multi-fibre fabrics DW, UNI EN ISO 105 F10, SDC 50 m roll	Code	257.430
Multi-fibre fabrics DW 10 x 4 cm, UNI EN ISO 105 F10, 250 pcs	Code	257.432
Multi-fibre fabrics M&S, SDCE 10 m roll	Code	257.434
Multi-fibre fabrics M&S, SDCE 50 m roll	Code	257.436
Multi-fibre fabrics DW 10 x 5 cm, UNI EN ISO 105 F10, 200 pcs	Code	257.444
Multi-fibre fabrics SLW, SDCE, 10 m roll	Code	257.448
Multi-fibre fabrics TYPE 10, ASTM D204, 25 m roll	Code	257.450
Multi-fibre fabrics TYPE 10 HS 2 x 2 cm, 500 pcs	Code	257.452
Multi-fibre fabrics type 1, AATCC, 500 pcs 2" x 2"	Code	311L.38
Multi-fibre fabrics type 10, AATCC, 500 pcs 2" x 2"	Code	311L.40
Multi-fibre fabrics type 10A, UNI EN ISO 105 F10, 250 pcs 2" x 4"	Code	311L.42

INCUBATOR CABINET, Code 251L

Professional natural air convection oven/incubator for small scale applications where high precision and temperature stability are required.

TECHNICAL FEATURES

- Temperature range with digital control from ambient temperature up to +78°C (accuracy: $\pm 0,8^{\circ}\text{C}$, at +37°C)
- Temperature range from +5°C above room temperature to +80°C, accuracy $\pm 0,5^{\circ}\text{C}$ at +37°C.
- Externally made of steel coated with epoxy anti-acid paint, inner structure in AISI stainless steel
- Double insulated door with silicone seal to prevent heat loss
- Thermal insulation with mineral fibers
- Glass door for easy inspection.
- Digital display P.I.D. Thermostat with programmer, display precision: $\pm 0,1^{\circ}\text{C}$ (TB)
- Heating elements are not in contact with internal chamber but are in an antechamber to guarantee uniform heating
- Manual flow control of ventilation
- Built according to DIN 12880, 2 class.
- Capacity: 20 litres; it can accommodate two Perspirometers (theoretically three but working with two is much more comfortable).
Bigger models are available on requests:
Code 251X of 40 litres, 251Y of 60 litres and code 251T of 120 litres

DIMENSIONS / POWER SUPPLY

Weight: 22 kg
External dimensions: (L) 550 x (W) 350 x (H) 420 mm
Internal dimensions: (L) 300 x (W) 240 x (H) 300 mm (one internal steel shelf adjustable in height)
Power supply: 230 Vac, single-phases, 50 Hz
Available as option with Power supply 115V-60 Hz transformer, code 1722.34

REFERENCE STANDARDS

Colour fastness to water and sea water, colour fastness to acid and alkaline perspiration, and phenolic yellowing of materials, according to the main international Standards: UNI EN ISO 105 E01, UNI EN ISO 105 E02, UNI EN ISO 105 E04, UNI EN ISO 105 X18, AATCC 15, AATCC 106, AATCC 107, TWC TM6, TWC TM174, GB/T 18886, GB/T 3922, GB/T 5713, GB/T 5714, JIS L0847, JIS L0848.

Cotton Limbric fabric for wet washing, UNI EN ISO 105 F02, 50 pieces 10x4 cm	Code	323.6
Wool Gimped fabric, UNI EN ISO 105 F01, 50 pieces 10 x 4 cm	Code	323.8
Rayon Viscose fabric, UNI EN ISO 105 F02, 1 m	Code	323.10
Polyamide 6.6 fabric, UNI EN ISO 105 F03, 1 m	Code	323.12
Polyester fabric, UNI EN ISO 105 F04, 5 m	Code	323.13
Polyester fabric, UNI EN ISO 105 F04, 1 m	Code	323.14
Acrylic fabric, UNI EN ISO 105 F05, 1 m	Code	323.16
Silk fabric, UNI EN ISO 105 F06, 1 m	Code	323.178
Cotton Limbric fabric, UNI EN ISO 105 F02, 1 m	Code	323.218
Cotton Limbric fabric, UNI EN ISO 105 F02, 5 m	Code	323.220
Polyester Gimped fabric, UNI EN ISO 105 F04, 10 x 4 cm, 50 pcs	Code	323.222
Polyester fabric, EN ISO 105 F04, 10 x 4 cm	Code	323.230

Photographs and descriptions of the present leaflet have to be considered as purely indicative and not binding