

ISO 105 Textile Testing Equipment Colour Fastness To Water Perspiration Tester



Application

Perspiration Tester to determine colour fastness test to water, sea water, perspiration fastness in textiles and sublimation during storage. Perspiration tester consists of 2 stainless steel frame with 21 acrylic separator plates to hold 20 samples. Thus the both ISO/AATCC test methods can be done in one time. A precise oven is required.

Color Fastness of dyed or printed fabrics against perspiration is determined by exposing the fabric sample to the action of both alkaline and acidic reagents while in contact with undyed adjacent fabrics is placed between plastic plates under a fixed load inside an oven maintained at 370 centigrade. The apparatus used for this test is called the Perspirometer. consists of a number of acrylic plates and which can be kept in suitable loading frame. The loading frame consists of two steel plates between which the acrylic plates placed. The test specimen are stitched between suitable white cloth pieces and dipped in either alkaline or acidic test solutions.

Perspirometer Included Accessories

AATCC Test Kit

AATCC weight with other parts in total 4.54kg(10lb)

Acrylic Plates (Pack of 21)

ISO Test Kit

AATCC weight with ISO extra weight and other parts in total 5kg(11lb)

Acrylic Plates (Pack of 21)

Principles

To test colour fastness to perspiration, specimens (fabric, yarn or fiber) in contact with multifiber fabric are treated in two different solutions. One solution is acid and one solution is alkaline. The specimens are subsequently drained and placed under a specific load between the separator plates. The units are placed in an oven for a pre determined length of time, after which time the units are removed from the oven. The specimens are removed from the separator plates and placed in an oven/incubator to dry after which they are assessed with grey scales.

Note for testing colour fastness to cold water, the same apparatus is used and the solutions are substituted for distilled water.

Perspirometer Standards

Perspiration	AATCC 15 , EN ISO 105 E04 , DIN 54020 , JIS L0848 , BS 1006 E04
Water	AATCC 107, EN ISO 105 E01 , DIN 54006 , DIN54005 , JIS L0846 ,BS 1006 E01
Sea water	AATCC 106 , EN ISO 105 E02 , DIN 54007 , JIS L0847 , BS 1006 E02
Weight	12 Kg
Dimensions	210x100x160mm (L x W x H)

BS1006

BS EN ISO 20105

ISO 105

AATCC 15, 106, 107,

IWSTM 6, 174, 175.

Preparation of test solutions

Solutions should be made up immediately prior to use as the chemicals can degrade over time.

- Alkaline solution (makes 1 Litre)
0.5 g of l-histidine monohydrochloride monohydrate

$(C_6H_9O_2N_3.HCl.H_2O)$

5 g of sodium chloride
(Na Cl) either

5g of disodium hydrogenorthophosphate dodecahydrate
or 2.5 g of disodium hydrogen orthophosphate dihydrate

The solution is brought to pH 8.0 with 0.1 mol sodium hydroxide solution.

- Acid solution (makes 1 Litre)
0.5 g of l-histidine monohydrochloride monohydrate
 $(C_6H_9O_2N_3.HCl.H_2O)$

5 g of sodium chloride
(Na Cl)

2.2 g of sodium dihydrogen orthophosphate dihydrate($NaH_2PO_4.2H_2O$)

The solution is brought to pH 5.5 with 0.1 mol sodium hydroxide solution.

