

## Leather Testing Equipment

### GT-KC01-1 IULTCS & Veslic Leather Abrasion Tester (Single work position)

This machine is used for color fastness testing of leather, plastic and textile. Under the specified pressure, let white wool felt to do reciprocating abrasion to the surface of dye sample. After a specified count, to assess the color fastness of sample by checking the color change and fading of sample and the discoloration of white wool felt. It can be used for dry abrasion testing and wet abrasion test.

#### Standards

DIN 4843, ISO 11640, SATRA PM 173,  
QB/T 2537, GB/T 20991 section 7.3,  
EN ISO20344 section 7.3, AS/NZS 2210.2 section7.3



### GT-KC01-2 IULTCS & Veslic Leather Abrasion Tester (Double work positions)

This machine is used for color fastness testing of leather, plastic and textile. Under the specified pressure, let white wool felt to do reciprocating abrasion to the surface of dye sample. After a specified count, to assess the color fastness of sample by checking the color change and fading of sample and the discoloration of white wool felt. It can be used for dry abrasion testing and wet abrasion test.

#### Standards

DIN 4843, ISO 11640, SATRA PM 173,  
QB/T 2537, GB/T 20991 section 7.3,  
EN ISO20344 section 7.3, AS/NZS 2210.2 section7.3



### GT-KC04A Upper Material Flexing Tester

This is used to determine the propensity for materials to crack or otherwise fail at flexing creases, but can also be used to assess whether leathers are likely to produce salt spue. In particular the test simulates conditions in the vamp part of footwear during walking. The test can be conducted with either wet or dry specimens at room temperature. The method is applicable to all flexible materials and in particular those used to manufacture outers and linings of footwear uppers such as leathers, coated fabrics and textiles.

#### Standards

ISO 5423 section 5.2 EN ISO 22288 SATRA TM25  
EN ISO 20344-2004 Section 6.5.2  
AS/NZS 2210.2 Section 6.5.2  
GB/T 20991 Section 6.5.2 GB20265 section 4.1



### GT-KC04B Upper and Vamp Material Cold Flexing Tester

This is used to determine the propensity for materials to crack or otherwise fail at flexing creases under the low temperature environment, but can also be used to assess whether leathers are likely to produce salt spue. In particular the test simulates conditions in the vamp part of footwear during walking. The test can be conducted with either wet or dry specimens at room temperature or with dry specimens at sub zero temperatures. The method is applicable to all flexible materials and in particular those used to manufacture uppers and linings of footwear uppers such as leathers, coated fabrics and textiles.

#### Standards

ISO 5423 section 5.2 EN ISO 22288 SATRA TM25

EN ISO 20344 Section 6.5.2, ISO 4643 (Annex B)

AS/NZS 2210.2 Section 6.5.2

GB/T 20991 Section 6.5.2 GB20265 section 4.1



### GT-KC05 Maeser Water Penetration Tester

To determine the resistance of leather, artificial leather, fabric and so on material to water penetration on flexing. The method is mainly applicable to footwear upper outer materials but can be used with any flexible sheet material.

#### Standards

ASTM D2099

SATRA TM34 Type 1

SATRA TM34 Type 2, ISO 5403-2



### GT-KC06 BALLY Water Penetration Tester

This tester is used for determining the resistance of leather, artificial leather, fabric and so on footwear upper material to water penetration on flexing, in order to assess the suitability for the end use.

#### Standards

DIN53338 , ISO 5403 , ISO 17702 , EN ISO 20344 section 6.13,

EN 344-1 section 5.12 , EN ISO20347 section 6.3.1 ,

AS/NZS 2210.2 section 6.13 ,

QB/T 3903.17, GB/T20991section 6.13



### GT-KC08 Side Crock Tester

It is used for small area dry / wet rubbing fastness testing for leather, clothing fabrics, tent fabric etc, especially for printed fabric.

#### Standards

CPSD-SL-81006-MTHD

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### GT-KC10A Bally Leather Resistance Flexing Tester

To determine the resistance of a material to cracking or other types of failure at flexing creases. The method is applicable to all flexible materials and in particular leathers, coated fabrics and textiles used in footwear uppers.

#### Standards

SATRA TM 55, IULTCS/IUP 20-1, ISO5402-1; ISO 17694  
EN 13512 ; EN344-1 section 5.13.1.3 and annex C  
EN ISO 20344 section 6.6.2.8, GB/T20991 section 6.6.2.8  
AS/NZS 2210.2 section 6.6.2.8, GE-24; JIS-K6545, ASTM D 6182



### GT-KC10B Low Temperature Bally Resistance Flexing Tester

To determine the resistance of a material to cracking or other types of failure at flexing creases. The method is applicable to all flexible materials and in particular leathers, coated fabrics and textiles used in footwear uppers.

#### Standards

SATRA TM 55 ; IULTCS/IUP 20-1;  
EN 13512; ISO5402-1; ISO 17694  
EN ISO 20344 section 6.6.2.8  
EN 344-1 section 5.13.1.3 and annex C;  
GB/T20991 section 6.6.2.8; AS/NZS 2210.2 section 6.6.2.8;  
GE-24; JIS-K6545, ASTM D 6182



### GT-KC11 Flex Cracking Tester(Low Temperature)

This machine is used to assess the flex cracking of flexible plastic sheet materials when subjected to repetitive flexing under low Temperature.

#### Standards

DIN 53359: 2006



### GT-KC12 Softness Tester

This instrument is used for testing the softness of leather, animal skin by non-destructive method. To determine whether the leather softness in the same batch is uniformity or the difference in the different part of single leather.

#### Standards

IULTCS / IUP 36, ISO 17235



### GT-KC13A Martindale Abrasion Tester

To determine the abrasion resistance of all kinds of footwear vamp material. Samples are rubbed against known abradant at low pressures and in continuously changing directions and the amount of abrasion. The unique design allows removal of individual sample holders for examination without lifting the top motion plate.

#### Standards

ISO 20344 section 6.12, ISO 5470-2  
AS/NZS 2210.2 section 6.12, ASTM D4966  
EN 344-1 section 5.14 BS3424.24, SATRA TM31  
GB/T 20991 section 6.12



### GT-KC13B Martindale Abrasion Tester

To determine the abrasion resistance of all kinds of footwear vamp material. Samples are rubbed against known abradant at low pressures and in continuously changing directions and the amount of abrasion. The unique design allows removal of individual sample holders for examination without lifting the top motion plate.

#### Standards

ISO 20344 section 6.12, ISO 5470-2, GB/T 20991 section 6.12  
AS/NZS 2210.2 section 6.12, ASTM D4966  
EN 344-1 section 5.14 BS3424.24, SATRA TM31



### GT-KC21 Water Vapor Permeability Tester

Under the standard stipulated  $(23 \pm 2)^{\circ}\text{C}$  and the  $(50 \pm 5)\%$  RH environment, to test water vapor permeability for vamp and upper shoe materials ( including surface and lining ).

#### Standards

EN ISO 20344 Section 6.6.2 and 6.8  
AS/NZS 2210.2 Section 6.6.2 and 6.8  
GB/T 20991 Section 6.6.2 and 6.8  
EN 344-1 Section 5.13



### GT-KC21-1 Water Vapor Permeability Tester

It is used to determine the water vapor permeability for vamp and upper shoe materials. Using in the conditioning room under the standard stipulated temperature  $(23 \pm 2)^{\circ}\text{C}$  and humidity  $(50 \pm 5)\%$  RH.

#### Standards

EN ISO 20344 Section 6.6.2, AS/NZS 2210.2 Section 6.6.2  
GB/T 20991 Section 6.6.2 , EN 344-1 Section 5.13, BS 3144,  
DIN 5333. SATRA TM172



### GT-KC23 Leather Shrinkage Temperature Tester

The instrument is mainly used to determine the shrinkage temperature of leather and fur. The specimen is heated at a specified rate in water until it is shrunk considerably.

#### Standards

ISO 3380, IULTCS /IUP 16, QB/T 2713, QB/T 1271



### GT-KC25 Low-Temperature Bend Test Machine

Expose rubber or plastic coated fabrics under low temperature for a certain time, subjected to bending at a predetermined temperature, and to determine their resistance to low temperature performance. Programmable Freezing test chamber. For conditioning of samples prior to testing. It also can be used for a variety of materials of low temperature alternating test. The test temperature, time can be programmed.

#### Standards

ISO 4675



### GT-KC37A Leather Digital Lastometer

To determine the anti-cracking index for upper, leather facing and all kinds of thin leather. Fixed the clamp frame round the sample, jacked up the ball to the inside of leather with 12mm/min. When leather is cracking, the value of increase height is the crack value.

#### Standards

BS 3144 section 8, ISO 3379, ISO17693, DIN 53325, GB/T3903.38, QB 3812.7, QB 2712



### GT-KC37B Leather Lastometer

To determine the anti-cracking index for upper, leather facing and all kinds of thin leather. Fixed the clamp frame round the sample, jacked up the ball to the inside of leather with 12mm/min. When leather is cracking, the value of increase height is the crack value.

#### Standards

DIN 53325



### GT-KC40 Sole Leather Grain Crack Index Tester

To determine the propensity of the grain of a leather to crack during bending. The method is applicable to all sole leathers.

#### Standards

SATRA TM48



### GT-KC45 Linear Abrasion Tester

The instrument is suitable for testing the abrasion resistance of plastic, auto parts, rubber, leather, textile, electroplating, paint and printing pattern and so on. Not only can be used for evaluate abrasion resistance of the product, but also can be used for evaluate the scratch resistance, single or multiple scratches and transitivity of color. Dry or wet abrasion test also can be carried out.

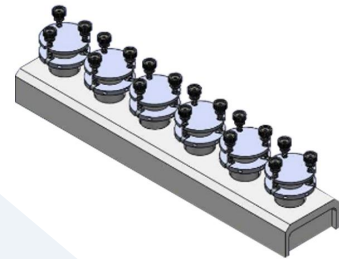


### GT-KC51 Cellular Plastic Reciprocating Compression Tester

To determine the coefficient of water vapor absorption on leather and non-leather upper. The equipment is basically composed by six stainless steel cups that are inserted in plastic base which maintain them in vertical position.

#### Standards

EN ISO 20344 Section 6.7 and 6.8,  
AS/NZS 2210.2 Section 6.7 and 6.8,  
GB/T 20991 Section 6.7 and 6.8  
EN 344-1 Section 5.13,  
ISO 17229



### GT-KC52 Circular Rubbing Colour Fastness Tester

This machine is used for assess colored materials friction damage and surface color transfer. It is suitable test the upper materials, such as leather, plastics and fabric etc.

#### Standards

BS EN 13516 Method B  
SATRA PM8



### GT-KD01 Aging oven

This machines is used for testing the changes in characteristics of plastics, rubber, leather, fabrics before and after heating. The specimen is checked to see its discoloration, split, shrinkage, extension, residualratio, etc. so as to determine the aging characteristics.

#### Standards

ISO 188



## GT-KD02 Light Discoloration (UV) Tester

This machine is to test the resistance to discoloration of shoes materials. Such as white and light color upper materials, sole materials, leather, PU, fabric etc. To assess the defect of products the radiation from sun in normal use and high temperature of container during the transport.

This machine also can be used as the aging tester and drying oven, multi-use of one machine.

### Standards

ASTM-D1148 HG/T 3689



## GT-KD06 Hydrolisis & Water Vapor Permeability Tester

1. Upper Hydrolysis Test and Flexing Test: to determine the propensity for materials to crack or otherwise fail at flexing creases.
2. Water Vapor Permeability Test: Under the standard stipulated  $(23\pm 2)^{\circ}\text{C}$  and the  $(50\pm 5)\%$  RH environment, to test water vapor permeability for vamp and upper shoe materials (including surface and lining).

### Standards

EN ISO 20344 Section 6.6.2 and 6.8 and 6.10; EN 344-1 Section 5.13; ISO 5423 section 5.2  
AS/NZS 2210.2 Section 6.6.2 and 6.8 and 6.10; EN ISO 22288; SATRA TM25  
GB/T 20991 Section 6.6.2 and 6.8 and 6.10; GB20265 section 4.1

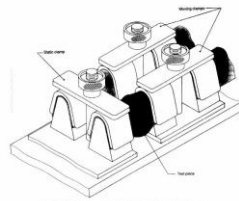
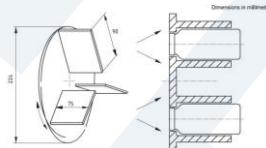


Figure 8.11 – Typical apparatus for determination of resistance to flexing



## GT-KD07 Thickness Gauge ( leather )

The thickness gauge is used to measure the thickness of vulcanized rubber and leather products. Clamp specimen between up and down parallel round plates. The pointed graduation is the thickness.

### Standards

BS-903-A38, ISO-4648  
ASTMD1813, ISO 2589  
SATRA TM48



## GT-KD18 Leather Experiment Tanning Drum

Stainless steel color test drum key point.

- Soaking ,tanning ,dyeing experiment drum
- Auto constant heating control by computer meter
- Forward or reverse run auto control by meter
- Two layer steel
- Auto clean drum inside



## GT-C14A Taber Abrasion Tester

To determine the wear resistance of materials and assess its wear resistance degree, like measuring its mass loss, thickness loss, and transmittance etc.

### Standards

ASTM D3884, ASTM D1175, ASTM D1044, ASTM D4060, TAPPI T476,  
ISO 9352, ISO 5470-1, DIN 52347, DIN 53109, DIN 53754, DIN 53799  
JIS K7204, JIS A1453, JIS K6902, JIS L1096, JIS K6964,



## GT-C48-1 Pneumatic Sample Press

Sample pneumatic compression machine, a new type of desktop compression machine, equipped with 125 mm gas cylinder, cutting thickness of 10mm. Under the pressure of 100psi can produce 2000kg pressure, equipped with a double bond security operation. Can be requested to provide special shape die. Laboratory standards require the use of air compressor.

### Standards

ASTM D3776/2646, ISO 3801,  
BS 3424/2471, BS EN 12127, M&S P65/65A



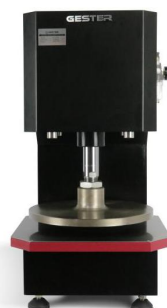
## GT-C48-2 Pneumatic Sample Press

Sample pneumatic compression machine, a new type of desktop compression machine, equipped with 125 mm gas cylinder, cutting thickness of 10mm. Under the pressure of 100psi can produce 2000kg pressure, equipped with a double bond security operation. Can be requested to provide special shape die. Laboratory standards require the use of air compressor.

Max.Cutting pressure: 2000Kg

### Standards

ASTM D3776,D2646, D4966,BS 3424/2471, BS EN 12127, EN 344-1  
M&S P65/65A, ISO 20344, ISO 5470-2, ISO 3801, AS/NZS 2210.2 ,  
GB/T 20991,SATRA TM31





### **GT-D06 Colorfastness & Rubbing (Gakushin)Tester**

For evaluating a material's resistance to rubbing motion. Unit is a six station, benchtop machine which includes clamps for sample attachment to moving platen and clamps for weighted rubbing arm for attachment of rubbing material. Cycle counter automatically stops machine at end of test cycles. Test samples are visually evaluated.

#### **Standards**

JIS L0823, JIS L0849 Type2, JIS L1006, JIS L1084



### **GT-KB40 Upholstery Fabrics Sewn Seam Dynamic Fatigue Tester**

To measurement of or visual evaluation of yarn slippage and other types of failures in the three most commonly used upholstery seams - warp sewn to warp (wale to wale), filling sewn to filling (course to course), and warp sewn to filling (wale to course). The stresses at the seam are created by imposing a cyclic, impact, and penetrating load which fatigues the seam construction.

#### **Standards**

ASTM D4033

