

Welcome to AITEX Your testing and certification service partner Oscar Cerrada mational Business

International Business Manager



ORGANIZATION

LABORATORIES AREA

AITEX

AITEX

PROJECT AREA

TRAINING

AITEX - is a private non-profit association that encompasses textile and

textile-related companies. AITEX is one of the largest laboratories in the world, who provides massive number of Textile Testing's related to Textile Industry by any mean. AITEX offers Textile Testing as per the International, American & European standards.





SPHERES OF APPLICATION

Protective equipment Sport and leisure. Fashion. Aeronautical industry. Nautical industry. Textile architecture. Automobile industry. Textile value chain. Geotextiles. Habitat. Hygiene and cosmetics. Clothing. Medical and hospital uses. Sports surfaces. Public transport.

ACCREDITATIONS

Aitex holds the following accreditations:

-ENAC; most of the tests carried out in Aitex are accredited by ENAC (national accreditation entity). In Agreement with **ILAC**

-Aitex works with a Quality model according UNE EN ISO 9001, certified by AENOR

-Collaborative entity for the administration in the quality environment; measurements of the emission to atmosphere (entity of inspection according ISO 17020)

- AITEX is the Notified Body N° 0161 for the appliance of the Directive 89/686/CEE of 21 December 1989 (D.O.C.E. of 12/30/1989) on the approximation of the laws of the Member States relating to Personal Protective Equipment.

ACCREDITATIONS

Aitex holds the following accreditations: ISO/IEC 17025: 2005

Accreditation by ENAC and recognized by ILAC



UL Third Party Test Data Program (TPTDP) DA2418

(I) CERTIFICATE OF PARTICIPATION Issued by

ULLLC

AITEX TEXTILE RESEARCH INSTITUTE

Plaza Emilio Sala 1, Alcoy (Alicante), E-03801, SPAIN

has been assessed and found to be eligible to participate in the

Third Party Test Data Program (TPTDP)

DA File: DA2418 Issued: 2014-04-30 Expires: 2015-06-03 B R. P ... Bruce R. Proper Global Process Owner, Data Acceptance Program

AITEX-Textile Research Institute PPE's-Personal Protective Equipment Mechanical Electrostatic Chemical **High visibility** Thermal and Ballistic **And Electrical Protection Protection** Protection **Protection Protection Dielectric test Comfort and Sports** to rubber goods **Protective Gloves**

ELECTROSTATIC AND ARC TESTS

ELECTROSTATIC TEST





BOX TEST

OPEN ARC



ELECTROSTATIC TEST

The aim of this normative is to evaluate the fabrics depending on their conductivity or the ability of screening certain frequency (radiation absorption).

Conductive fabrics are needed, which are able of removing accumulated static energy that may cause irreversible damage in hazardous atmosphere due to the creation of sparks.

Test and certification according to EN 1149



HIGH VISIBILITY PROTECTION

FLUORESCENT AND RETROREFLECTIVE MATERIALS

Test and certification according

EN ISO 20471:2013

ANSI/ISEA 107-2010

AS/NZS 4602.1:2011- Part 1: Garments for high risk applications.

AS/NZS 4602.2:2013 - Part 2: Garments for fire service personnel.

AS/NZS 1906.4:2010 - Retroreflective materials and devices for road traffic control purposes - High-visibility materials for safety garments.



THERMAL PROTECTION

Depending on the origin of the heat focus, different kinds of tests and standards are offered for prote**ctions the user:**

Direct flame exposition

Convective heat

Radiant heat

Contact heat

Molten splashes





CE Type certification according the standars:

- EN ISO 11612 "Protective clothing for industrial workers exposed theat"

- EN ISO 11611 "Protective clothing for use in welding and allie processes"

GLOVES

- EN 407 "Protective gloves against thermal risks (heat and/or fire)".
- EN 12477 "Gloves for welders".







THERMAL PROTECTION

FIREFIGHTERS

CE Type certification according the standards:

- EN 469 "Protective clothing for firefighters. Performance requirements for protective clothing for firefighting."

- EN 659 "Protective gloves for firefighters"

- EN 13911 "Protective firefighters hoods"

- EN 15614 /ISO 15384 "Protective clothing for firefighters, for wildland clothing"



THERMO-TEX

Protective clothing against heat and flame – Test Method for complete garments – Prediction of burn injury using an instrumented manikin.

This test method characterizes the thermal protection provided by garments, based on the Measurement of heat transfer to a fullsize manikin exposed to a laboratory simulation of a fire with controlled heat flux density, duration and flame distribution. The heat transfer Measurements can also be used to calculate the predicted skin burn injury resulting from the exposure.





Accredited test according the standards:

ISO 13506:2008 ASTM F1930:2011

Test methods valid for NFPA 2112 and EN 469

Accreditation by ENAC and recognized by ILAC





BURN INJURY PREDICTION

(1st, 2nd and 3th burning degrees)



CHEMICAL PROTECTION

CE Type certification according the standards:

EN ISO 13034 "Protective clothing against liquid chemicals. Performance for chemical protective clothing offering limited protective: Type 6 and Type PB (6)"

EN 14605 "Protective clothing against liquid chemicals. For clothing with liquid-tight (Type 3) or spray-tight (Type 4) connections, including items providing protection to parts of the body only (Type PB (3) and Type PB (4)"



MECHANICAL PROTECTION

CE Type certification according the standards:

EN 381 "Resistance to cut by a hand activated chainsaw for the different body protectors: protectors of legs, shoes, protective gloves, leggings and upper protectors of the body"





BALLISTIC PROOF LABORATORY

AITEX has a shot gallery for the evaluation of the protection against impacts of projectiles and fragments, to determine penetration, trauma, ballistic limit (v50) and contact shot.



19 different calibres Contact Shot Metal, ceramic, glass, jackets materials IMPACTO - V60

According the standards NIJ, HOSDB, STANAG, OTAN and special requirements

COMFORT DEPARTMENT

COLD ENVIROMENTS

The most important variable for cool and cold environments is the thermal insulation of the garment.

According to thermal insulation values is possible to advise the optimum working temperature and activity of the user.

With the thermal Manikin is possible to develop several tests aside from the standard ones for new research and studies

CE Type certification according the standard EN 342





•Personal protective equipments (PPEs) Comfort measurements

Skin Model equipment; UNE EN 31092 standard

The thermal insulation and the breathability of a fabric is measured with this equipment.

ISO 15496 standard

Water vapour resistance for the quality control of the fabrics is measured by this test.

This method allows to make corrections during the manufacture of the fabric.



MANNEQUINS TESTS





THERMAL HAND

Simultaneous Ret and Rct value



Thermal isolation for gloves. Breathability in gloves: integrated system of perspiration.

8 independent thermal zones

Test in a climatic chamber callibrated with the environmental controlled conditions.

Possibility of use with the thermal camera



FOOTWEAR AND SOCKS:

There is not an international standard for footwear. All laboratories applies the standard ISO 15831 thermal manikins and EN 511.





MANNEQUINS

CHILDREN MANNEQUIN

>Mannequin with an integrated system of perspiration and second skin.



Ret value and Rct value simultaneous

> Possibility of use with the thermal camera.







WIND TUNNEL

- > Environmental conditions:
 - Temperature: -30°C to 60°C
 - R.H. : up to 85%
 - Wind speed: 10 m/s

Dimensions:

- Longitude: 4 meters
- Altitude: 2.5 meters

>Possibility of tests of thermal isolation with the mannequins, human testers, tents, etc.

>Possibility of renting of our customers.

>Any kind of thermal test: thermal camera, mannequins, thermal hand, etc.

DRYING TIME



>Evaluation of the **velocity of drying** of the fabric.

>Own method with a gravimetric balance with **IR** energy.

THERMAL CAMERA



➤Complementary test.

>Evaluation of the loss of heat and the isolation of the garments through a study of the surface temperature of a body dress.





PROTECTION AGAINS RAIN

CE Type Certification according EN 343

Tests method according to the standard EN 14360:2004

"Protection clothes against the rain. Testing method for the articles ready to go. Impact from above".



COMFORT CERTIFICATE



SLEEPING BAGS

- EN 13537:2012 "Requirements for sleeping bags"

- ASTM F1720 "Standard Test Method for Measuring Thermal Insulation of Sleeping Bags Using a Heated Manikin "

(Comfort temperature, Limit temperature and Extreme temperature).







GLOVES CERTIFICATIONS

- EN 420:2004+A1:2010+ERRATUM:2011. "Protective gloves - General requirements and test methods".

PROTECTION AGAINST HEAT AND/OR FIRE

- EN 407:2005. "Protective gloves against thermal risks (heat and/or fire)".
- EN 659:2009+A1:2009. "Protective gloves for firefighters".
- EN 12477:2002. "Protective gloves for welders".







GLOVES CERTIFICATIONS

PROTECTION AGAINST COLD AND RAIN

- EN 511:2006. "Protective gloves against cold".

PROTECTION AGAINST CHEMICAL INJURY

- EN 374-1:2004. "Protective gloves against chemicals and micro-organisms. Part 3: Determination of resistance to permeation by chemicals".

PROTECTION AGAINST PHYSICAL INJURY

- EN 388:2004. "Protective gloves against mechanical risks".









PROTECTION AGAINST ELECTRICAL RISKS

- ASTM F2675 / F2675M - 13 "Standard Test Method for Determining Arc Ratings of Hand Protective Products Developed and Used for Electrical Arc Flash Protection"

- ANSI/ISEA 105-2011. "HAND PROTECTION SELECTION CRITERIA"

- MECHANICAL PROTECTION
- CHEMICAL PROTECTION
- HEAT AND FLAME PROTECTION
- PROTECTION FROM COLD
- **PROTECTION FROM VIBRATION**
- HAND FUNCTION DEXTERITY



• Fire behaviour

Curtain classification; CLASS 1 according to UNE EN 13773:2003

UNE EN ISO 6941:2004 UNE EN 13772:2004

Upholstered seats

UNE EN 1021-1:1994 cigarrete UNE EN 1021-2:1994 flame equivalent to a match

Tents classification

Fire behaviour for bed clothes







OËKO TEX 100 CERTIFICATE



International ecologic label for textile items to determine the existence of harmful substances.

Oeko-Tex system guarantees that textile products granted with this certificate, do not have any concentration of harmful substances

AITEX is the only authorized auditing entity in Spain by The Oeko-Tex International Secretaryship

Nowadays there are more than 6000 certified enterprises at international level

Out of those, 400 have been certified by AITEX

http://www.oekotex.com/

OËKO TEX 1000 CERTIFICATE



AITEX is the only authorised auditing entity in Spain by the Internacional Oeko-Tex Secretaryship.

Oeko-Tex Standard 1000 guarantees that the production area on where it was granted complies fully with the current environmental legislation, as well as with all management practices, both in quality, organisation and environmentals.

AITEX started in 2004 the dissemination of the environmental certificate Öko-Tex Standard 1000 to Textile sector enterprises, obtaining very good results.

www.oeko-tex.com

ULTRAVIOLET LABEL UV STANDARD 801



Label which tests the behaviour of textiles exposed to UV radiation

Certification oriented towards textiles used on sustained sunlight exposition garments, e.g. Bathclothes, caps, sport clothes, etc. as well as fabrics used on shadowing items (umbrellas, sunblinds...)

AITEX is the only authorized entity in Spain able to grant this label by the International Test Association for Applied UV Protection.

Kawabata Evaluation System (KES)



Only equipment in Spain that allows the meassurement of the "feeling and softness" of the textile

The KAWABATA measures mechanical and surface properties of a fabric at load levels typical of normal handling and end-use applications. The following properties can be measured:

- Tensile
- Bending
- Shear.
- Compression
- Surface Roughness



Antibacterial, Antifungal and Anti-mites Activity

AITEX develops several normalised tests in order to determine the inhibition of the growing ability of microbian and fungal species, granting a certificate of antimicrobian capacity.









EC type examination certification

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In addition, is active member of the European Co-ordination of Notified Bodies, Vertical Group N°5 (Gloves and clothes).

AITEX is accredited, among others, to issue EC type examination for clothing and gloves, and for the certification according to the Article 11.A and 11.B of production control and quality assurance.

- Textile Chemistry
- Fiber Identification
- Fastness tests
- Maintenance labelling
- Product Characterization
- Colorimetry tests
- Dyeing and printing tests
- Defect Analysis
- Chemical Analysis



Light-aging machinery



Linitex



Datacolor

Textile Chemistry

Electronic Microscopy

Environmental Scanning Electronic Microscope (ESEM)

- Added value to test reports



Hollow Poliester



Nanofibers





Microbiology

AITEX has a microbiology laboratory in where tests are performed onto textile samples according to normalised methods and through own or tailor-made procedures.

- Bio-burden tests.
- Research and counting on plate
 - Total mesophile
 - Coliforms.
 - Staphylococcus.
 - Enterobacteriaceae.
 - Mildew and leavenings.
 - Clostridium perfringens
 - Etc.
- Pathogen identification
- Bacterial penetration
- Actibacterial, antifungal and antimites activity
- Legionella determination tests (farming, PCR, ...).





Textile Architecture

Constructions formed by textile materials applied to any kind of building, sunblinds, tents, auditoriums, stadiums, commercial centers, ...

UNE-EN 13561 - Sunblinds: Requirements of capabilities including security

Specification of requirements that this kind of sunblinds must have.

<u>- TESTS</u>

- Ageing
- Sun protection tests
- Chemical and physical tests, ...





Car Industry, Aeronautics-Aerospace, Nautical and Public Transport.

-ENAC Certified Tests – for brands like:

- Volkswagen / PSA - Peugeot – Citroën / Opel - General Motors, ...

Library of own standards for the different brands:



- Special Accreditations
- Volvo Group- Tests of Fogging and Formaldehyde emission.
- Renault Group- In procedures of aqcuiring SELF Accreditation only lab. In Spain

Car Industry, Aeronautics-Aerospace, Nautical and Public Transport.

Aeronautics - Aerospace

Nautical

Public Transport: Bus, Car and Train







Geotextiles, Geosynthetics and Agrotextiles

Geotextiles - Geosynthetics

CE Labelling

Geotextiles and Geosynthetic barriers are inside the scope of the Counsel Directives <u>93/68/CEE</u>, regarding building products.





Geotextiles, Geosynthetics and Agrotextiles



Artificial Grass

FIFA contacts have been stablished in order to get the in situ and laboratory tests accreditation for artificial grass in sport facilities.





Acoustics and Vibration

New quality, security and habitability requirements in buildings and its facilities.

New Technical Code for Buildings (CTE) / Noise Law

Research and Development on New Textile Acoustic Materials.

TESTS

- Measurements of the acoustic absortion in reverberant chamber.
- Determination of the coefficient of acoustic absorption and acoustic impedance on impedance pipes.
- Determination of the acoustic isulation
- Etc.







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TEŞEKKÜRLER

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