

Full-Spectrum Compliance

Testing
Inspection & Audit
Sustainability Solutions

ZDHC & REACH Compliance solutions for responsible manufacturing

The region's
largest accredited scope in

Textile Testing

Fibers & Yarns | Technical Textiles | Apparel | Sports Goods

Tti Testing Laboratories
ISO/IEC 17025 & 17020 Accredited

Comprehensive testing and compliance services across the entire textile value chain, from fibres to finished garments and technical applications

Tti Testing Laboratories

Independent verification for businesses to compete and comply globally



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Head Office — Lahore, Pakistan.

Your trusted quality partner, with the region's largest accredited testing scope

Since 1995

Tti Testing Laboratories is a trusted quality partner to leading global buyers, offering end-to-end TIC solutions.

For exporters, manufacturers, and regulated industries, compliance is market access. We accelerate it for you through independent verification to navigate complex regulations with confidence.

Partnering with Tti means securing your supply chain through an ISO/IEC 17025 accredited authority, trusted by 1500+ global brands.

We eliminate operational bottlenecks by combining advanced analytical infrastructure with the region's fastest turnaround time and an uncompromising sample chain-of-custody.

You get direct access to technical experts who engineer flexible and scalable quality assurance programs, designed around your unique processing lines and variable batch sizes.

25,000 sq. ft.
Purpose-built Facility

Turnaround Time: 3 days
We execute ~2000 tests and process 600+ samples daily to give you fastest possible defensible data

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Testing
ISO/IEC 17025 Accredited

Inspection
ISO/IEC 17020 Accredited

Certification
CE Marking, ZDHC MRSL

Sustainability
Supply Chain Sustainability

Industries We Serve:

Textiles & Apparel | Leather & Footwear | Personal Protective Equipment (PPE)
Food & Agriculture | Pharmaceutical | Petroleum | Chemicals

ISO/IEC 17025 & 17020 Accredited
PNAC Accredited | PSQCA Approved
ZDHC MRSL Certifier | ZDHC Wastewater Lab
U.S. CPSC Accepted Conformity Assessment Body
U.S. IAC Certified Microbiology Laboratory
Microfibre 2030 Signatory

Comprehensive coverage of textiles value chain



Fibers & Yarns

We offer fiber composition and analytical testing across natural and synthetic fibers, such as:

- Cotton, Wool, Silk, Linen, Jute, Hemp
- Polyester, Nylon, Viscose, Acrylic, Blended Fibers
- Spun, Filament, Textured, and Blended Yarn

OCA-recognized GMO Screening ISO/TS 5354-1 & -2:2024

Organic cotton identification using real-time PCR for high-quality, amplifiable DNA.



Technical Textiles

We perform fabric construction and RSL analysis with specialized testing across performance, home, and medical textiles, such as:

- Functional Finishes Testing
- Flammability & Burning Behavior
- Quality, Safety, Durability
- Regulatory Compliance

Medical Textiles:

Tailored testing protocols for hygiene-sensitive and regulated textile applications, ensuring material integrity, safety, and compliance with international laws.

Apparel & Accessories

We offer assessment of finished products (apparel and accessories) with labeling compliance across several formal/casual categories and institutional uniforms (CTD, Navy, Police, Army, Air Force, Rescue 1122, Nespak, SNGPL).

Fashion & Garment Accessories:

Scarves, belts, fashion gloves, and garment components (zippers, buttons, elastics, threads, labels, embellishments)

Levi's Quality Partner
Since 1998





Sports Goods & Gears

We offer testing and inspection services across a wide range of sporting goods such as bagpipe, bags, boxing equipment, cricket equipment, sports balls, and medical balls.

Customized quality assurance solutions for other sporting equipment

Our accredited testing across chemical composition, fiber identification, performance, and safety parameters generates precise and standards-aligned data.

ISO/IEC 17025 ACCREDITED

Textiles & Apparel

Testing Services

Aligned with global standards and regulatory frameworks
ISO • EN • ASTM • AATCC • DIN • AS/NZS • BS • SASO • GB • KS

Supporting confident compliance decisions and reliable trade globally

Mechanical Performance

Structural integrity evaluation under load and repeated use

Tensile Strength (Grab, Strip)
Tear Strength (Elmendorf, Wing Rip)
Bursting Strength
Seam Strength & Seam Slippage
Yarn Strength & Elongation

Abrasion Resistance (Martindale, Taber)
Pilling Resistance (ICI, Random Tumble)
Zipper Strength

Dimensional Stability & Appearance

Post-care and long-term visual performance assessment

Dimensional Stability (after wash/dry clean)
Stretch Properties
Recovery & Modulus Control
Spiralilty, Bow & Skewness
Fabric Stiffness
Crease Recovery

Fabric Appearance (after wash/dry clean)
Garment Appearance (after care)
Seam & Fabric Smoothness
Print & Graphic Durability
Care Label Verification

Color Fastness

Dye stability and resistance to environmental exposure

CF to Crocking (Dry & Wet)
CF to Laundering, Water & Perspiration
CF to Ozone & Light
CF to Phenolic Yellowing
Dye Transfer in Storage
CF to Hot Pressing
CF to Pool Water
CF to Sea Water

Color & Color Difference Evaluation – Spectrophotometer

Instrumental Color Measurement (CIELAB)
Instrumental Assessment of Grey Scale Rating
Color Coordinates Hi-Vis Clothing

Testing performed against applicable standards and validated test methods.

Fiber & Functional Performance

Material authenticity, structure, and advanced textile behavior

Material Composition & Fiber Analysis

Fiber Composition (Qualitative & Quantitative)
Organic Cotton Verification
GM Cotton Screening (Recognized by OCA)
Weave / Knit Structure Identification

Yarn & Thread Performance

Yarn & Thread Count
Determination of Yarn Twist
Breaking Strength of Yarn
Yarn Strength & Elongation
Yarn Shrinkage (Boiling Water / Dry Heat)
Sewing Thread Twist & Twist Balance

Fabric Construction & Physical Properties

Fabric Weight Verification
Fabric Count & Thickness
Fabric Stitch Density
Air Permeability
Thermal Resistance

Functional Performance Testing

Moisture & Water Resistance Performance
Wicking, Absorbency, Spray Test
Water & Oil Repellency
Soil Release
Durable Press Rating
Hydrostatic Head Pressure

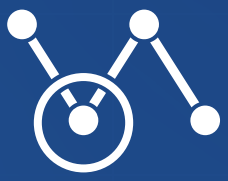
Safety & Specialized Performance

Antibacterial Assessment
Flammability & Burning Behavior
Vertical Flame Test

Safety Assessment

Durability and performance testing of accessories

Corrosion Resistance
Zipper Dimensional Measurement
Zipper Finish Durability
Zipper CF (light, crocking, laundering)
Zipper, Button & Fastener Strength
Print & Embellishment Durability



Our laboratories operate with structured sample handling protocols, secure chain-of-custody controls, and coordinated global sample collection to ensure accuracy, speed, and traceability at every stage.

Child Safety and Regulatory Compliance

Aligned with CPSIA and international consumer product requirements

Total Lead Content in Substrates
CPSIA Section 101

Lead in Surface Coatings (Paint & Prints)
16 CFR Part 1303

Phthalates Content
CPSIA Section 108

Small Parts / Choking Hazard
16 CFR Part 1501

Sharp Points & Sharp Edges
16 CFR 1500.48 & 1500.49

Tracking Label Verification
CPSIA Section 103

Flammability Testing
16 CFR Part 1610, 1615, 1616



U.S. CPSC Accepted

Pakistan's first third-party laboratory, accepted for lead and flammability testing

ROADMAP TO ZERO



Chemical Testing

REACH, AFIRM, OEKO-TEX, GOTS, CPSIA, Prop 65, ZDHC

Tti Labs offers complete chemical management solution for regulatory compliance and supply-chain risk intelligence

Chemical inventory audit and regulatory compliance support

We perform advanced analytical testing to detect these elements in finished products as well as processes, supporting responsible manufacturing claims required for regulatory compliance.

Restricted Dyes & Colorants
Processing Auxiliaries
Plasticizers & Bisphenols
Organotin Compounds
Solvents, VOCs & Residuals
Heavy Metals
APEOs, phthalates
Chlorinated Organic Compounds

Restricted Substances Screening
Chromium VI Screening
PFAS Screening

ZDHC APPROVED
MRSL V3.1
LEVEL 1 & 2
Tti Testing Laboratories

Chemical conformance certification for chemical formulators, based on analytical testing, screening and review of the Safety Data Sheet (SDS)

ZDHC

As an approved ZDHC MRSL V3.1 Certifier and Wastewater Laboratory, we support **Roadmap to Zero Programme**, offering complete solutions for chemical and wastewater compliance.



Reduce non-compliance risk, promote the usage of sustainable material in textiles, and achieve readiness for EU Digital Product Passport (DPP).

We help organizations build transparent, ethical, and resilient supply chains through these services:

- Supplier Mapping & Traceability
- Supply Chain Due Diligence
- Material Compliance
- ESG Audits & Action Plans
- Responsible Sourcing
- Supplier Capacity Building

We also offer training programs for sustainable manufacturing.

Sustainable Supply Chains

Pakistan's most advanced sustainability solutions

Tti Sustainability Center

Tti Sustainability Center offers a comprehensive range of end-to-end sustainability solutions from emission quantification and circular material testing to ESG reporting, representing a strategic pathway to achieving sustainability excellence.

Climate & Carbon Accounting
ESG Reporting & Disclosure
Circular Economy

Sustainable Supply Chains
Sustainable Chemistry
ZDHC Wastewater

Environmental Compliance
Sustainable Agriculture

From Zero Liquid Discharge (ZLD) verification to trace-level detection of hazardous substances, we transform complex 'waste' into clear, auditable data and help manage chemical loads to comply with ZDHC Wastewater Guidelines V2.2

Textiles & Apparel

Circular Economy

Demonstrate recyclability and product circularity
— a key requirement for global exports and environmental labeling

We help organizations shift from a take-make-waste approach to a regenerative model, where materials are reused, recovered, and given new life.

Waste Recovery & Recycling Assessments
Product Durability & Material Testing
Life Cycle Assessment (LCA)



Evaluating against international standards and buyer specs. delivering detailed, decision-ready reports that highlight risks and compliance gaps.

ISO/IEC 17020 ACCREDITED

Textiles & Apparel

Inspection Services

QA/QC for materials, products, processes.

Independent inspection solutions for quality control, risk reduction, and confident supply chain decisions across the textiles industry.

Production & Quality Inspections

AQL-Based Sampling | Custom QC Protocols

Sample Picking (SP)
at ~10% production stage

Pre-Production Inspection (PPI)
Raw material and production readiness

Initial Production Inspection (IPI)
at ~10–20% production

During Production Inspection (DUPRO)
In-line quality control during manufacturing

Pre-Final Inspection (PFI)
at ~60–80% production

Final Random Inspection (FRI)
Pre-shipment inspection (AQL standards)

Full Check Inspection (FC)
100% product inspection

Loading Supervision (LS)
To ensure correct loading and handling

Specialized Inspection Services

Structured QC to ensure consistency, compliance, and traceability

Sample Evaluation & Product Review
Defect Analysis & Root Cause Investigation
Post-delivery Inspection Support
Product Labeling Compliance

From raw material evaluation to shipment readiness, we deliver actionable insights that help in risk reduction, improvement of supplier performance, and protection of brand integrity across global supply chains.

ISO IEC
17020 Accredited
Inspection Body

We offer customizable inspection checklists, expert guidance on the requirements, and structured support to improve supplier compliance from production stage.

Centralized Coordination:
Queries are responded swiftly

Fast Turnaround:
Booking within 24 hours and report submission in next 24 hours after inspection is complete

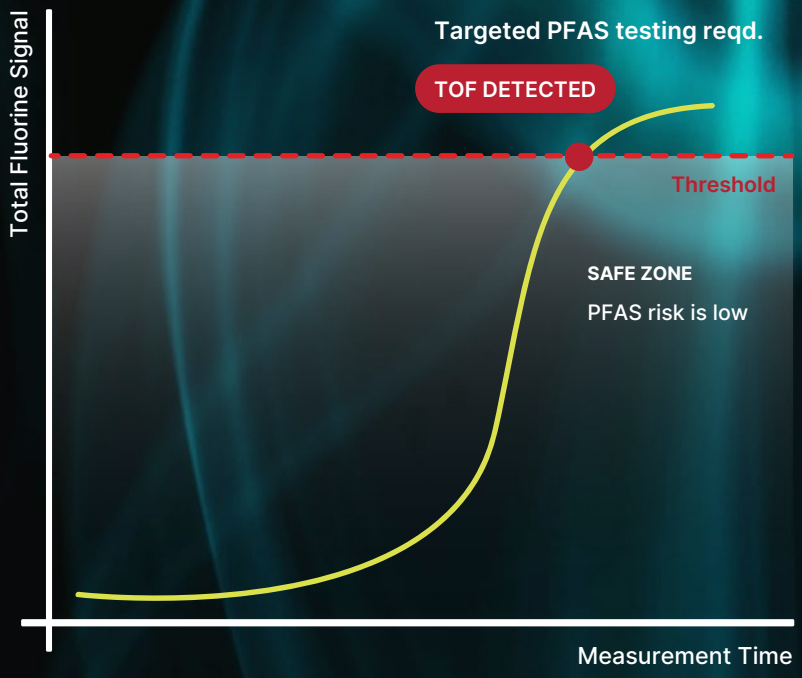
PFAS RISK IDENTIFICATION — **FAST-TRACK**

TOTAL ORGANIC FLUORINE

First TOF screening facility in Pakistan
— Using CIC technology

PFAS testing is essential for:

Textiles & Apparel
Leather & Leather Products
PPE & Protective Clothing
Coated/Laminated Materials



"Is fluorine present in my product at all?"

TOF measures the total fluorine bound to organic compounds in a material and answers this most important question.

It does not target individual PFAS compounds but acts as a prerequisite for PFAS Testing and complete assurance.

Why TOF Screening?

- Rapid PFAS risk identification
- Cost-effective alternative to blind PFAS testing
- Detects known/unknown fluorinated chemistries
- Ideal for high-volume compliance screening
- Reduces risk of rejection/recalls/penalties
- Prevents false compliance confidence from limited PFAS lists available

Textiles & Apparel

Raw Fibers & Yarns
Woven/Non-woven Fabrics
Technical/Industrial Textiles
Casual & Formal Apparel
Garment Accessories
Fashion Accessories

Leather & Footwear

Raw Hide
Leather Footwear
Leather Apparel
Leather Upholstery
Luxury & Designer Goods
Industrial Furnishings

PPE

OH&S PPE
Motorcycle Riders PPE
Healthcare PPE
Industrial Workwear
Gloves & Garments
Safety Footwear

Food & Agri

Natural Products
Water & Other Liquids
Dairy & Animal-based
Bakery & Confectionery
Agriculture Products

Pharmaceutical

Nutraceutical
Cosmetics & Personal Care
Herbal & Natural
Healthcare Environments
Medical & Surgical Devices

Petroleum

Fuels & Middle Distillates
Lubricating Oils & Greases
Transformer Oils
Base & Heavy Oils
Oil Condition Monitoring

Dyes & Chemicals

Pretreatment Chemicals
Dyeing / Finishing Agents
Detergents / Cleaners
Industrial Chemicals
Biocidal Products

Sustainability

Environmental Compliance
Supply-chain Due Diligence
Sustainable Agriculture
Sustainable Chemistry
Climate & Carbon Accounting
ESG Reporting & Disclosure
Circular Economy

Special Services

ZDHC MRSL Certification
ZDHC Wastewater Testing
PFAS & Cr(VI) Screening
GM Cotton Screening

111 786 001

Confidence, Verified.

Tti Testing Laboratories

www.ttilabs.net / 111 786 001

ISO/IEC 17025 Accredited Testing Laboratory | ISO/IEC 17020 Accredited Inspection Body

U.S. IAC Certified Microbiology Laboratory | U.S. CPSC Accepted Conformity Assessment Body
PNAC Accredited | PSQCA Approved | OGRA Approved | EPA Certified

ROADMAP TO ZERO — ZDHC MRSL Certifier & Wastewater Lab

WFP — World Food Programme Partner Laboratory

The Microfibre Consortium 2030 Commitment Signatory

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