

Full-Spectrum Compliance

Testing & Inspection
Compliance Evaluation
CE Certification Facilitation

CE UKCA

Complete facilitation by dedicated experts

Specialized PPE Testing

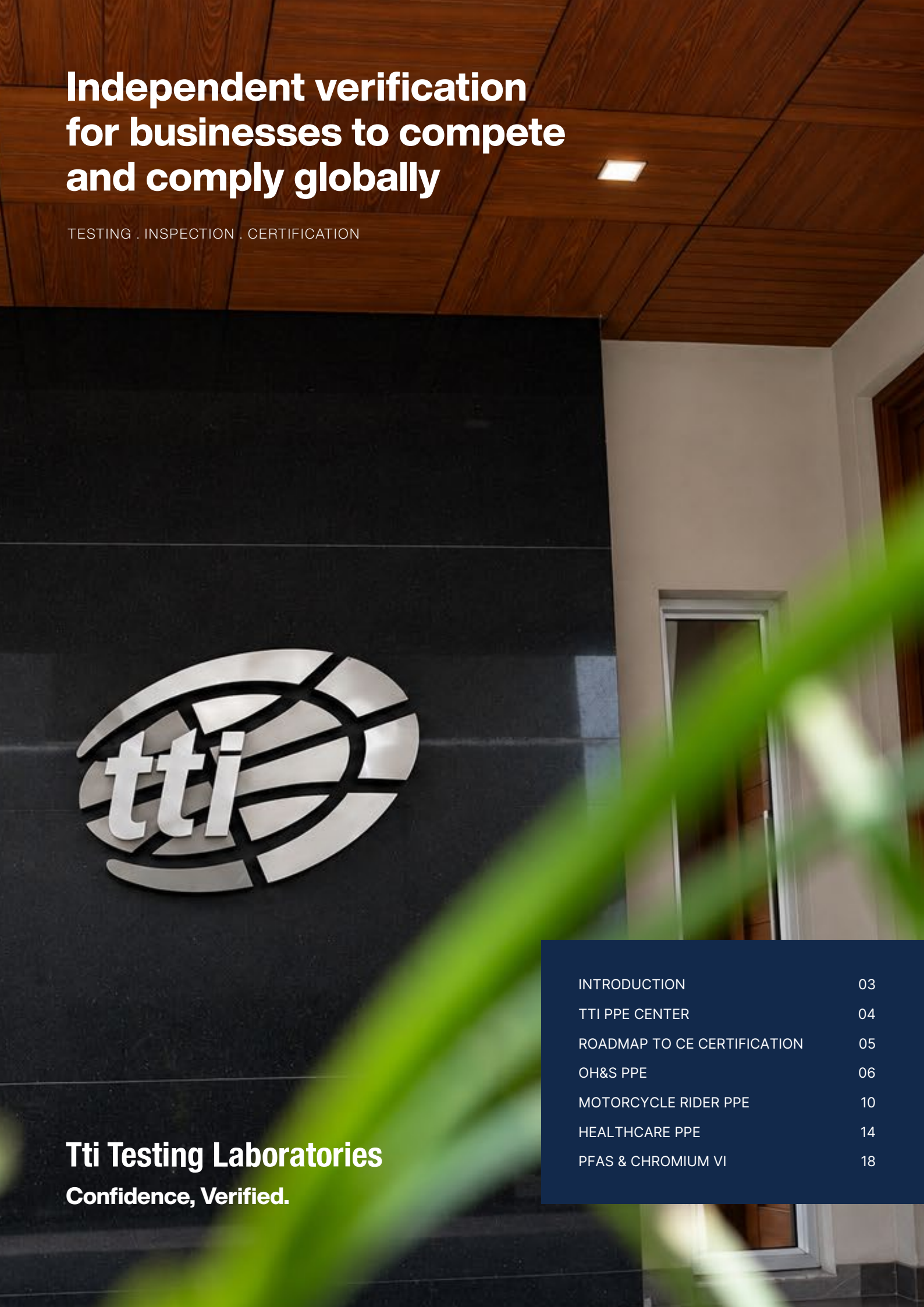
OH&S | Motorcycle Riders | Healthcare

Tti Testing Laboratories
ISO/IEC 17025 & 17020 Accredited

Testing across materials, components, and finished PPE with results structured for technical review, compliance assessment and market access

Independent verification for businesses to compete and comply globally

TESTING . INSPECTION . CERTIFICATION



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Tti Testing Laboratories

Confidence, Verified.

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

Tti PPE Center

Backed by 30 years of technical expertise, Tti Testing Laboratories operates a **dedicated PPE testing facility** built for high-precision evaluations and fast decision-making.

With deep inspection knowledge and region's fastest turnaround times, we support complete compliance pathways, from lab testing and technical review to CE marking readiness.

- Experienced in an extensive range of protective products
- State-of-the-art facility and professional team
- Trusted by global buyers and manufacturers
- Customized PPE assurance solutions
- Direct access to technical experts

Our technical specialists possess extensive experience in PPE standards, regulatory frameworks, and performance requirements. We assist manufacturers in identifying correct testing protocols, interpreting results, and addressing compliance gaps during and after product development.

Protection . Performance . Compliance

Your gateway to the European market.

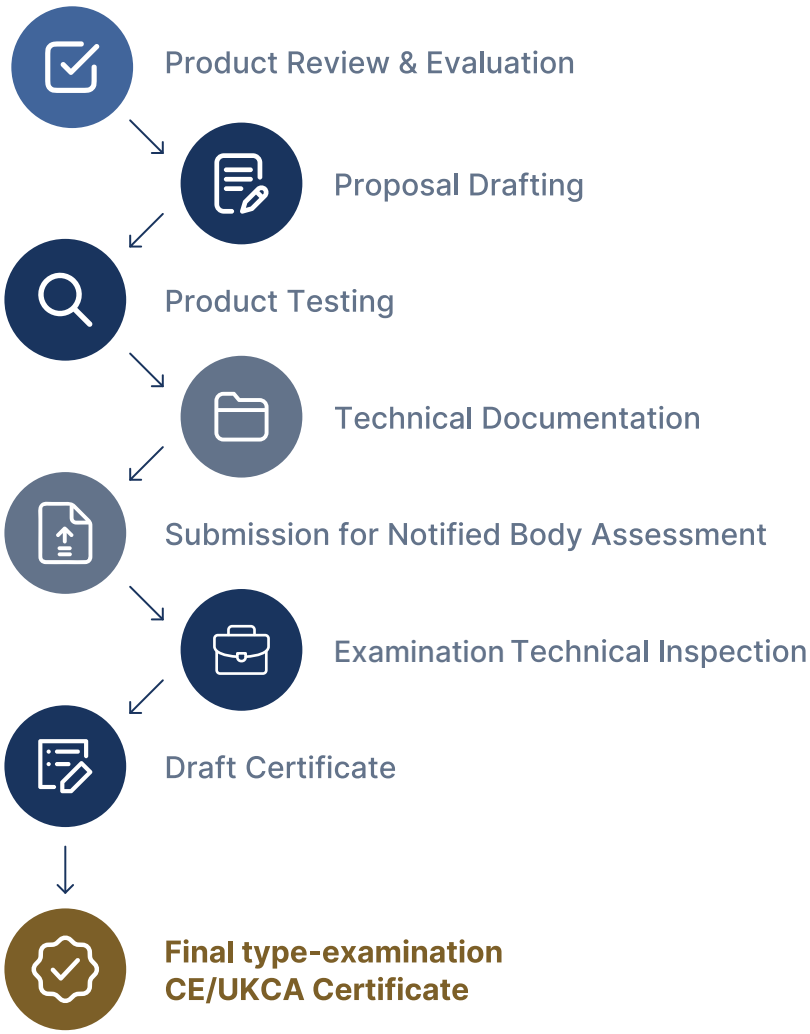
To place PPE products on the European market, manufacturers must demonstrate compliance with Regulation (EU) 2016/425 and obtain certification through an authorized Notified Body.

The CE marking confirms that the product meets essential health and safety requirements defined under the EU PPE Regulation and is permitted for sale across the European Economic Area (EEA).

Roadmap to CE Certification

We support manufacturers through the CE certification process by providing accredited laboratory testing, regulatory interpretation, technical file preparation, and coordination with Notified Bodies.

Tti works in close coordination with several EU Notification bodies for PPEs. Our test reports and technical evaluations are relied upon during conformity assessment procedures.



PPE Classification under
EU Regulation 2016/425

Under the regulation, protective equipment is categorized according to the level of risk it addresses.

Category I – Minimal Risks

Products protecting against low-level risks. Manufacturers can issue a self-declared conformity without involvement of a NB.

Category II – Intermediate Risks

Products requiring EU Type Examination (Module B) before CE/UKCA marking.

Category III – High Risks

Products designed to protect against serious or irreversible hazards. These require EU Type Examination and anongoing conformity assessment by a NB.

Protective apparel for occupational environments is designed to shield workers from mechanical hazards, heat/flame exposure, low-visibility conditions, and chemical contact.

PPE TESTING SERVICES

Protective apparel for

Occupational Health & Safety

Aligned with recognized international standards.

Accredited testing for performance, safety, durability, and compliance across demanding occupational environments.

Protective Gloves

Gloves are tested to protect against mechanical, thermal, and cold hazards across multiple industries



EN ISO 21420:2020+A1:2024
General requirements for protective gloves

ANSI/ISEA 105-2024
Hand protection & cut level ratings

EN 388:2016+A1:2018
Protective gloves against mechanical risks

For protection against abrasion, blade cuts, tearing, and impact hazards in industrial environments.

EN 659:2003+A1:2008
Protective gloves for firefighters

EN 407:2020
Protective gloves against thermal risks

For protection against extreme heat while maintaining dexterity during emergency operations.

EN 12477:2001+A1:2005
Protective gloves for welders

For welding environments where workers face heat, sparks, and molten metal hazards.

EN 511:2006
Protective gloves against cold

For protection against convective cold, contact cold, and water penetration in low-temperature.

Testing performed against applicable standards and validated test methods.

Key Evaluations

Mechanical

Abrasion · Cut · Tear · Puncture · Impact

Thermal

Burning Behavior · Contact Heat · Convective Heat · Radiant Heat · Molten Metal

Cold & Environmental

Convective Cold · Contact Cold · Water Penetration · Water-vapour Transmission

Fit & Function

Sizing · Dexterity · Seam Strength · Glove Removal · Whole-Glove Integrity

Innocuousness

pH . Azo Colorants . Chromium VI . PAHs Dimethylformamide (DMFa) . Nickel Release

Testing & Inspection
Compliance Evaluation
CE Certification Facilitation



Protective Clothing

Garments are tested to protect to against heat, flame, mechanical, and visibility hazards

Key Evaluations

Mechanical

Darmstadt Impact Abrasion · Impact Energy Absorption · Strength Properties

Flame & Heat

Limited Flame Spread · Convective, Radiant, and Contact Heat · Molten Metal

High Visibility

Chromaticity Coordinates · Fluorescent & Retroreflective Visibility · Material Placement Design Requirements

Fit & Function

Size Designation · Design Assessment Dimensional Stability

Material & Environmental Safety

Water-Vapour Permeability & Transmission Color Fastness · Washing and Environmental Durability . Electrostatic

Innocuousness

pH . Azo Colorants . Chromium VI . PAHs Dimethylformamide (DMFa) . Nickel Release

EN ISO 13688:2013+A1:2021
Protective clothing — General requirements

EN 14325:2018+A1:2024
Protective clothing against chemicals



EN 13034:2005+A1:2009
Protective clothing against liquid chemicals

Performance requirements for protection against light splashes or sprays of liquid chemicals.

Flame-Resistant (FR) Clothing



EN ISO 11611:2024
Protective clothing for use in welding and allied processes



EN ISO 11612:2015
Protective clothing against heat and flame



EN 469:2020
Protective clothing for firefighters

High-Visibility (Hi-Vis) Clothing



EN ISO 20471:2013+A1:2016
High visibility clothing

EN 17353:2020+A1:2025
Visibility clothing for non-professional use

ANSI/ISEA 107-2020
High-Visibility Safety Apparel

Protective Footwear

Footwear is assessed for resistance, comfort, and durability under tough working conditions



EN ISO 20344:2021+A1:2024
Personal protective equipment — Test methods for footwear

EN ISO 20345:2021+A1:2024
Personal protective equipment — Safety footwear

Offers the highest level of protection, including mandatory toe-cap protection against impact and compression hazards.

EN ISO 20346:2021+A1:2024
Personal protective equipment — Protective footwear

Provides enhanced protection against workplace hazards including mechanical impact and structural stress.

EN ISO 20347:2021+A1:2024
Personal protective equipment — Occupational Footwear

Designed for professional environments where toe protection is not mandatory but safety, durability, and ergonomic performance are required.

Testing performed against applicable standards and validated test methods.

Key Evaluations

Protection & Impact

Toe & Seat Compression · Impact Cut . Impact Abrasion · Midsole Penetration

Strength & Durability

Upper Thickness & Tear · Tensile & Structural Strength · Flexing · Bonding Strength

Water & Environmental

Permeability · Water Resistance & Leak Proofness · Oil Resistance · Water Absorption & Desorption · Hydrolysis Resistance

Fit & Function

Design & Construction · Fit & Ergonomics Slip Resistance . Outsole Performance

Material & Performance

Innocuousness · Claimed Properties Validation Antistatic (A) · Energy Absorption (E)



Motorcycle protective equipment is designed to reduce injury risks during accidents while maintaining rider comfort, mobility, and control.

PPE TESTING SERVICES

Protective apparel for Motorcycle Riders

Specialized testing & compliance evaluation.

Verifying protective performance of biker's apparel through controlled laboratory evaluations that simulate real-world riding hazards.

Motorcycle Gloves

Verified protection for rider's hands, during impact while maintaining grip and dexterity for vehicle control



EN 13594:2015
Protective gloves for motorcycle riders

Performance Levels

EN 13594 certified motorcycle gloves are classified according to their level of protection and intended riding conditions.

Level 1 – Everyday Comfort

Designed for essential protection while maintaining flexibility, grip, and dexterity for everyday riding environments.

Level 2 – Enhanced Protection

Higher levels of impact and abrasion protection for demanding riding conditions. Level 2 gloves must include **knuckle impact protection** and meet even stricter performance requirements for durability and rider safety.

Key Evaluations

Mechanical & Material

Innocuousness . Cut & Impact Abrasion · Tear
Knuckle Impact Protection . Seam Strength
Hard Inclusions & Protective Components
Restraint System

Fit & Function

Sizing · Ergonomics



Motorcycle Garments

Tested to meet claimed protection class and ergonomics expectations of the biker

EN 17092 Series
Protective clothing for motorcycle riders

Part 1 – Test Methods

Part 2 – Class AAA

The highest protection level. Designed for maximum resistance to impact and abrasion using advanced materials and construction techniques.

Part 3 – Class AA

High-performance protection suitable for a wide range of riding conditions.

Part 4 – Class A

Provides essential protection against impact and abrasion for everyday riding use.

Part 5 – Class B

Focused on abrasion resistance comparable to Class A, but without integrated impact protectors. Typically used for specialized outer garments.

Part 6 – Class C

Designed solely to hold impact protectors in place, worn as inner/outer layers rather than as standalone protective shells.

Testing aligned with applicable motorcycle PPE standards, protection classes and product claims.

Key Evaluations

Mechanical

Darmstadt Impact Abrasion · Restraint System
Structural Closures · Strength Properties

Fit & Function

Size Designation · Dimensional Stability
Fit & Ergonomics

Material & Environmental Safety

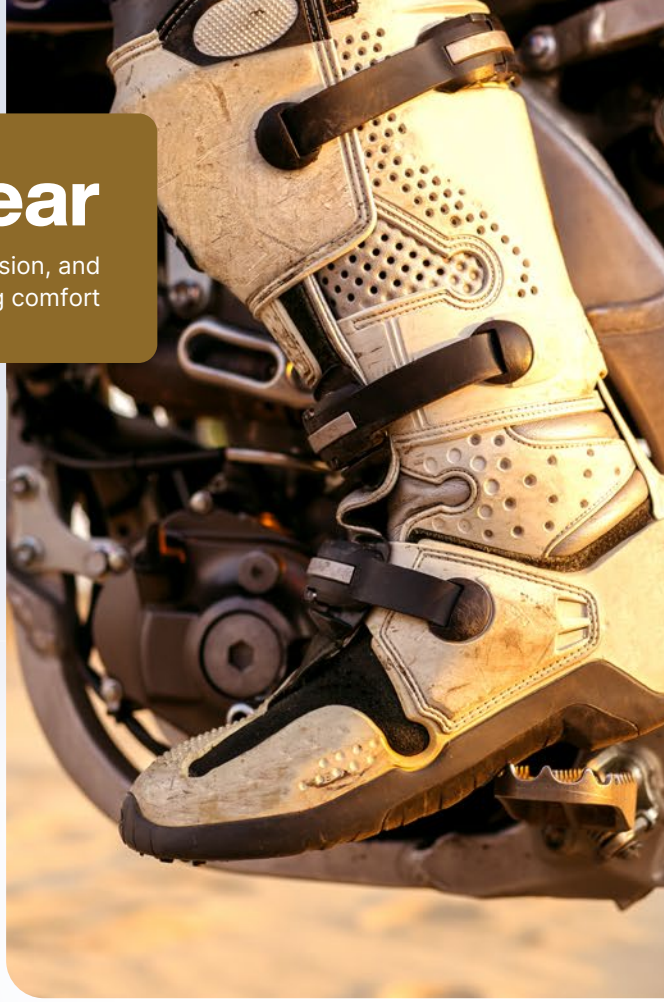
Innocuousness · Ventilation · Washing and Environmental Durability

Innocuousness

pH . Azo Colorants . Chromium VI . PAHs
Dimethylformamide (DMFa) . Nickel Release

Motorcycle Footwear

Protection from impact, crushing forces, abrasion, and environmental hazards, maintaining riding comfort



EN 13634:2017
Protective footwear for motorcycle riders

Performance Levels

Motorcycle footwear is classified according to protective performance levels:

Level 1 – Standard Protection

Designed for everyday riding conditions.

Level 2 – Advanced Protection

Higher structural resistance for demanding and tough riding environments.

Key Evaluations

Protection & Impact

Impact Cut · Impact Abrasion · Ankle & Shin

Durability & Material Performance

Outsole Abrasion · Flexing & Hydrolysis Resistance · Insole Water Absorption & Desorption

Rigidity & Structural Integrity

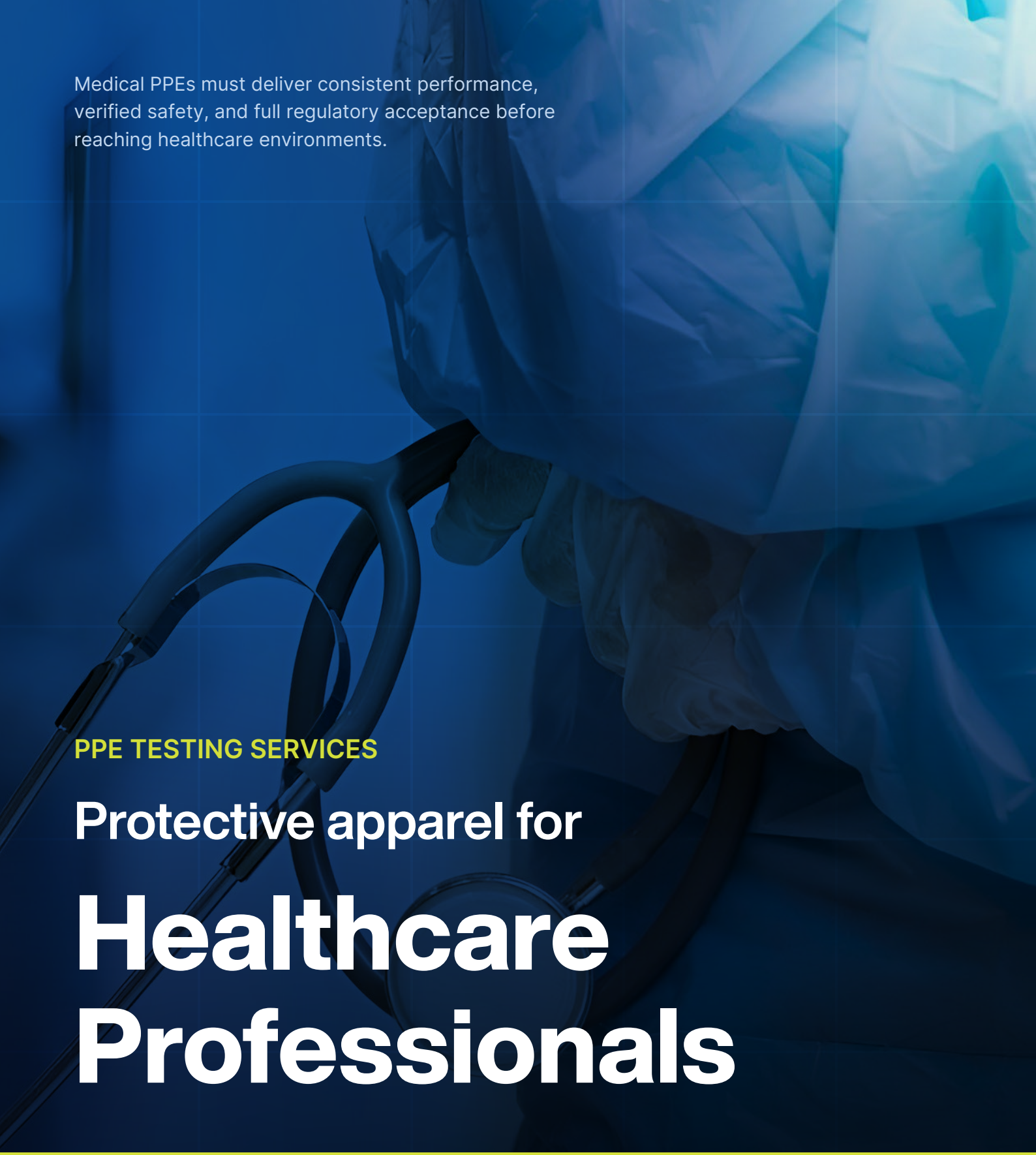
Transverse Rigidity · Sole Adhesion & Bond Strength · Upper Thickness & Tear Strength

Environmental Protection

Water Penetration · Fuel & Oil Resistance Slip Resistance · Water-Vapour Permeability

Material Safety & Design

Innocuousness · Chromium VI · Colour Fastness · Protective Zone & Upper Height



Medical PPEs must deliver consistent performance, verified safety, and full regulatory acceptance before reaching healthcare environments.

PPE TESTING SERVICES

Protective apparel for

Healthcare Professionals

Verified protection for controlled medical environments.

Accredited testing, inspection, and compliance solutions to reduce risk, protect users, and enable market access across global supply chains.

Surgical Gloves

Verified protection from microbial contamination, chemical exposure, and cross-infection



EN ISO 21420:2020
General requirements for protective gloves

EN 455 Series
Medical gloves for single use

EN ISO 374 (Part 1-6)
Protective gloves against dangerous chemicals and micro-organisms

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ASTM D3577
Rubber Surgical Gloves

ASTM D6319
Nitrile Examination Gloves for Medical Application

ASTM D6978
Assessment of Resistance of Medical Gloves to Permeation by Chemotherapy Drugs

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Testing performed against applicable standards and validated test methods.

To support holistic safety of the medical facility, we provide a complete hygiene and infection-control solution.

It includes performance testing for clinical disinfectants & hand sanitizers, environmental monitoring, and comprehensive evaluation of surgical devices, i.e. surgical gloves, surgical gowns, drapes, and medical masks.

Key Evaluations

Barrier & Integrity

Freedom from Holes · Watertightness
AQL . Microbial Barrier

Physical Performance

Dimensions · Tensile Strength · Elongation
Force at Break · Ageing

Biological & Material Safety

Biological Evaluation · Extractable Proteins
Powder/Residue · Endotoxins
Chemical Residues

Chemical Protection

Permeation · Penetration · Degradation
Chemotherapy Drug Resistance

Sterility & Shelf Life

Sterility · Shelf Life · Packaging Integrity

Testing & Inspection
Microbiological Analysis



Surgical Gowns

Tested for maintaining sterile barriers during procedures, protecting from microbial and fluid exposure

EN 13795-1:2025
Single-use and reusable surgical drapes and gowns used as medical devices

EN 13795-2:2025
Clean air suits used as medical devices by clinical staff during surgical procedures

EN 13034:2005+A1:2009
Protective clothing against liquid chemicals

Performance requirements for protection against light splashes or sprays of liquid chemicals.

Key Evaluations

Barrier Protection

Microbial Penetration · Viral/Blood Penetration
Hydrostatic Pressure · Liquid Barrier

Strength & Integrity

Tensile · Tear · Bursting · Seam Integrity

Cleanliness

Microbial Cleanliness (Bioburden)
Lint Generation

Thermal & Moisture

Flammability · Water Vapour Transmission
Evaporative Resistance

Durability & Reuse

Performance After Reprocessing
Laundering Sterilization

ASTM F2407
Surgical gowns intended for use in healthcare facilities

ASTM F3352
Isolation gowns intended for use in healthcare facilities

AAMI PB 70
Liquid barrier performance and classification of protective apparel and drapes intended for use in health care facilities

Testing is aligned to applicable product claims, performance requirements and critical test areas.

From material characterization to finished-product verification, Tti provides objective evidence for PPE performance claims and compliance requirements.

Medical Masks

Critical barrier tested against microbial exposure and fluid penetration



EN 14683:2025
Medical face masks

ASTM F2100
Performance of materials used in medical face masks

Performance Levels

ASTM F2100 classifies medical face mask materials into three performance levels based on bacterial filtration, breathability, fluid resistance, particle filtration, and flammability.

Level 1 – Low Protection

Provides baseline filtration (≥ 95% BFE and PFE) with high breathability for general patient care and low-risk situations without fluid splash risks.

Level 2 – Moderate Protection

Offers increased barrier performance (≥ 98% filtration) and moderate fluid resistance (120 mmHg) for procedures with a medium risk of fluid splash.

Level 3 – High Protection

Delivers maximum filtration (≥ 98%) and high fluid resistance (160 mmHg) to withstand high-velocity blood sprays and heavy surgical environments.

These assessments verify that mask materials and finished products deliver the filtration efficiency, comfort, and barrier protection required for regulated medical use.

We test both sterile and non-sterile masks.

Testing performed against applicable standards and validated test methods.

Key Evaluations

Filtration Performance

Bacterial Filtration Efficiency (BFE)
Particulate Filtration Efficiency (PFE)

Functional Performance

Differential Pressure (Breathability)
Flammability

Barrier Protection

Synthetic Blood Penetration Resistance
Splash Resistance

Microbial & Biological Safety

Microbial Cleanliness (Bioburden)
Biocompatibility

CHROMIUM VI

EN ISO 17075-2

Offering IC-based detection

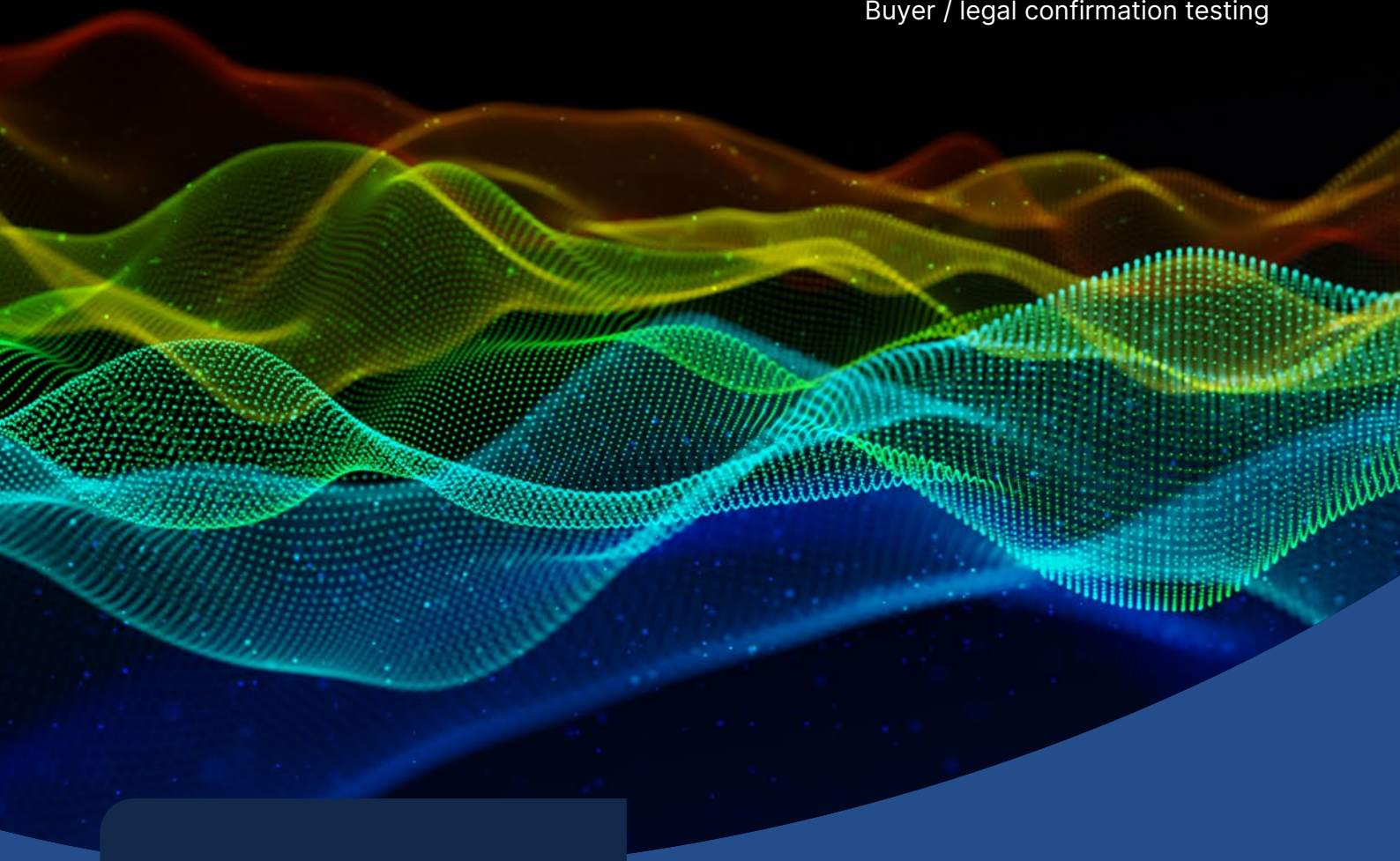
Interference-free confirmation

Part 2 is essential for:

Dark-dyed or heavily finished items in Leather / Fashion / Upholstery Footwear / PPEs etc.

Regulatory submissions / disputes

Buyer / legal confirmation testing



Chromium VI testing is highly sensitive to interference

Many testing labs rely only on EN ISO 17075-1, which:

- Can attract dyes
- Can give false positives
- Is vulnerable to matrix interference

EN ISO 17075-2 is a true confirmatory method

It uses IC-based detection, which:

– Separates Chromium VI from dyes, pigments, and interfering extractables

– Gives results that are technically traceable, reproducible, and up to ppb level

– Is suitable for export, audits, enforcement cases dispute resolution, and legal scrutiny

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

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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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