

**KOTITI**

Testing & Research  
Institute



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**KOTITI** Testing &  
Research Institute

A Global Comprehensive Testing and Research Institute  
Creating Trust and Value through Differentiated  
Technology and Innovative R&D





## Since 1961, KOTITI Testing & Research Institute

Established in 1961, KOTITI Testing & Research Institute has led the development of the Korean textile industry for over half a century. Beyond textile products, KOTITI conducts testing and analysis, quality inspection, and R&D across diverse fields such as environmental hygiene, industrial materials, and mobility.

KOTITI also engages in research and development throughout all stages of textile production—from high value-added new technologies and materials to technical education and publication of specialized materials—offering differentiated and professional services.

In today's era of growing corporate social responsibility for environmental and social sustainability, KOTITI is committed to safeguarding human safety and preserving the future environment.

### Business Areas

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Textiles, Apparel

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Consumer Goods

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Cosmetics, Pharmaceuticals, Quasi-drugs

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Household Chemicals

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Hazardous Substances in Electrical, Electronic, and Auto Product Group

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Food, Agricultural, Marine, and Sanitary Products

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Environmental Safety, Water Quality, and Air (Emissions)

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Filters & Air Purifiers

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Industrial Materials & Mobility

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Accuracy Inspection Environmental Measuring Instruments

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Radioactive Substances

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KOTITI is Korea's premier comprehensive testing and inspection research institute, dedicated to delivering top-quality services that create value for its clients.



## Business Scope

### Testing and Analysis

KOTITI performs professional testing, analysis, and reliability evaluations for environmental safety, as well as toxicity and quality testing of consumer products in accordance with regulations from ministries such as the Ministry of Trade, Industry and Energy and the Ministry of Food and Drug Safety. As a KOLAS-accredited testing and inspection institution, KOTITI supports tests based on diverse international and national standards including KS, ISO, and GB.



### Quality Inspection

Designated as Korea's first inspection agency for export cotton yarns and fabrics, KOTITI continues to provide a wide range of quality inspection services that ensure stable process management and product quality that meet buyers' requirements.



KOTITI

### Certification

As an authorized safety and product certification body, KOTITI conducts statutory and in-house tests such as KC certification to verify product excellence and safety. Through a systematic and reliable certification system and professional post-certification management, KOTITI ensures that products and companies earn consumer trust.



### Research and Development

KOTITI actively conducts government-funded and joint industrial research projects to advance the textile industry and enhance competitiveness—covering new spinning technologies, composite materials, product innovation, and new evaluation methodologies.



### Education and Training / Technical Support

KOTITI provides continuous technical training to improve the capabilities and expertise of industry professionals and enhances training efficiency through customized corporate programs tailored to each company's characteristics and needs.



## History

2010–Present

### Leap Forward Period

Renamed to KOTITI Testing & Research Institute

Designated as a Nationally Accredited Testing Laboratory (KOLAS)

Established overseas corporations (Shanghai, Vietnam, Bangladesh)

Designated as a Safety Certification Body

Designated as a Testing Institution for Food, Water Quality, Cosmetics, Quasi-drugs, and Sanitary Products

Relocated and established new facilities at Gwacheon Aurora Square and Pyeongtaek E-Mobility Center

1990–2009

### Growth Period

Renamed to Korea Textile Technology Institute

Designated as a Nationally Accredited Testing Institution (KOLAS)

Established offices (Yantai, Qingdao, Dalian, Shanghai) and corporations (Dalian, Yantai) in China

1970–1989

### Expansion Period

Designated as a Private Professional Testing Agency

Strengthened collaboration with international professional testing organizations (SGS, MTL, KAKEN, BV, etc.)

1961–1969

### Foundation Period

Founded as the nation's first textile testing and research institute, Textile Testing Laboratory

Reorganized and became an independent incorporated association



## Designations & Accreditations

Classification	Designation Title	Designating Authority	Date of Designation
Comprehensive	Internationally Accredited Testing Laboratory (KOLAS)	Korean Agency for Technology and Standards	1994.04
	Nationally Accredited Testing Laboratory (KOLAS)	Korean Agency for Technology and Standards	2011.12
Consumer Products	Cosmetics Testing & Inspection Agency	Ministry of Food and Drug Safety (MFDS)	2013.11
	Safety Confirmation Institution for Children's Products	Korean Agency for Technology and Standards	2015.07
	Testing & Inspection Institution for Consumer Chemical Products and Biocides	National Institute of Chemical Safety (NICS)	2019.04
	Drug Testing, etc., and Inspection Institutions	Ministry of Food and Drug Safety (MFDS)	2016.07
Electrical & Electronics	Hazardous Substance Analysis (RoHS)	Korean Agency for Technology and Standards	2013.10
Food	Foods, etc. Testing and Inspection Agency	Ministry of Food and Drug Safety (MFDS)	2015.03
	Norovirus Test & Testing Agency (Food)	Ministry of Food and Drug Safety (MFDS)	2015.03
	Livestock Product Testing and Inspection Agency	Ministry of Food and Drug Safety (MFDS)	2015.10
	Safety Testing Agency	National Agricultural Products Quality Management Service (NAQS)	2016.11
	Hygiene Product Testing and Inspection Agency	Ministry of Food and Drug Safety (MFDS)	2018.04
	Radioactivity Specialized Test & Testing Institute	Ministry of Food and Drug Safety (MFDS)	2021.10
	Specialized Testing and Inspection Institute for Genetically Modified (GM) Foods	Ministry of Food and Drug Safety (MFDS)	2024.10
Water Quality	Drinking Water Quality Testing Institution	Han River Basin Environmental Office	2011.07
	Environmental Measurement Services (Sewage/Wastewater)	Gyeonggi Provincial Government	2015.05
Materials, Parts and Equipment (MPE)	Implementing Agency for the Materials, Parts, and Equipment Demonstration Base Project	Ministry of Trade, Industry and Energy	2024.06
Others	Specialized Inspection Institution for Public Procurement	Public Procurement Service (PPS)	2013.03
	Accredited Product Certification Organization (KAS)	Korean Agency for Technology and Standards	2014.10
	Safety Certification Organization	Korean Agency for Technology and Standards	2014.12
	Standards Development Collaboration Organization (COSD)	Korean Agency for Technology and Standards	2022.04

# Textiles & Apparel



Established in 1961 as Korea's first internationally accredited testing institute for textile products, KOTITI Testing & Research Institute has led the nation's textile industry ever since. Equipped with advanced facilities, professional staff, and accumulated expertise, KOTITI is committed to providing specialized technical and informational services through its global network.



## Major Tests

### General Quality Testing

KOTITI conducts quantitative and qualitative analyses of physical and chemical properties such as weight, strength, and colorfastness of textile products, ensuring product quality assurance and verification for consumers.

### Hazardous Substance Testing

With increasing chemical usage, regulations on environmentally and biologically hazardous substances have become stricter. KOTITI provides comprehensive related services supported by advanced equipment and expert personnel.

### Functional Testing

With the rise of leisure activities, KOTITI conducts testing for performance properties such as moisture absorption and quick drying, thermal insulation, and breathability/waterproofness of outdoor products, offering technical data and verification services for functional characteristics and quality.



## Detailed Testing

### Verification of Labeling for Textile Product Quality Indications

Compliance with national and international care labeling and regulatory standards

- Verification of fiber composition or blend ratio labeling
- Verification of handling/care instructions
- Other related quality labeling tests

### KOLAS-Accredited Testing Services

As a KOLAS-accredited laboratory, KOTITI performs testing and analysis in accordance with international and national standards. Accordingly, KOTITI test reports are recognized internationally under mutual recognition agreements of KOLAS.

### Overseas Buyer Testing

KOTITI provides testing services to verify compliance with overseas buyers' quality requirements and cooperates with major international testing institutions through mutual agreements to support a wide range of testing services.

- Quality verification testing for buyer submission
- Hazardous substance analysis for export products
- Testing in accordance with international and national standards (JIS, DIN, BS, ANSI, GB, ISO, AATCC, ASTM, etc.)

# Defense, Public Sector & Protective Clothing



KOTITI Testing & Research Institute provides quality testing and analysis services for defense products, public-sector uniforms such as firefighting and police gear, and various types of personal protective equipment (PPE) including protective clothing and safety gloves. In addition, KOTITI offers one-stop services related to defense and public projects, including technical consultation, on-site visits, training programs, and linkage to government-supported initiatives.

## Defense and Public-Sector Testing

KOTITI conducts quality control testing for military supplies made of textile materials—such as combat-support garments and gear, specialty fibers, and ballistic products—as well as professional testing services for procurement of other public-sector products.

- Physical and chemical properties: fiber contents, weight, strength, colorfastness, etc.
- Functional properties: moisture absorption and quick-drying, thermal insulation, breathability and waterproofness, antibacterial function, etc.
- Testing for hazardous substances related to KC certification

## Firefighting PPE Testing

KOTITI performs quality control and procurement testing for firefighting PPE such as turnout gear, fire hoods, and fire gloves made from textile materials.

- Functional properties: water repellency, absorption resistance, water impermeability, moisture vapor resistance, etc.
- Performance tests: flammability, heat resistance, protection against flame heat, radiant heat, and contact heat

## Safety Glove Testing

KOTITI conducts quality-control tests for gloves used to protect hands from injury and hazards in industrial sites, firefighting, military, law-enforcement, sports and leisure activities, and everyday life.

- Cut-resistant gloves (EN 388, ANSI/ISEA 105): abrasion resistance, cut resistance (COUP), tear strength, puncture resistance, cut resistance (TDM), etc.

## Police Protective Clothing & PPE Testing

KOTITI conducts quality-control testing for police protective clothing and equipment, including stab-resistant vests, cut-resistant garments, and forearm protectors.

- Performance tests: NIJ stab-resistance tests using P1 blade, S1 blade, and SPIKE

## Protective Clothing Testing

KOTITI performs quality-control testing for garments designed to protect part or all of a worker's body from physical and chemical hazards and other harmful factors.

## Chemical Protective Clothing

- Pressurized chemical penetration resistance testing
- Liquid penetration resistance and chemical permeation resistance testing, etc.
- Liquid spray and aerosols leakage tests (finished products)

## Protective Clothing against Infectious Agents

- Synthetic blood penetration resistance testing
- Dry and wet bacterial penetration resistance testing
- Bacteriophage and contaminated liquid aerosol penetration resistance testing

## Protective Clothing for Physical Hazard Resistance

- Cut and puncture resistance tests
- Flex resistance and lint generation tests
- Tear and abrasion strength tests
- Electrostatic tests (surface resistance, half-decay time)
- Surface wetting resistance (spray) test
- Moisture vapor transmission evaluation tests

## Surgical Gowns and Related Products

- Impact penetration and hydrostatic pressure (water resistance) test
- Synthetic blood and bacteriophage penetration resistance tests

# Product Safety & Certification



KOTITI Testing & Research Institute provides testing and inspection services for items covered under the Electrical Appliances and Household Goods Safety Control Act and the Special Act on Safety of Children's Products. As a KOLAS-accredited product certification body, KOTITI carries out strict certification processes to evaluate and verify the safety and quality excellence of products.

## Product Safety (KC Certification)

Children's products and household goods that may pose risks to human life or health must undergo testing and certification before factory shipment or import clearance.

Products that have passed safety verification may display the KC mark, enhancing corporate credibility and brand recognition. KOTITI handles all procedures required to demonstrate product safety and obtain the KC mark.

## KOLAS Product Certification

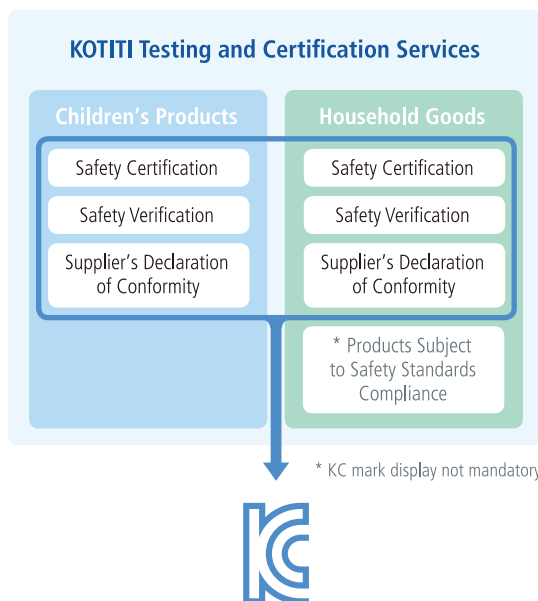
KOTITI is an official product certification body accredited by KOLAS (Korea Laboratory Accreditation Scheme). It conducts rigorous certification activities for domestic and international textile and manufactured goods to verify and attest their quality excellence.

### KOLAS Product Certification Accreditation System

Accreditation of product certification bodies by KOLAS is a system designed to enhance the credibility of certifying institutions. Under KS Q ISO/IEC 17065, KOLAS evaluates the quality management system and technical competence of a certification body to formally recognize its ability to certify products within specific fields in accordance with laws and international standards.

### Significance of KOLAS Product Certification Accreditation

- Recognition based on international standards (such as KS Q ISO/IEC 17065)
- Ensures consistent and reliable operation of certification bodies
- Allows use of certification and qualification marks
- Promotes harmonized standards
- Serves as a foundation for mutual recognition
- Enhances credibility of products, processes, and services



# Children's Products



Products intended for use by children aged 13 and under must comply with KC safety requirements and labeling standards to ensure safety, as stipulated by the Special Act on Safety of Children's Products. KOTITI Testing & Research Institute is a nationally designated children's product safety certification body that verifies product safety through testing and inspection, providing accurate analysis and evaluation data.



## Children's Product Safety Certification

As a nationally designated safety certification institution, KOTITI provides professional Safety Certification services for manufacturers and importers of children's products that require certification.

- Examples: water play equipment for children, toy BB guns, etc.



## Children's Product Safety Verification

For products that require Safety Verification under relevant laws before shipment or customs clearance, KOTITI conducts professional testing and inspection to verify compliance with safety standards and reports the results accordingly.

- Examples: infant textile products, toys, stationery, children's bunk beds, infant chairs, infant cribs, walkers, strollers, and infant carriers



## Supplier's Declaration of Conformity for Children's Products

For children's products that are not subject to safety certification or safety verification, suppliers are required to independently verify that their products comply with the relevant safety standards. However, since many lack sufficient technical personnel or equipment, KOTITI offers professional Supplier's Declaration of Conformity services.

- Examples: children's textile products, leather goods, eyeglass frames and sunglasses, accessories, furniture, etc.

## Common Safety Standards for Children's Products

The Special Act on Safety of Children's Products establishes fundamental chemical and physical safety requirements for supplier-conformity children's products that lack individual safety standards.

KOTITI provides services that verify essential safety aspects of children's products to prevent potential hazards in advance and to enhance product value.

- Chemical Safety Checks: hazardous element migration (8 types), heavy metals (cadmium, lead), phthalate plasticizers, textile-related parameters (pH, formaldehyde, aromatic amines), etc.
- Physical Safety Checks: small parts, sharp edges, pointed ends, etc.



# Consumer Chemical Products Subject to Safety Verification



## System for Safety Standard Compliance Verification of Designated Consumer Chemical Products



### Consumer Chemical Products

These are chemical products used in everyday environments—such as homes, offices, and public facilities—that can potentially expose people or the environment to chemical substances.



### Consumer Chemical Products Subject to Safety Verification

Products that, following risk assessment by the Ministry of Climate, Energy and Environment, are deemed to pose potential hazards and are designated and publicly announced after consultation with relevant central administrative agencies and review by the Management Committee.



### Safety Standard Compliance Verification for Designated Consumer Chemical Products

Manufacturers or importers of such products must commission a testing and analysis institution every three years to confirm whether the product meets the applicable safety standards.



#### Safety Standards

The safety standards for each type of designated household chemical product define requirements for risk assessment, container or package specifications, and labeling.

#### Safety Confirmation

Manufacturers or importers must, every three years, have their products tested by an authorized laboratory to verify compliance with safety and labeling standards, and report compliance within 30 days to the Korea Environmental Industry & Technology Institute (KEITI).

#### Product Approval

For products not yet covered by established safety standards, approval must be obtained from the President of the National Institute of Chemical Safety (NICS).

## Product Categories Subject to Safety Confirmation

### Types of Designated Consumer Chemical Products (43 Categories)

- Detergent Products: Cleaners, Removers
- Laundry Products: Laundry Detergents, Bleaching Agents, Fabric Softeners
- Coating Products: Gloss Coatings, Special Purpose Coatings, Anti-Rust Additives, Lubricants, Ironing Auxiliaries, Finish Agents, Hardeners
- Adhesives Products: Adhesives, Gap and Crack Fillers, Hardening Accelerators
- Air Freshener Products: Air Fresheners, Deodorizing Agents
- Dyes & Colorants: Dye Agents, Colorant Painting Agents
- Automotive Products: Windshield Washer Fluids for Automobiles, Engine Antifreezes
- Printing and Document-Related Products: Ink Cartridges and Toners, Red Seal Ink Pads, Correction Fluids and Tapes
- Beauty Products: Adhesives for Beauty
- Leisure Goods Care: Cleaners/Brightener for Sporting Goods
- Disinfection Products: Disinfectants, Algaecides, Disinfectants and Preservatives for Humidifiers\*, Quarantine Sterilizers and Disinfectants for Infectious Disease Prevention\*
- Insecticides and Repellents: Insect Repellents, Public Health Insecticides\*, Public Health Repellents\*, Insecticides for Infectious Disease Prevention\*, Rodenticides for Infectious Disease Prevention\*
- Preservative Products, Preservative-Treated Products: Wood Preservatives, Preservative-Treated Filter Product
- Other Products: Candle, Dehumidifying Agent, Artificial Snow Spray, Fog Fluid for Performance, Humidifier-Use Household Chemicals\*, Humidifier Preservation Treatments\*

\*) Products subject to approval that are required to obtain authorization from the President of the National Institute of Chemical Safety (NICS) by submitting data on the use, hazards, and exposure information of chemical substances in accordance with the 'Regulations on the Approval of Safety-Check Target Consumer Chemical Products' (Notification of the National Institute of Chemical Safety).

### Container or Package, Weight Inspection

- Inspection of container and package integrity, and verification of weight or volume

### General Quality Testing Services

- Analysis of 26 allergenic fragrance substances and biocidal agents
- Testing for prohibited and restricted substances within designated chemical products

# Electrical, Electronics & Automotive Hazardous Substances



KOTITI Testing & Research Institute provides one-stop services related to environmental regulation compliance—including hazardous substance analysis for electrical, electronic, and automotive industries, technical consulting, on-site visits, problem-solving, education, and linkage to government-supported projects.



## Electrical & Electronics Industry

KOTITI offers strategic and comprehensive compliance solutions tailored to domestic and international regulations governing electrical and electronic products. Through KOTITI's professional and reliable testing and analysis services, clients can protect their brand image and eliminate potential business risks.



### Overseas Regulatory Substance Analysis Services

- RoHS/RoHS II: Analysis of hazardous substances restricted in electrical and electronic products under EU RoHS directives
- REACH: Analysis of candidate substances of very high concern (SVHC) under the EU chemical management system
- VOCs: Analysis of volatile organic compounds in electrical and electronic products
- PFAS: Analysis of per- and polyfluoroalkyl substances (PFAS)
- Finished product testing & analysis
- Analysis services responding to various country-specific regulatory requirements



### Global Corporate Regulatory Substance Analysis

- Analysis of regulated hazardous substances (RSL) for global companies such as Samsung Electronics and LG Electronics



### Analysis Services for Compliance with the Act on Resource Circulation of Electrical and Electronic Equipment and Vehicles (Eco-Assurance System)

- Hazardous substance testing & analysis
- Material structure improvement assessment
- Recycling performance evaluation

### Technical Consulting

- Customized corporate process establishment for compliance with RoHS, REACH, the Resource Circulation Act, and client-specific requirements
- Technical consulting to address domestic/international regulations and customer standards
- Preparation of regulatory and market trend analysis reports

### Seminars & Training

- Basic and practical seminars on product environmental regulation compliance
- Training for acquisition of private certification for environmental regulation compliance specialists
- Environmental regulation compliance training for executives and employees of major corporations and partner suppliers
- HRD Consortium training under the National Human Resources Development Program

## Automotive Industry

As a hazardous-substance specialized analysis and environmental regulation consulting institution under the Ministry of Trade, Industry and Energy, KOTITI provides comprehensive testing, analysis, and consulting services that address national and corporate safety standards and environmental regulations for both complete vehicle manufacturers and automotive parts OEMs (such as mufflers, chassis, interiors, etc.), helping improve product safety and quality.

### ELV Compliance (End-of-Life Vehicles Directive): Analysis of Restricted Hazardous Substances and Recycling Regulations in the EU Automotive Sector

- Testing for the presence of banned heavy metals
- Evaluation for compliance with automotive flame-retardant regulations

# Cosmetics



KOTITI Testing & Research Institute has been designated by the Ministry of Food and Drug Safety (MFDS) as Cosmetics Testing and Inspection Institution No. 13, providing testing and analysis services for harmful substances and functional ingredients in cosmetics, raw materials, and Package components. KOTITI conducts tests in accordance with Cosmetic Safety Management Standards for Distribution, verifies the content of main ingredients in functional cosmetics, and provides analysis services for over 50 'free-from' claims. As a designated cosmetics testing and inspection institution, KOTITI offers the following specialized and differentiated services.

## Testing Categories for Cosmetic Labeling and Advertising Verification

### Preservatives

Analysis of seven parabens, phenoxyethanol, benzyl alcohol, etc.

### Benzophenone Analysis

Testing for UV filter components such as benzophenone-3, -4, and -8

### Comprehensive Analysis of over 50 Chemical Constituents, including the above Categories

Continuous expansion of testing items planned

## Microbiological Testing Services Beyond MFDS Standards

- Preservative efficacy testing (PET) provided according to various international methods
- Microbial limit testing in accordance with ISO and USP standards
- Antimicrobial efficacy testing compliant with ASTM E2315-23

## Cosmetic Stability Testing

- Evaluation of product stability over time to establish storage conditions and expiration dates
- Samples are stored for a specified period under controlled temperature and humidity (in constant-temperature and humidity chambers) to assess periodic physical, chemical, and microbiological properties (including long-term, severe, and accelerated tests)

## Additional KOTITI Cosmetic Testing Services

### Steroid Analysis

Testing of 39 steroids specified by MFDS plus 4 additional compounds

### Fragrance Allergens

Testing and analysis of 52 allergenic fragrance compounds

### Hair Dye Analysis

Testing of primary ingredients in hair dyes and analysis services for 'p-phenylenediamine-free' product claims

### Cosmetic Container Testing & Analysis

Heavy metals (lead, arsenic, mercury, antimony, cadmium, nickel)  
Phthalates (DBP, BBP, DEHP) analysis

### PFAS (Perfluorinated Compound) Analysis

Testing of 12 PFAS compounds, including PFOA and PFOS, based on the MFDS Guideline on Banned Substances in Cosmetics

### Radioactive Substance Testing

Analysis for uranium-238 and thorium-232 in reference to the MFDS Guideline on Banned Substances in Cosmetics

# Pharmaceuticals and Quasi-Drugs



## Overview of Testing and Inspection for Pharmaceuticals by the Ministry of Food and Drug Safety (MFDS)

KOTITI Testing & Research Institute has been designated by the MFDS as Pharmaceuticals and Related Products Testing and Inspection Institution No. 14, providing quality control and licensing test data as well as regulatory consulting for pharmaceuticals and quasi-drugs. As a designated pharmaceuticals testing and inspection institution, KOTITI offers the following specialized and differentiated services.

### Testing and Analysis for Pharmaceuticals and Quasi-Drugs

Classification	Purpose	Types
Pharmaceuticals	Oral solid dosage forms, semi-solid dosage forms, liquid preparations, and other solid dosage forms (HPLC-UVD, ELSD / LC-MS-MS / HS-GC-FID / GC-MS, etc.)	
Quasi-drugs	Sanitary-use textiles, rubber, paper products	Sanitary pads, medical masks, bandages, gauze, absorbent cotton, adhesive plasters, etc.
	Deodorizing agents for oral hygiene	Toothpaste, mouthwash, deodorants, contact lens care products, etc.
	Insect and animal Insect repellents, external disinfectants	Mosquito Insect repellents, hand sanitizers, etc.

### Waiver of Contract Fees for Pharmaceutical and Quasi-Drug Testing and Inspection

- For MFDS quasi-drug testing and inspection outsourcing contracts, agreements can be signed without separate contract deposits

### Impurity Validation and Testing for Pharmaceuticals

- Testing and validation for 24 metallic impurities and genotoxic impurities in accordance with strengthened MFDS safety management standards for pharmaceuticals and active pharmaceutical ingredients (APIs)

### Stability and VOC Testing for Pharmaceuticals

- One-stop support for accelerated and long-term stability tests for regulatory submission, from storage to analysis
- Testing and analysis for detection of 62 types of volatile organic compounds (VOCs)

### Comprehensive Consulting for Quasi-Drug Manufacturing or Import Approval (Notification) under MFDS Regulations

- Including pre-review of manufacturing/import facilities and establishment of standards and test methods for product sales approval

# Food and Health Functional Foods



KOTITI Testing & Research Institute is a testing and inspection institution designated by the MFDS for food, livestock, and health functional foods, providing testing and analysis services for raw materials, functional ingredients, harmful substances in Package, validation of individually recognized materials, and self-quality inspection. Accurate analytical services are provided for reliable quality control, assisting in the establishment of test methods for new item registration and review.



## Food and Livestock Products

To quickly develop and release high-quality food products, accurate safety assessments have become increasingly important. KOTITI provides diverse testing and analysis services for safety evaluation across all stages of production and distribution for meat, dairy, and ready-to-eat food products.



### Main Testing and Inspection Subjects

- Food and food additives
- Livestock products
- Food utensils, containers, and package
- Norovirus in food-use water
- Genetically Modified Foods (GMO)



### Main Testing and Inspection Items

- Synthetic colorants (tar dyes), preservatives, nitrite ions
- Analysis of nine key nutrients, additional vitamins, and dietary fiber
- Analysis of harmful substances such as mycotoxins, lead, and benzo[a]pyrene
- Microbiological testing: total viable count, coliforms, Staphylococcus aureus, etc.
- Norovirus testing
- Shelf-life testing
- GMO testing for soybeans and corn

## Health Functional Foods

Under Article 7 of the Health Functional Foods Act (Product Manufacturing Notification, etc.), manufacturers must file a manufacturing notification with the regional MFDS office. Under Article 21 (Self-quality Inspection Obligation), manufacturers must regularly test and record compliance with standards and specifications. KOTITI provides fast and accurate services for health functional food manufacturing notification and self-quality inspection.

### Testing Targets

- Health functional foods in liquid or semi-solid dosage forms

## Technical Support and Education

- Government research projects and testing for corporations, universities, and research institutions
- Seminars and educational programs
- Test method validation
- Workplace hygiene inspection and audits for FSSC 22000 system B.C.P. items
- Specific substance analysis services
- Factory audits

# Agricultural Product Safety Testing



KOTITI is a safety testing institution designated by the National Agricultural Products Quality Management Service (NAQS). It conducts safety testing for agricultural products—covering pesticide residues, heavy metals, and pathogenic microorganisms—in accordance with the Agricultural and Fishery Products Quality Control Act, and provides technical services related to quality and safety management.



## Major Testing and Inspection Services

Accurate safety assessment is becoming increasingly important to ensure the supply of safe agricultural products.

KOTITI provides safety testing services for various hazardous substances such as pesticide residues, heavy metals, and pathogenic microorganisms throughout the production, distribution, and sales stages of agricultural products.

In addition, KOTITI contributes to improving product competitiveness and farmers' income by promoting the production of high-quality agricultural products linked to policy projects such as certified agricultural products, export crops, and ginseng safety management. Based on this, KOTITI promises professional and reliable technical support that complies with agricultural safety regulations.



## Safety Testing Targets

- Agricultural products

## Safety Testing Items

- 463 types of pesticide residues
- Lead (Pb), Cadmium (Cd)
- Pathogenic microorganisms such as total bacterial count, coliforms, and seven other species

## Effects of Safety Testing

- Protects public health through the supply of safe food
- Enhances the competitiveness of domestic agricultural products, thereby increasing income
- Improves consumer trust in the safety of domestic produce, giving it a competitive edge over imported products

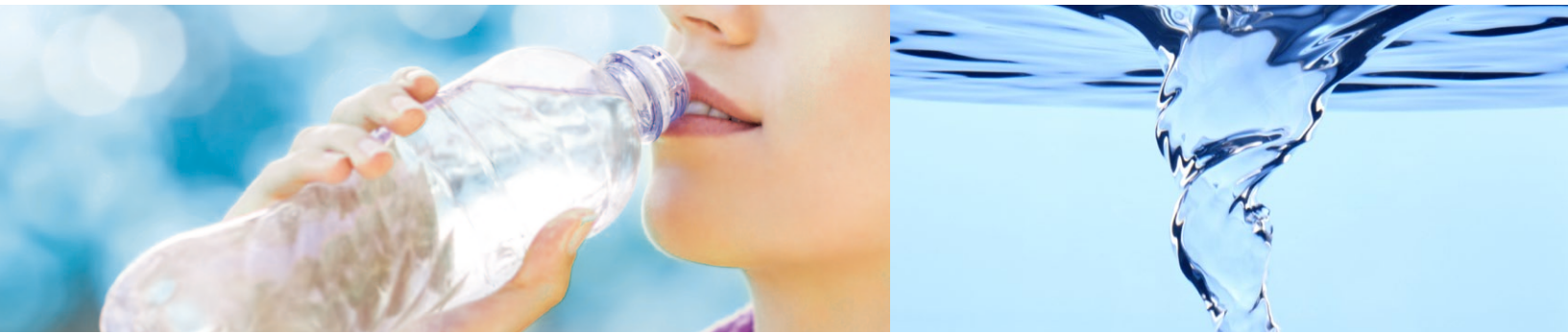
## Positive List System (PLS) for Pesticide Management

As imports of food products increase and diversify, it has become inevitable that agricultural products containing unverified pesticides may enter the market. The Positive List System (PLS) was introduced to block the distribution of agricultural products containing unapproved pesticides in advance and ensure that only safe agricultural products are imported and distributed.

## Enhanced Pesticide Residue Limits under PLS

- With the implementation of PLS, pesticide use standards are revised
- Substances not included in the positive list are, in principle, prohibited from use
- Testing standards for pesticide residues are strengthened
- Deletion of Codex and similar crop criteria; compliance required at  $\leq 0.01$  ppm
- The number of agricultural products failing safety inspections for pesticide residues has increased
- Pesticide residue testing must be strengthened to reduce noncompliance rates in agricultural products

# Drinking Water



There is growing public concern about preventing health and environmental hazards while actively managing and protecting water quality and ecosystems in public water bodies. KOTITI, designated as a Drinking Water Quality Testing Institution and Water Quality Measurement Agency, provides reliable testing and analysis services for groundwater, tap water, monitoring items, and wastewater.



## Regular Groundwater Quality Testing

Groundwater is categorized according to its intended use—domestic (drinking/non-drinking), agricultural, or industrial—and may only be used after meeting the applicable quality standards specified in the Groundwater Act following permit or registration. As an accredited testing institution, KOTITI conducts regular groundwater quality testing and various related analyses.



### Inspection Cycles and Items

- Potable water: once every 2 years – tests for microorganisms and harmful inorganic substances
- Non-potable domestic water, agricultural water, industrial water: once every 3 years – total coliform tests



## Bottled Water Quality Testing

KOTITI conducts comprehensive analysis to ensure quality stability and prevent public health risks associated with bottled water while promoting environmental health.

- Bottled water (product): total coliforms and 52 other test items
- Spring water (source): lead, arsenic, and 48 other test items
- Mineral content testing: silica, magnesium, calcium, fluoride, potassium, sodium
- Microplastic testing and analysis services
- Testing of equipment, containers, and package

## Drinking Water Quality Monitoring Items

The Waterworks Act stipulates separate 'Drinking Water Quality Monitoring Items' in addition to the basic drinking water quality standards. KOTITI performs quality testing based on the targets, procedures, monitoring standards, and inspection cycles defined for these monitoring items.

### Applicable Targets and Test Items

- Raw water sources: corrosivity index, microcystins (6 types)
- Treated water: hazardous inorganic/organic substances (including PFAS), disinfection by-products (NDMA, NDEA, etc.), aesthetic impact substances (geosmin, 2-MIB), natural radioactive substances (radon), chironomid larvae
- Bottled (spring) water: formaldehyde, antimony, molybdenum

## Other Water Quality Testing Services

- Groundwater testing under the Food Sanitation Act: applicable to groundwater used for drinking, food preparation, or washing in food service or manufacturing facilities
- Groundwater testing under the School Health Act: applicable to groundwater supplied as drinking water in schools or water purifiers
- Groundwater testing for public sanitation facilities: bathwater and tub water in public bathhouses
- Water quality testing for sports facilities: swimming pool water
- Water quality testing for management of drinking water source protection zones
- Inspection of water storage tanks and indoor water supply pipes in buildings or residential complexes
- Testing and inspection for corporate research and quality monitoring purposes

# Hygiene Products



KOTITI is a testing and inspection institution for hygiene products designated by the Ministry of Food and Drug Safety (MFDS). In accordance with the Cleansing and Hygiene Products Control Act, KOTITI provides technical services related to quality control, detection of hazardous substances, and safety management of consumer hygiene products.



## Major Testing and Inspection Services



### Scope of Testing

- Self-quality inspection / Import inspection / Market sampling inspection



### Testing and Inspection Subjects

- Laundry Detergents: Formulations used for washing vegetables, fruits, and food containers, as well as processing and cooking utensils
- Rinse Aids: Formulations used during the final rinse process in automatic dishwashers to assist in removing residues
- Disposable cups, spoons, chopsticks, forks, knives, straws, paper napkins, toilet paper, dishcloths
- Wet Tissues: For use in food service establishments
- Wet Sanitary Towels: Packaged towels used in food service establishments for hand wiping, etc.
- Disposable Towels: Kitchen towels, hand towels
- Disposable Toothpicks: Made of synthetic resin, wood, or starch materials
- Disposable Cotton Swabs: For adult and children's use
- Disposable Diapers and Sanitary Pads (Mats): For adults and children
- Disposable Panty Liners: Excluding quasi-drugs under Article 2(7)(a) of the Pharmaceutical Affairs Act
- Oral Care Products: Toothbrushes, dental floss, tongue cleaners, interdental brushes



### Test and Inspection Items

- Physicochemical Tests: Arsenic, lead, cadmium, mercury, total heavy metals, fluorescent whitening agents, formaldehyde, azo dyes, phthalate plasticizers, material property tests, migration tests, and other hazardous elements
- Microbiological Tests: Coliforms, total bacterial count, and fungal count

## Self-quality Inspection

### Inspection Frequency

- Wet sanitary towels: at least once per month (heavy metal testing at least once every six months)
- Laundry detergents, rinse aids, wet tissues, disposable diapers, panty liners: at least once every six months
- Disposable items such as cups, spoons, chopsticks, forks, knives, straws, paper napkins, dishcloths, towels, toothpicks, cotton swabs, toilet paper, and dry tissues: at least once every twelve months

### Testing Entrustment Service

Under the Sanitary Products Management Act, manufacturers of sanitary products are legally required to conduct periodic self-quality inspections to ensure compliance with product standards and specifications.

When manufacturers cannot conduct these tests internally due to a lack of equipment, facilities, or personnel, KOTITI performs the testing and inspection on their behalf as an entrusted institution.

# Radioactive Substances



KOTITI Testing & Research Institute provides analytical services to ensure product safety and proactive compliance with relevant regulations—including the Act on Protective Action Guidelines Against Radiation in the Natural Environment, the Food Sanitation Act, and the Indoor Air Quality Control Act—through preemptive, detailed analysis of products suspected of containing radon (a Group 1 carcinogen) other radioactive materials.

## Analysis Service Items

### Gamma-Ray Analysis of Body-Contact Products and Raw Materials (Act on Safety Control of Radioactive Rays around Living Environment)

- Radionuclides analyzed: uranium-238 series, potassium-40, thorium-232 series, etc.
- Test Details
  - Measurement of radioactive content in raw materials and by-products containing radioactive minerals or potentially contaminated substances
  - Analysis of gamma-emitting radionuclides in body-contact products
  - Other products affecting the living environment

### Gamma-ray Analysis of Food Samples (Standards and Specifications for Foods)

- Radionuclides analyzed: cesium-134, cesium-137, iodine-131, etc.
- Test Details
  - Determination of radioactive contamination in agricultural, livestock, and marine products for food safety evaluation

### Radon and Thoron Simple Analysis

- Radionuclides analyzed: radon, thoron
- Test Details
  - Raw materials and process by-products
  - Household goods (e.g., bedding materials), etc.

### Others (Guidelines for Radon Reduction and Control in Building Materials)

- Radionuclides analyzed: radium-226, potassium-40, thorium-232 series, etc.
- Test Details
  - Analysis of gamma-emitting radionuclides in construction materials
  - Calculation of radioactivity concentration index for construction materials

## Scope of Testing

### Products That People Lie on, Cover Themselves with, or Rest Their Heads on

- Beds, mattresses, blankets, mats, pillows, sheets, cushions, etc.

### Products Laid on the Floor or Sat upon

- Mats, floor coverings, carpets, cushions, sofas, chairs, etc.

### Products Worn on the Body or Attached to Clothing

- Jewelry such as bracelets, earrings, necklaces, and rings
- Hair accessories such as headbands, hairpins, and binyeo (traditional hair ornaments)
- Eyeglasses, goggles, sunglasses, contact lenses
- Masks (including both half and full face masks)
- Clothing items such as garments, socks, beoseon (traditional socks), hats, and shoes (including insoles)
- Sanitary items for menstrual hygiene management such as sanitary pads, tampons, menstrual cups, and panty liners
- Eye masks, bandages, gauze, absorbent cotton, adhesive plasters, etc.
- Wristwatches and similar items

### Products Applied, Rubbed, Sprayed, or Used to Wash or Wipe the Body

- Cosmetics (all products defined under Article 2(1) of the Cosmetics Act)
- Double-eyelid tapes and artificial eyelashes
- Tissues, wet wipes, toilet paper, napkins, towels, handkerchiefs, wet towels, cotton swabs
- Laundry Detergents and products assisting or promoting cleaning
- Toothbrushes, dental floss, toothpaste, mouthwash, etc.

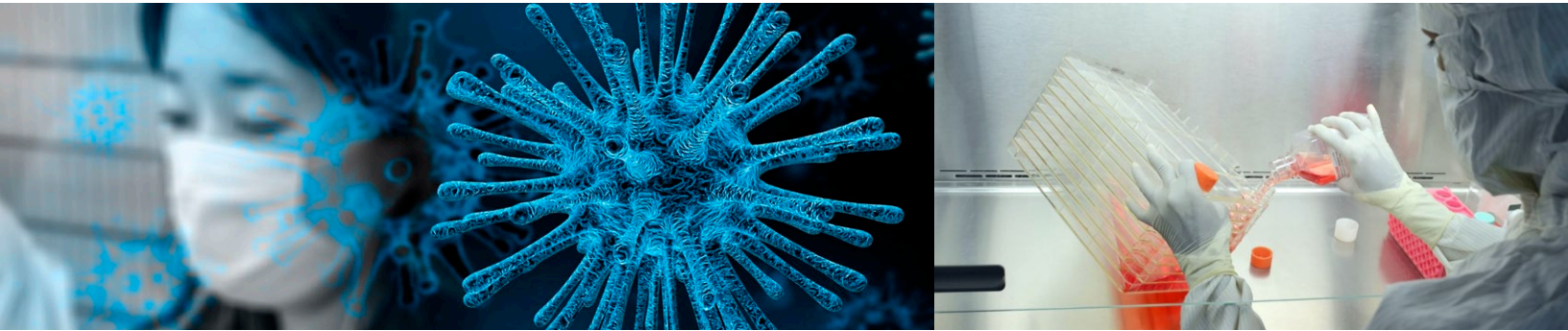
### Products Used in Contact with Food or Ingredients for Cooking or Dining

- Spoons, chopsticks, forks, knives, straws, etc.
- Pots, frying pans, cutting boards, kitchen knives, etc.

### Food Samples (Standards and Specifications for Foods)

- Food, agricultural, marine, and livestock products

# Antiviral Testing



In the post-COVID era, awareness of infection prevention and control has increased, leading to a surge in the development of antiviral functional materials and products. KOTITI Testing & Research Institute has established an antiviral evaluation platform for a wide range of products—such as household goods, quarantine and sanitation supplies, and home appliances—providing analytical services for assessing antiviral efficacy against various viruses.

## Antiviral Efficacy Evaluation Test

Assessment of antiviral activity and viral reduction performance for products with antiviral or disinfecting functionality (e.g., household goods, quarantine products, home appliances).

### Test Categories

- Liquid and powder products
- Fiber and textile products
- Non-porous products (films, plastics, etc.)
- Disinfectants and sanitizers
- Sterilization-capable home appliances
- Other disinfection-related products

### Representative Standards

- KS K ISO 18184 / KS M ISO 21702
- ISO 18184 / ISO 21702
- ASTM E1052
- Test Request Method

### Antiviral Test Equipment



Biological Safety Cabinet



CO<sub>2</sub> Incubator



High-Speed Centrifuge



Real-Time PCR

### Test Strains

- Influenza A virus H1N1
- Influenza A virus H3N2
- Feline calicivirus (F-9)
- Human coronavirus 229E
- Human adenovirus 5
- Human rhinovirus 14
- Murine norovirus 1

### Negative Pressure Facilities



# Greenhouse Gas Reduction Facility Performance Test (DRE)



KOTITI Testing & Research Institute conducts performance testing for greenhouse gas reduction equipment used in industrial processes to support the realization of carbon neutrality.



## Principle of Greenhouse Gas Reduction Efficiency Measurement

In semiconductor and display manufacturing processes, greenhouse gases are treated using scrubbers, and the scrubber's destruction or removal efficiency (DRE) is measured.



Reduction Efficiency (DRE): Determined by simultaneous analysis of inlet and outlet gas concentrations to calculate removal efficiency.

$$DRE = (1 - V_{out}/V_{in}) \times 100$$

\*  $V_{in}$ : Total gas volume entering the reduction facility

\*  $V_{out}$ : Total gas volume exiting the reduction facility

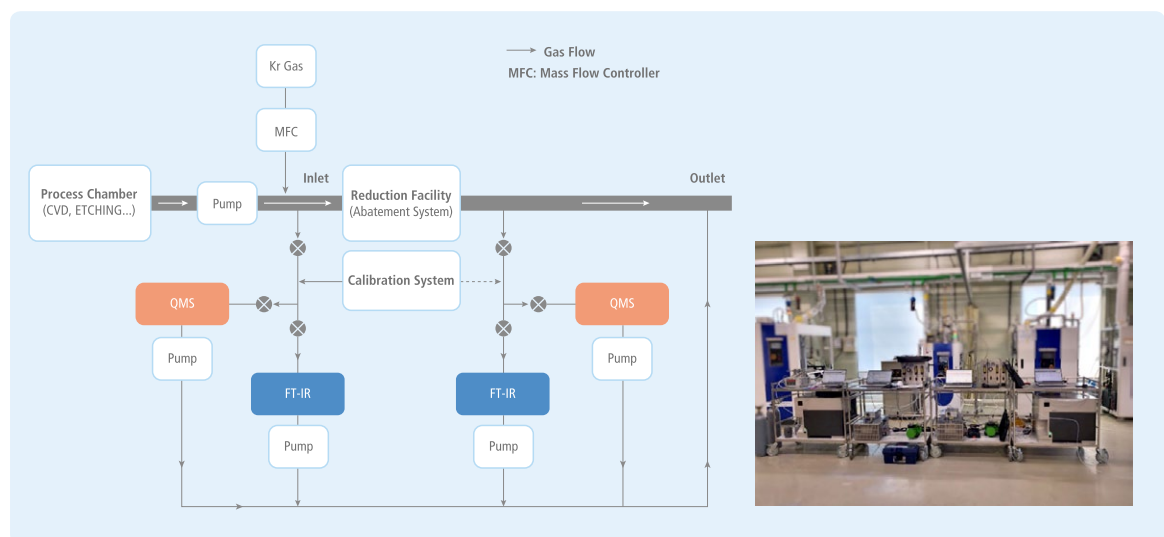


## Measurement Items

- Greenhouse gases including  $CO_2$ ,  $CH_4$ ,  $N_2O$ , PFCs, HFCS,  $SF_6$ , etc.

## Relevant Legislation

- Greenhouse gas reduction efficiency measurement (KSI 0587, KSI 0588)
- Article 9 of the Guidelines on Reporting and Certification of Emissions under the Emissions Trading System for designated emission-allocation facilities



Evaluation of Greenhouse Gas Reduction Facility Efficiency

# Environmental Measurement Services



KOTITI Testing & Research Institute is designated by the Gyeonggi Provincial Government to perform water and air quality measurement services, providing analysis of pollutants in accordance with standardized testing methods.



## Water Quality



### Analysis and Test Items

- All water pollutants
- 32 types of designated hazardous water pollutants
- Perfluorinated compounds, ecotoxicity, etc.
- Industrial water testing (KS I 3206)



### Scope of Testing (Water Environment)

- Business sites and wastewater discharge facilities classified as Types 1–5 under the Water Environment Conservation Act
- Public wastewater treatment facilities and other water pollution sources
- Groundwater and surface water
- Waste landfill facilities as defined in Article 42 of the Enforcement Rules of the Waste Control Act
- Facilities equipped with water reuse systems under Article 14 of the Act on the Promotion and Support of Water Reuse



### Relevant Legislation (Water)

- Water Environment Conservation Act, Article 46 (Measurement of Water Pollutants), etc.

## Air Quality

### Analysis and Test Items

- All general air pollutants
- 31 types of designated hazardous air pollutants
- Efficiency measurement for permitting purposes
- Measurement of greenhouse gas reduction facility efficiency (KSI 0587, KSI 0588)

### Scope of Testing

- Business sites and air pollutant emission facilities classified as Types 1–5 under the Clean Air Conservation Act
- Pollution control facilities subject to permitting
- Greenhouse gas reduction facilities used in industrial processes

### Relevant Legislation

- Clean Air Conservation Act, Article 39 (Self-measurement), etc.

# Environmental Measuring Instrument Accuracy Inspection and Equivalency Evaluation



KOTITI Testing & Research Institute is designated by the National Institute of Environmental Research (NIER) as an official institution for the calibration and verification of environmental measuring instruments, providing accuracy inspection services.



## Target Instruments for Accuracy Inspection

According to Article 11 of the Act on Testing and Inspection in the Environmental Sector, any person using or intending to use a measuring instrument that has received type approval or import notification must undergo accuracy inspection conducted by the Ministry of Climate, Energy and Environment to ensure that the structure and performance of the instrument remain consistent with the approved specifications.



## Measuring Instruments Subject to Accuracy Inspection

- Continuous ambient air monitoring instruments: SO<sub>2</sub>, CO, NO<sub>x</sub>, O<sub>3</sub>, PM-10, PM-2.5
- Air quality sampling instruments: PM-10, PM-2.5
- Emission measurements: SO<sub>2</sub>, CO, NO<sub>x</sub>, O<sub>2</sub>, THC
- Continuous stack telemetry monitoring instruments: SO<sub>2</sub>, NO<sub>x</sub>, HCl, HF, NH<sub>3</sub>, CO, CO<sub>2</sub>, CH<sub>4</sub>, O<sub>2</sub>, Dust, Gas Velocity



## Relevant Laws for Accuracy Inspection and Equivalency Evaluation Testing

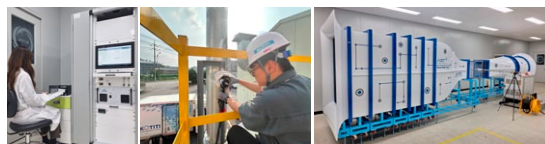
- Environmental Testing and Inspection Act
- Enforcement Decree of the Environmental Testing and Inspection Act
- Enforcement Rule of the Environmental Testing and Inspection Act
- Public Notice on Type Approval and Accuracy Inspection of Measuring Instruments

## Equivalency Evaluation Test

By comparing KOTITI's reference sampling equipment with the national standard measurement system, traceability is secured. Furthermore, by comparing the reference sampling device with continuous automatic measuring instruments, KOTITI ensures the reliability and traceability of fine and ultrafine dust measurement devices through equivalency evaluation.

## Testing Duration for Equivalency Evaluation

- Fine dust (PM-10) continuous automatic air monitoring instruments: 14 consecutive days
- Ultrafine dust (PM-2.5) continuous automatic air monitoring instruments: 23 consecutive days

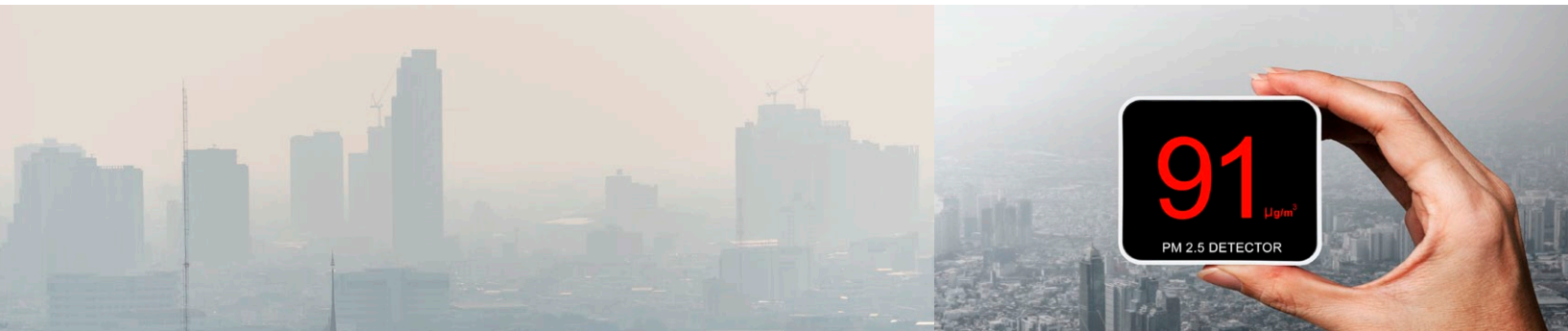


Equipment for Accuracy Inspection



Equivalency Evaluation Laboratory

# Performance Certification and Verification of Simple Measuring Devices



KOTITI Testing & Research Institute is designated by the National Institute of Environmental Research as a performance certification and inspection institution for simplified fine dust measuring devices and for the environmental (air) sector. It provides certification and periodic verification services.



## PM-2.5 Air Sensors Performance Certification

Under the Special Act on the Reduction and Management of Fine Dust, any PM-2.5 air sensor that has not received type approval or preliminary type approval must obtain performance certification (excluding those used as built-in components of appliances such as air purifiers or HVAC units). The certification is valid for five years from the date of issuance.



## PM-2.5 Air Sensor Performance Verification

Any person who publicly discloses fine dust measurement results must undergo performance verification by a certified institution before publication, and thereafter every 2 years and 6 months following the performance verification.



## Relevant Laws for PM-2.5 Air Sensor

- Special Act on the Reduction and Management of Fine Dust
- Enforcement Decree of the Special Act on the Reduction and Management of Fine Dust
- Enforcement Rule of the Special Act on the Reduction and Management of Fine Dust
- Public Notice on Performance Certification of Fine Dust Simple Measuring Instruments

## Simple Measuring Instruments in the Environmental (Air) Sector

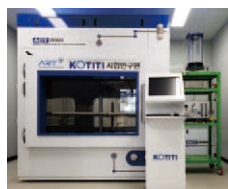
According to Article 9-3 of the Environmental Testing and Inspection Act, any manufacturer or importer of sensor-type measuring devices (simple measuring instruments) that are not subject to type approval or preliminary type approval must obtain performance certification from the Ministry of Climate, Energy and Environment.

## Target Simple Measuring Instruments

CO, NO<sub>2</sub>, and O<sub>3</sub> simple measuring instruments — performance grade is determined by comparing at least three test units against KOTITI's standard reference equipment.

## Relevant Laws for Simple Measuring Instruments in the Environmental Sector

- Environmental Testing and Inspection Act
- Enforcement Decree of the Environmental Testing and Inspection Act
- Enforcement Rule of the Environmental Testing and Inspection Act
- Public Notice on Performance Certification of Simple Measuring Instruments



Indoor Chamber Evaluation



Outdoor Equivalency Evaluation Laboratory



Environmental Indoor Test Chamber Measurement System

# Filters and Air Purifiers



KOTITI Testing & Research Institute conducts performance evaluations for nonwoven filter media used in filter manufacturing, as well as air-conditioning filters, automotive air filters, and air purifiers used in residential, commercial, and industrial environments. In addition, KOTITI carries out research on products and technologies related to air purification for both atmospheric and indoor environments, supported by state-of-the-art testing facilities and professional personnel.

## Air Filters

Filters are classified as air filters or gas filters depending on the substances being filtered, and their required performance varies by application. With the increasing public concern over yellow dust, fine particulate matter, and air pollutants, a wide range of air purification products are now being utilized across industrial and everyday settings.

### HVAC Air Filters

- Performance evaluation of filters used in ventilation and air-conditioning systems installed in buildings such as public facilities, apartment complexes, offices, and factories
- Main Test Items
  - Pressure drop, particle removal efficiency, dust holding capacity, MERV (Minimum Efficiency Reporting Value) rating, ePM classification (ISO 16890), etc.
  - Filtration performance evaluation of cylindrical/conical gas turbine filters (E10–E12 grades)

### Cabin Filters for Road Vehicles (Particle and Gas Types)

- Performance evaluation of filters designed to remove particulate matter and gaseous pollutants from external or recirculated air used in vehicle ventilation systems
- Main Test Items
  - Particle removal performance: pressure drop, dust removal efficiency, maximum dust holding capacity, etc.
  - Harmful gas removal performance: harmful gas removal efficiency, gas adsorption capacity, etc.
  - Cabin filter CAF certification test (Korea Air Cleaning Association)

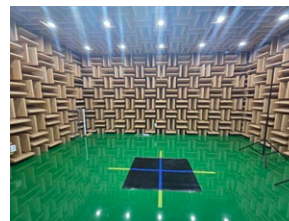
### Bag Filters for Dust Collectors

- Performance evaluation of filters used in industrial dust collectors designed to prevent air pollution by capturing airborne particulates emitted from manufacturing processes.
- Main Test Items
  - Pressure drop and dust release performance evaluation

## Air Purifiers

### Air Purifiers

- Performance evaluation of air purifiers installed in indoor spaces such as homes and offices, focusing on collection efficiency and deodorization capabilities
- Main Test Items
  - Energy efficiency rating tests (Korea Energy Agency), CA certification tests
  - Tests for clean air delivery rate (CADR), power consumption, noxious gas removal efficiency, noxious gas purification ability, noise level, ozone generation concentration, 0.01  $\mu\text{m}$  nanoparticle removal efficiency, and airborne microplastic removal efficiency



### Other Testing Services

- Climate Change Response Testing
  - Tests for CO<sub>2</sub> capture efficiency and capture capacity of products
- Filter Media Performance Evaluation
  - Evaluation of HEPA/ULPA-grade filter media: pressure drop, filtration efficiency, and MPPS (Most Penetrating Particle Size) analysis
  - Pore analysis: maximum/average diameter and pore size distribution
- Filter Environmental Durability Tests
  - After exposure to low/high temperatures and temperature/humidity cycling tests, performance variations such as pressure drop and dust collection efficiency are measured



# Reliability Testing



Reliability testing is applied across a wide range of industrial fields. From small components and modules such as semiconductors, sensors, and devices to large-scale products like automobiles, aircraft, and ships, verifying product reliability has become an essential—rather than optional—process for ensuring quality and stability. KOTITI Testing & Research Institute is equipped with advanced testing facilities and professional expertise to provide various reliability testing services tailored to customer needs.

## Temperature and Humidity Environmental Tests

- Tests designed to verify product reliability and durability under harsh environmental conditions
- Main Test Items
  - High- and low-temperature tests
  - Temperature and humidity cycling tests
  - Thermal shock test
  - Solar radiation tests
- Representative Standards
  - IEC 60068-2-1 / KS C IEC 60068-2-1
  - IEC 60068-2-2 / KS C IEC 60068-2-2
  - IEC 60068-2-14 / KS C IEC 60068-2-14
  - IEC 60068-2-78 / KS C IEC 60068-2-78 / DIN75220

## Corrosion Testing

- Tests performed to evaluate coating integrity, durability, and performance of products exposed to corrosive environments such as atmospheric or seawater conditions
- Test Items
  - Neutral salt spray test
  - Cyclic corrosion test
  - Gas corrosion test
- Representative Standards
  - KS D 9502 / IEC 60068-2-11 / IEC 60068-2-52
  - MIL-STD 810, Method 509
  - ISO 16750-4, ES, GMW, LV124, etc.
  - IEC 60068-2-42 / IEC 60068-2-43 / IEC 60068-2-60

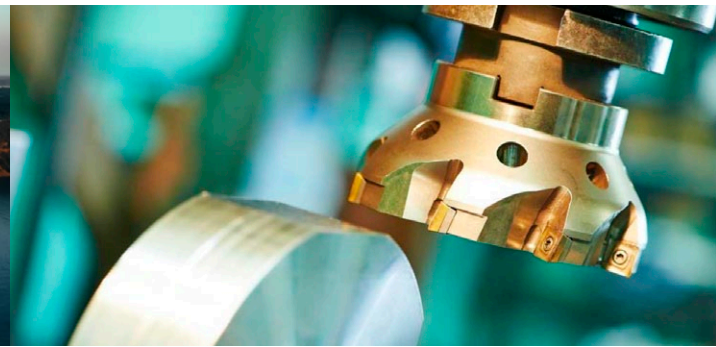
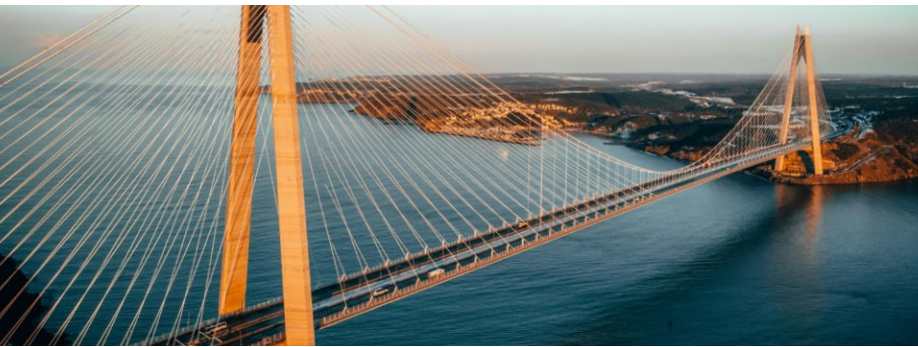
## Vibration and Shock Tests

- Tests performed to verify the reliability and durability of products under vibrations and shocks generated by external environments or within the products themselves
- Test Items
  - Swept sine vibration test
  - Random vibration test
  - Combine environmental vibration test
  - Classical shock test
  - Drop impact test
- Representative Standards
  - IEC 60068-2-6 / IEC 60068-2-27 / IEC 60068-2-64
  - MIL-STD 810, Method 514 / 516
  - ISO 16750-3, ES, GMW, LV124, etc.

## Waterproof and Dustproof Testing

- Tests to verify the product's protection performance against water and dust intrusion
- Test Items
  - Dustproof tests (probe & dust)
  - Waterproof tests (spray & immersion)
- Representative Standards
  - IEC 60529 / KS C IEC 60529
  - ISO 20653

# Fatigue and Durability Testing



KOTITI Testing & Research Institute conducts precision durability tests that apply repetitive loads and deformations to evaluate material fatigue, analyze failure phenomena, and predict product lifespan. Through these services, KOTITI supports product development and quality improvement in industries such as automotive, aerospace, and construction—ensuring that clients’ products meet domestic and international standards while achieving proven reliability.



## Fatigue and Durability Testing Procedures



## Basic Fatigue Testing

### Main Test Items

- Mechanical Property Evaluation at Ambient, High, and Low Temperatures
- HCF (High Cycle Fatigue), LCF (Low Cycle Fatigue)
- Torsional Fatigue Test and Product Durability Test

## Temperature and Fracture Fatigue Testing

### Main Test Items

- Thermo-Mechanical Fatigue (TMF) testing under temperature environments
- Crack Initiation and Propagation Tests
- Component-Level Durability Tests
- Direct durability evaluation of finished products or subassemblies

## Combined Fatigue Tests

### Main Test Items

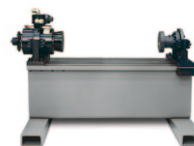
- Multi-Axial Fatigue Test
- Combined Torsion-Bending Test
- Quasi-Static and Dynamic Repetitive Load Test



Fatigue Testing Equipment



Axial Actuator



Rotary Actuator



Multi-Axial Durability Tester

# Secondary Battery Testing and Evaluation



Secondary batteries contain high energy and therefore pose potential hazards such as fire and explosion. Accordingly, they must ensure not only performance and durability but also operational safety even under extreme environmental conditions. KOTITI Testing & Research Institute provides customized evaluation services for verifying battery reliability, supported by advanced testing facilities and professional expertise to help clients meet domestic and international standards.



## Safety Testing

Reliability testing conducted to verify whether the battery operates safely without fire or explosion under abnormal or malfunction conditions.

### Main Test Items

- Compression / Penetration Test
- Vibration / Shock / Drop Test
- Over-Charge / Over-Discharge / Over-Current Protection Test
- Flammability Test
- Thermal Shock Test
- Over-Temperature Protection Test
- External Short Circuit Test
- Roll-Over Test

### Representative Standards

- KMVSS No. 48
- Regulation UN 38.3
- UL2580
- Regulation No. 100 Rev.3
- GB 38031:2025



## Life Cycle and Durability Testing

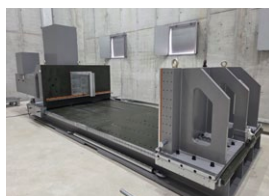
Reliability testing to ensure stable performance under various stress conditions such as charging/discharging, temperature fluctuations, vibration, and shock that occur in real driving or operational environments.

### Test Items

- Charge / Discharge Cycle Test
- High- and Low-Temperature Durability Test
- Driving Pattern Simulation Test
- Calendar Life Test
- Vibration Durability Test

### Representative Standards

- SAE J2288 / SAE J 2380
- GB/T 31484
- ISO 12405-4



Horizontal Compression / Penetration Tester



Vertical Compression / Penetration Tester



Battery Pack Charge-Discharge System



Battery Pack Environmental Chamber



Thermal Shock Immersion Chamber



Roll-over Tester



Dust Tester for Batteries



40-ton Combined Vibration Tester

# Industrial Materials



KOTITI Testing & Research Institute provides testing and analytical services to verify the performance of various industrial materials and components—such as automotive parts, plastics, composites, paints, coatings, and construction materials. In addition, KOTITI supports domestic industries through professional expertise and advanced testing equipment, offering services for material property evaluation, component performance testing, and product development support.

## Industrial Materials

Conducts mechanical and thermal property testing and analysis for metals, plastics, and composite materials.

### Main Test Items

- Tensile | Compression | Shear | Flexural Strength
- Composite Material Testing (ILSS | IITRI | Combined Loading)
- Weather Resistance (Xenon, Carbon Arc, UVA, UVB, UVC)
- IZOD | CHARPY Impact Test
- Rockwell Hardness
- HDT-VICAT
- Differential Scanning Calorimetry (DSC)
- Thermogravimetric Analysis (TGA)
- Melt Flow Index (MI)

### Representative Standards

- ASTM D 638, D 2344 / ISO 527, 14125, etc.
- ASTM D 256, D 4812 / ISO 179, 180, 8256
- ASTM D 785 / ISO 6508-1, 2039-2
- ASTM D 1238 / ISO 1133

## Recycled Materials

Conducts quality analysis of recycled raw materials in accordance with the Ministry of Environment Notice on Standards for Recycled Materials Used in Food Containers.

### Main Test Items

- Intrinsic Viscosity
- Foreign Substances (e.g., Labels)
- Polyolefin and Adhesive Content
- Moisture Content
- Residual Alkalinity
- PVC Content
- Density

## Automotive Interior and Exterior Parts

Performs testing and analysis to predict lifespan and assess durability of automotive components.

### Compliance with OEM Standards of Major Global Automakers

- HKMC | GM | BMW | RENAULT | FORD, etc.

### Main Test Items

- Thermal Cycle and Heat Aging Tests
- Lightfastness | Weather Resistance Tests
- Heavy Metal and Hazardous Substance Tests
- Fogging Test (Condensation)
- Scratch Resistance Test
- Stain Resistance Test
- Flammability Test
- Taber Abrasion Test, etc.

### Representative Standards

- MS210-05, 06 / MS655-08 / MS200-41 / MS260-13 / MS321-07 / MS341-17 / MS343-05 / MS373-12, etc.
- IEC 60335-1 Annex T (UVC) / ISO 105 Series / ISO4892-2,3 / ASTM G154, 155, etc.

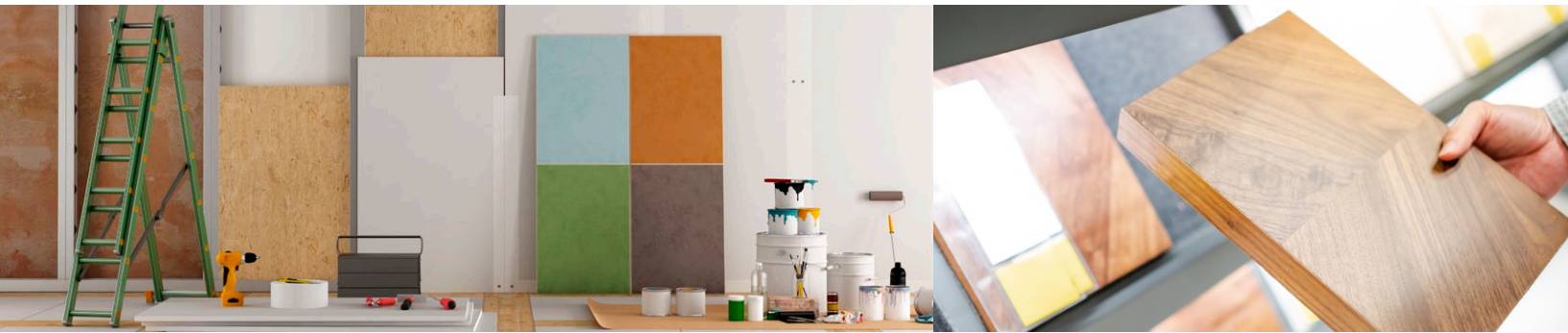
## Package Materials

Performs testing and analysis of raw materials and products such as plastics, films, and paper used for industrial and food Package.

### Main Test Items

- Oxygen Transmission Rate
- Haze
- Dart Impact Test
- Water Vapor Transmission Rate
- Transmittance
- Coefficient of Friction
- Transportation Vibration Simulation
- Compression Strength
- Drop Test
- Density

# Building Materials



KOTITI Testing & Research Institute is a certified mechanical testing institution for building materials, providing testing services in accordance with Korean industrial standards (KS) and national regulatory guidelines. It is also designated by the Ministry of Environment as an official testing institution for hazardous substance emissions from building materials and wood-based panel products, including analytical services for emission verification. In addition, KOTITI provides a wide range of testing and analytical support for quality control and R&D of various other building materials.

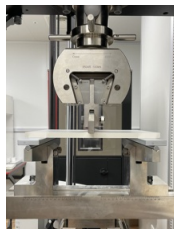
## Building Material Mechanics

### Main Test Items

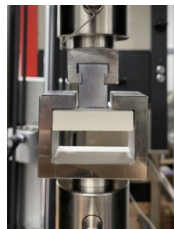
- Physical property tests (dimensions, thickness, flexural and tensile strength)
- Lightfastness and weather resistance (accelerated aging via UV exposure)
- Abrasion and scratch resistance (evaluation of friction and surface damage resistance)
- Heat deformation testing (HDT–VICAT and thermal analysis)
- Pencil hardness testing
- Compression creep testing

### Main Testing Standards

- KS F 3111, KS F 3126, KS F 3200 – interior materials testing
- KS M 3332 – finishing materials testing
- KS M ISO 4898, KS M ISO 7616 – insulation materials testing
- KS F 2601, KS M 3510 – slip resistance testing
- KS, ASTM, ISO, and other international or alternative test methods



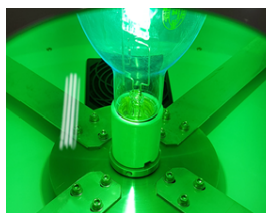
Flexural Strength



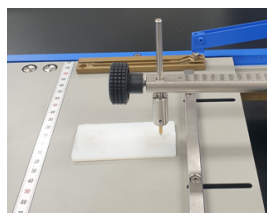
Tensile Strength



Compression Creep



Other Specialized Tests



Mercury Lamp Discoloration / Sapphire Scratch Test

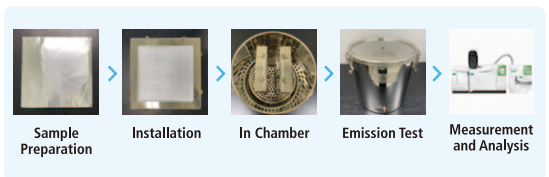
## Pre-Compliance Verification System for Building Materials (VOCs)

The Pre-Compliance Verification System for Building Materials requires manufacturers or importers to verify, prior to the use or supply of building materials, whether emission levels of hazardous substances exceed regulatory limits. This verification must be conducted through an authorized testing institution designated by the Ministry of Environment.

### Testing Targets

- Adhesives, paints, sealants, putties, wallpapers, flooring materials, and other building materials
- Wood-based panel products and other interior building materials specified by the Ministry of Environment
- Other building materials required for quality control, such as insulation products

## Testing Procedure for Emission Analysis of Building Materials



## Additional Building Material Testing Services

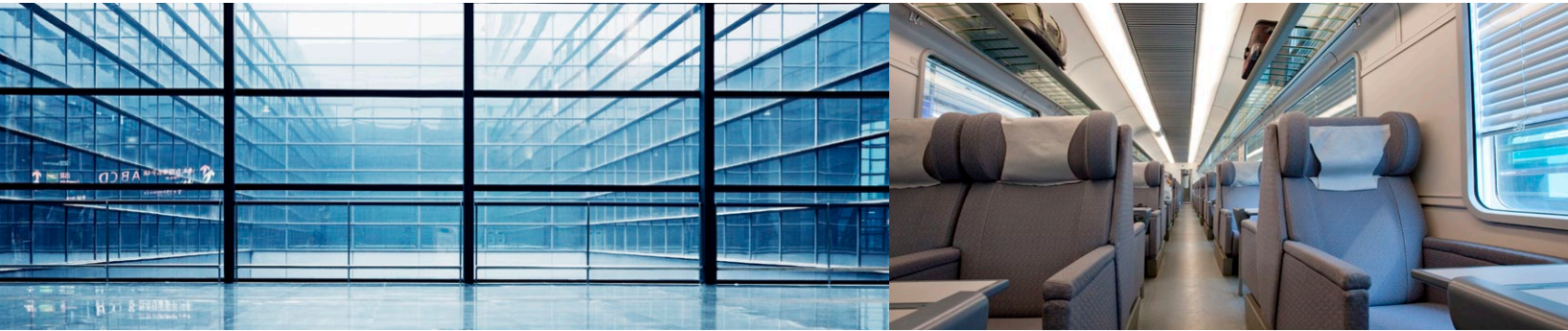
### Test Items

- TVOC, Toluene, Formaldehyde, Acetaldehyde, Benzene, Ethylbenzene, Xylene, Styrene in building materials

### Testing Standards

- ES 02131.1 / ES 02601.1 / ES 02602.1
- KS M 1998 / KS I ISO 16000-9

# Windows and Fire Safety Performance



KOTITI Testing & Research Institute is a certified testing institution for the thermal energy efficiency, durability, and fire safety of windows and doors. The institute provides official testing and inspection services based on Korean Industrial Standards (KS) and national regulations, covering the thermal performance and durability of windows and doors, as well as the fire safety of building materials, railway interior and exterior materials, automotive components, and plastics. KOTITI ensures the highest level of reliability and quality control through precise testing and analytical services.

## Thermal Energy Efficiency and Durability of Windows and Door Sets

### Main Test Items

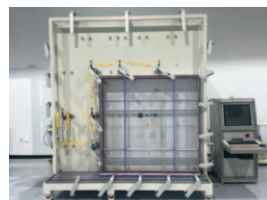
- Thermal insulation and condensation resistance of windows and door sets
- Airtightness, watertightness, and wind pressure resistance of windows and door sets
- Overall durability evaluation of windows and door sets

### Main Testing Standards

- KS F 2277, KS F 2278 (Thermal Insulation)
- KS F 2295 (Condensation)
- KS F 2292 (Airtightness), KS F 2293 (Watertightness), KS F 2296 (Wind Pressure Resistance)
- KS F 3109 (Door Sets), KS F 3117 (Window Sets)
- Regulation on the Promotion of High-Efficiency Building Energy Equipment
- Operation Regulation for Energy Efficiency-Managed Equipment
- Design Standards for Condensation Prevention in Multi-Family Housing



Heat Transfer Coefficient Tester



Airtightness, Watertightness, and Wind Pressure Resistance Tester

## Fire Safety Performance

### Main Test Items

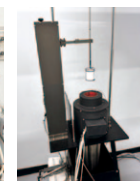
- Non-combustibility / Heat release rate / Gas toxicity
- Smoke density / Toxicity index / Limiting oxygen index
- Flame spread / UL94 (evaluation for plastics)
- Flammability performance evaluation for automotive materials

### Main Testing Standards

- KS F ISO 1182, KS F ISO 5660-1 (Non-combustible, Semi-non-combustible, Flame-retardant)
- KS F 2271 (Gas Toxicity)
- Quality Certification and Management Standards for Building Finishing Materials (Ministry of Land, Infrastructure and Transport Notice)
- KS M ISO 4589-2, ASTM D2863 (Limiting Oxygen Index)
- KS M ISO 5659-2, ASTM E662 (Smoke Density)
- ISO 5658-2 (Flame Spread)
- UL94 (Plastic Flammability), MS300-08 (FMVSS 302)



Cone Calorimeter



Non-combustibility Tester



Gas Toxicity Tester

## Fire Performance Requirements for Railway Vehicle Interior and Exterior Materials

Test Items	Testing Standards
Heat Release Rate	ISO 5660-1
Flame Spread	ISO 5658-2
Smoke Density	ASTM E 662
Toxicity Index (R)	BS 6853 Annex B.2
Oxygen Index	ISO 4589-2

## Standards for Building Finishing Materials

Classification	Non-combustible Material	Semi Non-combustible Material	Flame-retardant Material
Definition	Material that does not ignite or burn	Material with combustion resistance similar to non-combustible material	Material that resists burning but is not completely non-combustible
Test Names	Non-combustibility Test	Heat Release Rate (Cone Calorimeter Method)	
	Gas Toxicity Test		

# Microplastics



KOTITI Testing & Research Institute plays a leading role in the development of advanced microplastics analysis methodologies and the establishment of international standards, including ISO 16094-4 (sample preparation for the analysis of microplastics in water) and ISO 4484-4 (analysis of microplastics released from textile washing), while actively conducting numerous national research projects such as investigations into the distribution of microplastics in the environment; supported by highly specialized analytical experts, contamination-controlled clean systems, and state-of-the-art analytical instrumentation, KOTITI delivers high-quality microplastics analysis services fully aligned with international standards.

## Microplastic Testing and Analysis Services

### Microplastics\*

Solid plastic or synthetic polymer particles that are insoluble in water, with a maximum particle length (longest dimension) of 1 to 5,000  $\mu\text{m}$ .

#### Primary Microplastics

Solid plastics such as microbeads and pellets that are intentionally manufactured to be small for specific product uses.

#### Secondary Microplastics

Microplastics unintentionally generated or degraded into smaller fragments during product use or within the environment.

\* ISO 16094-2 (Water quality — Analysis of microplastic in water — Part 2: Vibrational spectroscopy methods for waters with low content of suspended solids including drinking water)

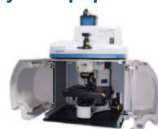
### Sample Types for Microplastic Testing

- Cosmetics and quasi-drugs, household chemical products
- Food samples (seaweed, fish, omega-3 oils, etc.)
- Textile products (fabrics): microplastics released during washing
- Products with potential microplastic contamination: Bottled water, beverages, salt, tea bags, baby bottles, paper cups, etc.
- Environmental samples potentially contaminated with microplastics: River water, seawater, sewage, wastewater, sediments, etc.

### Microplastic Analysis Equipment



$\mu$ -FTIR



$\mu$ -Raman

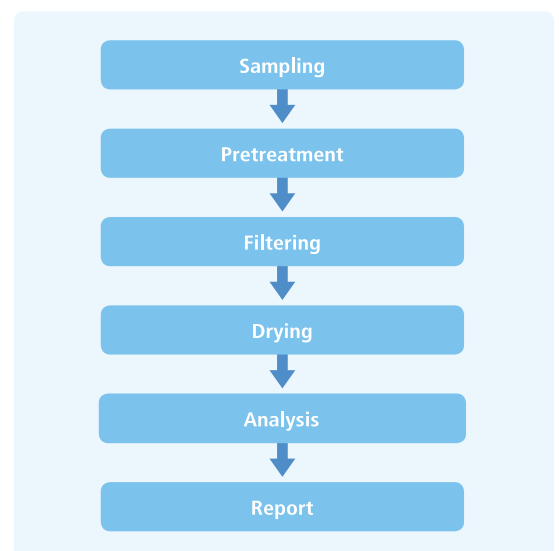


Py-GC/MS

### Testing Standards

- Regulation on Safety Verification and Testing Methods for Designated Consumer Chemical Products
- Guidelines for Analytical Methods of Prohibited Ingredients in Cosmetics
- ISO 16094-2, Vibrational spectroscopy methods for waters with low content of suspended solids including drinking water
- ISO 16094-3, Thermo-analytical methods for waters with low content of suspended solids including drinking water
- ISO 4484-1, Determination of material loss from fabrics during washing
- In house method

### Microplastic Analysis Procedure



# Biodegradability

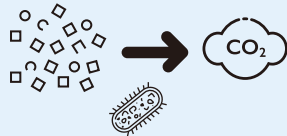


KOTITI Testing & Research Institute offers biodegradability testing and analysis for biodegradable plastics (materials and products) based on national and international standards. As a Korea Research Institute of Standards and Science (KRISS)-designated Reference Standard Data Center, we develop and provide data on biodegradable plastics to enhance R&D efficiency and shorten development timelines for industry.

## Biodegradable Plastic Testing and Analysis

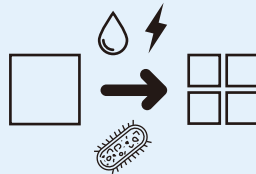
### Biodegradability

A method of determining biodegradability by continuously measuring the by-products generated during the biodegradation process caused by microbial respiration when exposed to various inoculated environments (compost, soil, marine, etc.).



### Disintegration Degree

A method of measuring the degree to which biodegradable plastics physically disintegrate into smaller fragments under the influence of water, light, and microorganisms in the environment.



### Phytotoxicity

A method of assessing the harmful effects of residual degradation by-products on seed germination and plant growth.



## Testing Standards

### Biodegradability Evaluation

- ISO 14855-1: Measurement of aerobic biodegradability of plastic materials under controlled composting conditions
- AS 5810: Determination of aerobic biodegradability at ambient temperature for plastics suitable for home composting
- ISO 17556: Measurement of ultimate aerobic biodegradability in soil by monitoring carbon dioxide evolution

### Disintegration Evaluation

- KST ISO 20200: Degree of disintegration of plastic materials under laboratory-scale simulated composting conditions

### Phytotoxicity Evaluation

- OECD 208-based seed germination and plant growth test

### Evaluation of Microplastics Generated from Biodegradation Residues

- In house method (ISO/CD 24899-based): Analysis of microplastic particle size and quantity variations across biodegradation stages
- For additional or customized tests, please consult with the test supervisor

# Advanced Convergence Research



KOTITI Testing & Research Institute provides corporate support services related to carbon emission measurement, eco-friendly and sustainable management (ESG) strategy development, and compliance with the global 2050 carbon neutrality paradigm and the introduction of the Carbon Border Adjustment Mechanism (CBAM).



## Business Areas



### Carbon Footprint

As corporate environmental management increasingly expands to include the entire product life cycle, KOTITI supports companies in developing and managing strategies for product-related environmental regulations and compliance throughout all production stages.



### Product Certification

Research and revision of standards for both mandatory and voluntary product certification systems.



### Standards and Regulations

Policy research and corporate support concerning national/international standards and export-related technical regulations.

### Policy Planning and Infrastructure Development

Conducting research and industrial analysis projects related to key government industrial policies.

## Major Projects

### Designated as a Leading Consulting Organization for the National LCI (Life Cycle Inventory) Database under the Ministry of Environment

Specialized consulting firm for national Scope 3 LCI database development projects, building databases for steel, non-ferrous metals, and inorganic/organic chemical substances.

### Designated as an ISO TC 201 Standard Development Cooperation Organization (by the Ministry of Trade, Industry and Energy)

Enhancing efficiency in national standard management and swiftly reflecting market demands in standards through standard development management, domestic and international standardization activities, and committee operations (surface chemistry sector).

### Support for Resolving TBT (Technical Barriers to Trade) Issues under (the Ministry of Trade, Industry and Energy)

Identifying global regulations that act as technical trade barriers for Korean exporters, supporting trade negotiations with counterpart countries, and providing consulting services to resolve corporate difficulties.

### Product Carbon Footprint Verification Body

Providing independent third-party verification services for product environmental information, including carbon footprint.

## Support Details

### Establishment of Carbon Footprint Assessment and Improvement Strategies Considering the Full Product Life Cycle to Enhance Domestic and Global Competitiveness

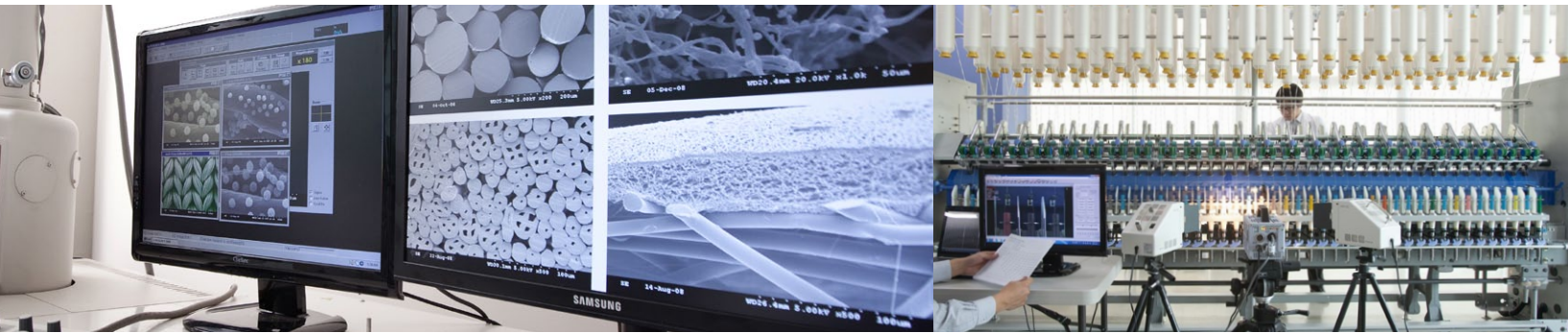
- Certification: Providing consulting support for corporate carbon footprint calculation and improvement strategies to obtain Environmental Product Declaration (EPD) and respond to the Carbon Border Adjustment Mechanism (CBAM)
- R&D: Collecting input/output data on new and existing materials or products during the R&D process to analyze carbon emissions and establish emission-reduction strategies

### Conducting Research on the Revision of Standards and Certification Systems, and Providing Support to Resolve Export-Related Technical Regulation Challenges

- Standards: Identifying industry needs and establishing strategic education programs to enhance effectiveness and responsiveness of standards
- Export Regulations: Consulting services for identifying global technical regulations, translating relevant regulatory documents, providing information support, and resolving export-related corporate difficulties

### Establishing Policy Foundations through Research on Major Government Initiatives such as Carbon Neutrality and Materials, Parts and Equipment (MPE), as well as Analyzing the Current State and Needs of Relevant Industries

# Research and Development



Since its establishment in 1961, KOTITI Testing & Research Institute has conducted a wide range of R&D activities based on its accumulated expertise, professional workforce, advanced research facilities, and extensive technical data resources. As Korea's first institute to establish a PILOT Process Research Center, KOTITI provides a variety of technical support services to textile industry companies. It also publishes specialized technical books for textile professionals and regular periodicals addressing industry-wide issues to disseminate and share the latest technological information.

## KOTITI R&D

To advance and strengthen the competitiveness of the textile industry, KOTITI conducts research and development covering all stages—from textile raw materials to apparel, home textiles, and industrial materials. Its R&D activities include carbon-neutral and eco-friendly materials and processing technologies, nanotechnology, high-sensitivity and advanced spinning yarns, functional product development, ICT convergence and digital transformation (DX), new test method development, and international standardization initiatives. In addition, KOTITI focuses on the development of demand-driven practical technologies, actively engaging in patent technology transfer, joint research, and corporate technology support to help spread technological achievements and enhance industrial competitiveness.

- Development of high value-added new technologies and advanced materials
- Technology transfer and joint R&D based on patented technologies
- Planning and execution of government-funded R&D projects
- Operation of the Materials, Parts, and Equipment (MPE) Convergence Innovation Support Team and Reliability-Based Utilization Support Program
- Development of new test methods and standardization initiatives
- Participation in national (KS) and international (ISO, IEC) standardization activities

## PILOT Process Research Center

KOTITI operates Korea's first integrated pilot spinning line—from blending and carding to winding—as well as facilities for dyeing and finishing, yarn processing, knitting, and composite material production. These facilities are utilized to provide cutting-edge equipment use and technical support services for textile-related enterprises.

- Support for prototype production of spun yarns
- Support for prototype production of dyed and finished fabrics
- Support for new materials and new product development

## Technical Publications

To provide up-to-date information on textile technologies and global market trends, KOTITI publishes both periodicals and standalone technical publications.

- KOTITI Webzine – Online service for technical updates
- Technical publications: Textile Handbook, Casebook of Complaints about Clothing, and others

# Quality Inspection



Through professional and systematic quality inspection, KOTITI Testing & Research Institute evaluates compliance with specific or general quality requirements. By assessing whether products meet requirements during production processes, before final delivery, or according to buyers' specifications, KOTITI experts provide rapid feedback to help prevent potential business risks in advance.

## Types of Quality Inspection

### 100% Inspection (Full Inspection)

This method involves inspecting every unit of a lot to separate acceptable products from defective ones, approving only those that meet quality criteria. It is applied when the product is of high value, when critical defects must be identified, or when a high defect rate necessitates selection and segregation.

### Sampling Inspection

A method of assessing a sample taken from a production lot and determining the lot's acceptance or rejection by comparing results to predefined quality standards. This method is suitable when destructive testing is required, for continuous or mass-produced items, when a certain level of defects is tolerable, or when many test items are involved.

## Products and Regions Covered

### Product Categories

Fabrics, bags, footwear, fashion accessories, household goods, cosmetics, sewn products, furniture, chemical products, electrical and electronic devices, camping equipment, industrial goods, automotive parts, beauty and grooming devices, kitchenware, machinery, and equipment, among others.

### Service Regions

11 countries including South Korea, China, Vietnam, Indonesia, Myanmar, Bangladesh, Cambodia, Thailand, the Philippines, India, and Italy.

## Main Services by Process Stage

### Factory Sourcing and Order Placement Stage

- Company Verification Service (CVS)
- Manufacturing Audit (MA)
- Environmental Audit (EA)
- Social Accountability Audit (SA)

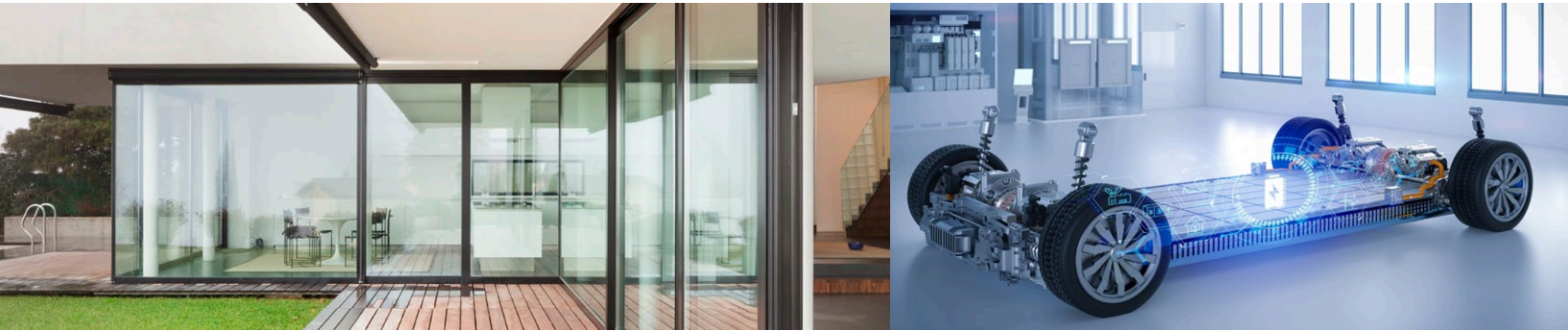
### Production Stage

- Fabric Inspection
- Production Monitoring (PM)
- Initial Production Inspection (IPI)
- During Production Inspection (DPI)
- Sample Pickup (SP)

### Shipment Stage

- Pre-Shipment Inspection (PSI)
- Defective Sorting Inspection (DSI)
- Container Loading Supervision (CLS)

# Pyeongtaek E-Mobility Center



The Pyeongtaek E-Mobility Center provides advanced testing and analytical services in cutting-edge industrial sectors such as industrial materials, building materials, and mobility, while also conducting diverse R&D activities aimed at fostering the development and competitiveness of the textile industry. Located in Pyeongtaek—one of the core hubs of the Fourth Industrial Revolution—the Center serves as a testing and certification institution that creates high value and leads the future of advanced industries.



## Business Areas

### Testing and Analysis

- Reliability evaluation of mobility electrical and electronic components, and interior/exterior parts
- Vibration, shock, fatigue, and durability testing and analysis
- Testing and analysis of industrial materials
- Performance evaluation of windows and building materials
- Performance evaluation of Package and recycled materials



### Research and Development

- Research on convergence-based textile spinning materials
- Research on industrial composite materials
- Research on recycling technologies
- Execution of corporate support projects



Major Mobility Equipment



Pilot Spinning Facilities



**Address.** 122 Dream Sandan-ro, Cheongbuk-eup, Pyeongtaek-si, Gyeonggi-do, Korea

**Tel.** +82-2-3451-7324

# Environmental Measurement Instrument Research Center (Uiwang)



The Environmental Measurement Instrument Research Center provides testing and inspection services to ensure the accuracy and reliability of environmental measurement devices through precision inspection, equivalence evaluation, and performance certification and verification for fine dust and environmental measuring instruments. The center also operates a wide range of environmental projects.

## Business Areas

- Precision inspection of atmospheric environmental measuring instruments
- Performance certification and verification of fine dust simplified measuring devices
- Performance certification of atmospheric simplified measuring instruments
- Equivalence evaluation tests, general testing for sensors and simplified measuring devices

**Address.** 2F, 38 Obongsandan 1-ro (Idong 745), Uiwang-si, Gyeonggi-do, Korea

**Tel.** +82-2-6191-6030~2

# Antiviral Research Center (Gunpo)



The Antiviral Research Center conducts antiviral performance evaluations on various products—including porous materials such as textiles and paper; non-porous materials such as vinyl, plastic, and film; liquid products such as hand sanitizers and disinfectants; and a range of home appliances—according to international standards or customized testing methods.

## Business Areas

- Antiviral performance evaluation
- National R&D projects on antiviral technologies

**Address.** 1301-1305, Gunpo ACE W Valley, 8, Gunpocheomdansaneop 2-ro 7beon-gil, Gunpo-si, Gyeonggi-do, Korea

**Tel.** +82-2-6191-6048

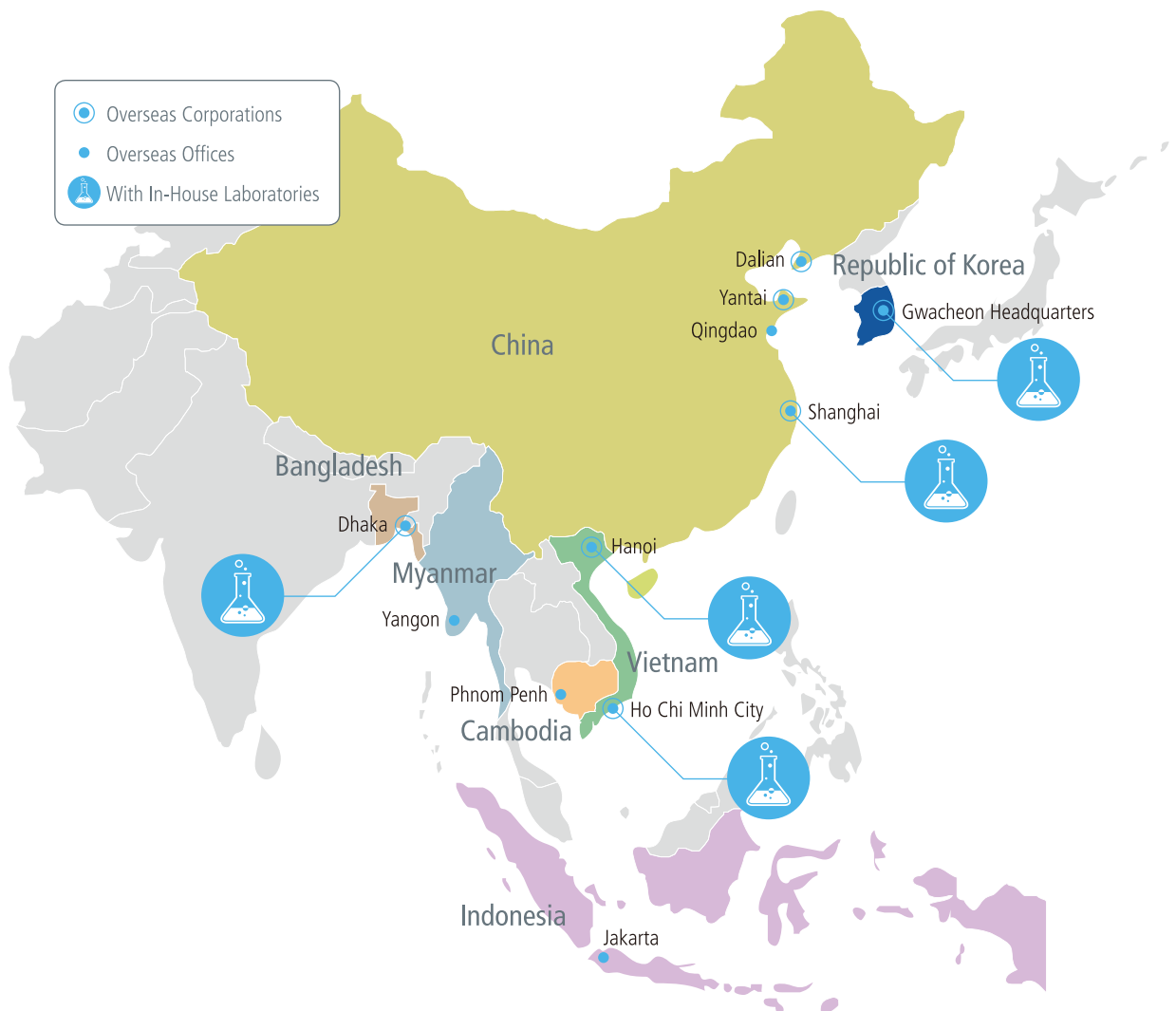
# Global Network



KOTITI Testing & Research Institute has established a global network across 12 locations in 6 countries, enabling comprehensive international service coverage. Among them, the offices in Shanghai (China), Ho Chi Minh City and Hanoi (Vietnam), and Dhaka (Bangladesh) are equipped with in-house laboratories, allowing for active and rapid response to diverse and demanding requirements of the global market.



-  Overseas Corporations
-  Overseas Offices
-  With In-House Laboratories



## China (Shanghai, Yantai, Dalian, Qingdao)



China is the global center of manufacturing and the world's largest apparel exporter, serving as a robust production hub with a firmly established competitive edge in the textile and fashion industries. To respond to this global market environment and to support customers' local business operations, KOTITI has established corporations and offices across China. Leveraging KOTITI's extensive testing and certification expertise and adherence to international quality standards, we provide highly reliable services that strengthen the competitiveness of both domestic and foreign companies operating in China, supporting their successful expansion into global markets.

### Shanghai Corporation

2F, Building 6, 639 Hao, Guangzhong Lu, Zhuangqiao Zhen, Minhang Qu, Shanghai, China  
Tel. +86-21-5485-3911

### Yantai Corporation

4F, Tongyuankeji, 23 Hao, Beijingnan Lu, Economic and Technological Development Zone, Yantai, Shangdong Sheng, China  
Tel. +86-186-6048-0131

### Dalian Corporation

Room #1166 11F, Develop B/D, Office Zone No.9, Dalian Development Zone, Dalian, China  
Tel. +86-411-8753-5355

### Qingdao Office

Tel. +86-159-6532-5550

## Vietnam (Ho Chi Minh City, Hanoi)



Vietnam has rapidly emerged as one of Asia's key manufacturing nations and a global production hub, particularly in the textile, garment, and consumer goods sectors. KOTITI operates corporations in both Ho Chi Minh City and Hanoi to support local quality enhancement and strengthen industrial competitiveness. In particular, the Ho Chi Minh Office provides one-stop testing and technical support services for textile companies through its shared R&D center, while the Hanoi E&E Office offers testing and consulting for environmental hazardous substances in the electrical, electronic, and automotive sectors based on VILAS ISO/IEC 17025:2017 accreditation. KOTITI serves as a trusted quality partner helping improve global standard compliance and export competitiveness throughout Vietnam.

### Ho Chi Minh Corporation

Lot A4a, Road 19C, E-office Park, Tan Thuan EPZ, Tan Thuan Dong Ward, Dist. 7, HCMC, Vietnam  
Tel. +82-2-3451-7107

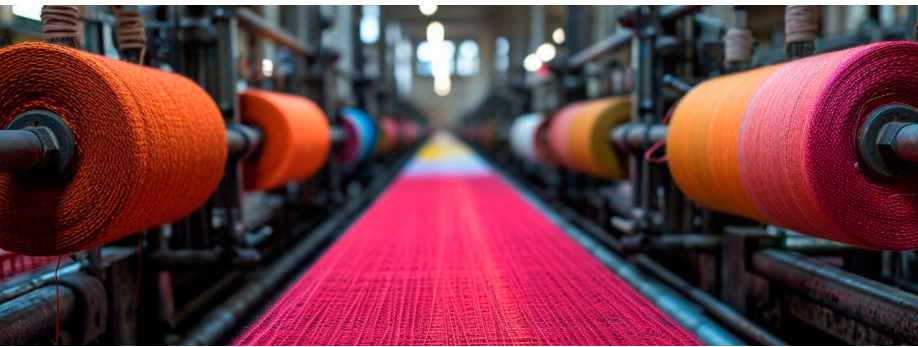
### Hanoi Office (Inspection)

5F, Charm Vit Tower, 117 Tran Duy Hung, Cau Giay Dist., Hanoi, Vietnam  
Tel. +84-24-7301-2626

### Hanoi Office (E&E)

5F, Airimex Tower, 414 Nguyen Van Cu Street, Bo De Ward, Hanoi, Vietnam  
Tel. +84-96-758-9139

## Bangladesh (Dhaka)



Bangladesh has grown into a key global production base and one of the world's leading textile and apparel exporters, generating tens of billions of dollars in annual exports. More than 150 Korean textile companies, along with numerous global brands and OEM/ODM manufacturers, have established operations there—making quality competitiveness and compliance with international standards increasingly critical. The KOTITI Bangladesh Corporation is the first overseas branch established by a Korean testing and inspection institution in Bangladesh. It provides testing, analysis, and technical consulting services that meet international standards, actively supporting local companies and global partners in strengthening product quality and reliability.

### **Bangladesh Corporation**

9F, Natore Tower, Plot No-32-D and 32-E, Road No-02, Sector No-03, Uttara Model Town, Dhaka, Bangladesh  
Tel. +880-2-4895-6239

## Indonesia (Jakarta), Cambodia (Phnom Penh), Myanmar (Yangon)



Southeast Asia has become a key production cluster for the global textile and fashion industry, serving as a major manufacturing and sourcing hub for leading global brands thanks to its abundant workforce and rapid industrial growth. KOTITI operates local offices in Jakarta (Indonesia), Phnom Penh (Cambodia), and Yangon (Myanmar). Each regional office provides inspection and consulting services optimized to the industrial environment and regulatory systems of its respective country. Through an interconnected Southeast Asian network, KOTITI strengthens its role as a Total Quality Solution Partner, supporting customers' local production and global market expansion across the region.

### **Indonesia Corporation**

Ruko Citra Lake Sawangan, Blok. D1 No.10, Kedaung, Sawangan, Depok City, West Java 16516, Indonesia  
Tel. +62-813-9222-8929

### **Cambodia Office**

Camko city T104-2 Phum Tuol Kouk, Tuol Sangkae, Ruessei Kaev, Phnom Penh, 12105, Cambodia  
Tel. +855-10-792-611

### **Myanmar Office**

Room B-6, B/D No.9, Dana Theit Di St., 8 Yat Kwat, Mayangon Township, Yangon, Myanmar  
Tel. +95-9-9605-20685

## Contact Information

### By Business Area

Representative Number	02-3451-7000
Textile	Domestic & China 02-3451-7118 02-3451-7085
	Americas & Europe 02-3451-7052
	Japan (Kaken) 02-3451-7053
	Defense & Public Sector 02-3451-7318
	Defense Research 02-3451-7370
Environment & Hazardous Substances	02-3451-7152~3
Children's Products & Toys	02-3451-7083
Electrical, Electronics & Automotive Hazardous Substances	02-3451-7428
Cosmetics	02-6191-6179
Pharmaceuticals / Quasi-Drugs	02-3451-7190
Consumer Chemical Products	02-3451-7388
Water Quality	02-3451-7452
Air (Exhaust Gas)	02-6191-6118
Food and Livestock Products	02-3451-7457
Sanitary Products	02-3451-6111
Pesticide Residue	02-3451-6111
Filters / Air Purifiers	02-3451-7148
Industrial Materials / Components	02-3451-7324
Electrical, Electronic & Mobility Reliability Evaluation	02-3451-7395
Microplastics / Biodegradability / Building Material VOCs	02-3451-7134
Consumer Product Quality Inspection	02-3451-7033
Product Safety / Product Certification	02-3451-7057
R&D (Gwacheon)	02-3451-7477
R&D (Pyeongtaek)	02-3451-7472
Education & Training	02-3451-7111
Radioactive Substances	02-3451-7337
Environmental Measuring Instruments	02-6191-6030

### Domestic Offices

Gangnam Support Center	02-3451-7066
Western Support Center	02-857-4700
Northern Support Center	02-3451-7180
Daegu Office	053-254-9369
Pyeongtaek E-Mobility Center	02-3451-7324
Changwon Testing & Analysis Center	02-3451-7135
Agri-Food Safety Center	02-6191-6059
Environmental Measurement Instrument Research Center	02-6191-6030
Antiviral Research Center	02-3451-7067

### Overseas Corporations and Offices

China	Shanghai	+86 21-5485-3911
	Yantai	+86 186-6048-0131
	Dalian	+86 411-8753-5355
	Qingdao	+86 159-6532-5550
Vietnam	Ho Chi Minh City	+82 2-3451-7107
	Hanoi (Inspection)	+84 24-7301-2626
	Hanoi (E&E Lab)	+84 96-758-9139
Indonesia	Jakarta	+62 813-9222-8929
Myanmar	Yangon	+95 9-9605-20685
Bangladesh	Dhaka	+880 2-4895-6239
Cambodia	Phnom Penh	+855 10-792-611

**KOTITI**

Testing & Research  
Institute



**KOTITI Testing & Research Institute**

48 Gwacheondaero 7na-gil, Galhyeon-dong,  
Gwacheon-si, Gyeonggi-do, 13840 Korea

**Tel.** +82-2-3451-7000 (ARS)

**Fax.** +82-2-3451-7170

[kotiti-global.com](http://kotiti-global.com)