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FOOTWEAR DESIGN & DEVELOPMENT INSITUTE





Footwear Design & Development Institute, "An Institution of National Importance" under the FDDI Act 2017 is a premier academic and training institution dedicated to the development and growth of the Footwear & Product, Leather Products, Retail and Fashion Merchandise and Fashion Design sectors.

> FDDI has Pan India Presence with 12 state-of art campuses at Noida, Fursatganj, Chennai, Kolkata, Rohtak, Chhindwara, Guna, Jodhpur Ankleshwar, Banur, Patna and Hyderabad.

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INTERNATIONAL TESTING CENTRES

FDDI has three International Testing Centres located at Noida, Chennai and Kanpur. All the three labs specialize in testing of leather, leather products, footwear (Safety, Fashion and Sports), footwear components, textile products & plastics.



INTERNATIONAL TESTING CENTRE (Physical Lab)

Physical and Chemical Lab

FDDI International Testing Center has two laboratories located at Noida & Chennai. Both are internationally accredited by SATRA, U.K. ITC Noida is approved by Bureau of Indian standards (BIS) for testing of safety footwear as per IS: 15298, IS 5557, IS 3976 and IS 12254. The ITC Noida is the only laboratory in India which is having ISO: 17025 accredited by DakkS, Germany for testing of banned chemicals, and safety footwear tests as per ISO 20344, 20345, 20346 & 20347 norms. It has also been awarded the ISO: 9001 & ISO 14001.

The ITC has full-fledged Chemical and Physical Laboratories, where all kind of chemicals and

physical tests like AZO, PCP, Formaldehyde etc. are performed within strict time schedules. The Physical laboratory was set up in collaboration with BALLY, Switzerland under UNDP assistance. Chemical laboratory has been set up in technical collaboration with PFI, Germany and is a leading testing laboratory in India.

The tests at the laboratory are conducted as per various standards depending on the customer's requirement.

Our students get first hand training on the various testing requirement of the products, banned and hazardous chemicals as per international standard in the FDDI International Testing Centers.



AZO DYE TEST

The azo dye test is to determine the values of amines, especially which are a carcinogen.Different colourants including dyes and pigments are used for the colouration of fashion articles such as apparel, textile, footwear and accessories



PENTACHLOROPHENOL (PCP)

Pentachlorophenol (PCP) can be used to prevent fungal growth and decay by bacteria. In textile and leather industry, PCP is mostly used for preservation finishing; in ligneous products PCP can be used in conservation paints. PCP can also be used in wooden toys and handicrafts.

PCP and its salts are highly toxic for aquatic systems, harmful to human health and highly persistent in the environment. Products containing PCP may form highly toxic substances when they are incinerated.



FORMALDEHYDE

Although formaldehyde is an incredibly useful chemical, there are known ecological and toxicological risks associated with exposure and handling, particularly in industrial and laboratory-based environments. In concentrated forms formaldehyde is an irritant, and a highly reactive, flammable and toxic substance that should be handled in controlled manner.

Therefore, formaldehyde testing is necessary for product compliance due to the chemical being restricted globally according to the material type, product and end consumer (i.e. adult or child, in skin contact etc.) with the acceptable limits for children being significantly lower than those for adults.



CHROMIUM

Chromium is a naturally-occurring element found in rocks, animals, plants, and soil. It is widely used in manufacturing processes and can be found in many consumer products such as wood treated with copper dichromate, leather tanned with chromic sulfate, and stainless steel cookware. Chromium can be found in air, soil, and water after release from the manufacture, use, and disposal of chromium-based products, and during the manufacturing process.

Chromium(VI) compounds are more toxic than chromium(III) compounds. The most common health problem resulting from exposure to chromium involves the respiratory tract; these health effects include irritation of the lining of the nose, runny nose, and breathing problems such as asthma, cough, shortness of breath, wheezing







OUR ACCREDITATION

FDDI is the first training Institute in the area of core competencies to be awarded various prestigious certifications from leading international organizations e.g.

Certificates for FDDI International Testing Centre:-

- ISO 17025 certification by DAkkS, Germany. (For Noida)
- Membership from SATRA Technology Center, U.K.
- Accreditation from SATRA (For Noida & Chennai Lab)
- BIS Recognized lab (Noida)
- RITES approved lab (Noida)

STANDARDS & NORMS

The tests at the laboratory are conducted as per various standards and guidelines laid down by,

- Shoes and Allied Trades Research Association (SATRA)
- Deutsche Institute fur Normung (DIN Norms)
- International Organization for Standardization (ISO Norms)
- Bureau of Indian Standards (BIS)
- European Norms .

INTERNATIONAL TESTING CENTRE (Chemical Lab)





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- Australian and Canadian Norms for Safety Shoes Testing
- American Society for Testing and materials (ASTM)
- American Association of Textile Chemists & Colorists (AATCC)

OUR TESTING RANGE

At ITC, we offer a comprehensive range of physical and chemical tests

- Leather for footwear & garments
- Textile and fabrics for clothing
- Complete Footwear, Components & Allied materials
- Ageing and weathering tests
- Banned and restricted chemicals
- Automobile parts
- Sports Goods
- Dyes & Pigments
- Upholstery



OUR LABS ACROSS INDIA

Noida Lab

The ITC has full-fledged Chemical and Physical Laboratories, where all kinds of chemical like AZO, PCP; Formaldehyde etc. and physical tests like slip resistances for safety & Fashion footwear, Climate chamber (-70° C to $+220^{\circ}$ C), weather-O-meter ATLAS make CI 3000 series are performed within strict time schedules. It has a complement of state of art testing equipment, all calibrated to the most demanding industry standards.

The lab has most sophisticated latest equipments like GCECD, GCMS, ICPMS, FTIR, UV Visible, Computerized tensile testing, climate chamber, Ozone chamber, weatherometer etc.

The tests at the laboratory are conducted as per various standards depending on the customer's requirement. Reliability and authenticity is the watchword at this center of excellence.

Chennai Lab

ITC Chennai is helping the leather & footwear industries by providing its testing services (both physical & chemical) and delivering accurate, consistent and reliable results with minimum possible time at the doorstep of one of the major clusters of India in the State of Tamil Nadu.

Kanpur Lab

FDDI has taken over a full-fledged physical & chemical lab from KLC. Lab is fully equipped to carry out most of the critical tests like slip resistance, Hydrolysis/ Ageing in climate chamber and so many physical tests on leather, footwear, footwear components, textiles etc. The lab is recently in process of getting accrediation from NABL.











PHYSICAL LABORATORY

- The Physical Laboratory was set up in collaboration with PFI Germany for testing of safety footwear.
- The lab is well equipped with latest equipments for performing test like metal insert flexing, SATRA slip resistance for safety and fashion footwear

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THE LAB IS EQUIPPED WITH LATEST SOPHISTICATED EQUIPMENT'S LIKE WEISS CLIMATE CHAMBER, VOTSCH CLIMATE CHAMBER, ZWICK & SATRA UTM, VOTSCH MAKE HIGHLY SOPHISTICATED AIR CIRCULATED PROGRAMMABLE OVENS, SATRA MAKE SLIP RESISTANCE TESTER & ATLAS CI3000+ WEATHER-O-METER.



FDDI, ITC NOIDA IS ENGAGED IN MAKING THE SPECIFICATION /QRS FOR PARAMILITARY FORCES, DEFENCE PERSONNEL, STATE POLICE, PSUS ETC. BASED ON THEIR REQUIREMENTS.

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THE LAB IS PROVIDING ITS SERVICES TO ALMOST ALL THE LEADING EUROPEAN BUYING HOUSES WHO ARE OPERATING FROM INDIA. ALL THE LEADING BRAND LIKE REEBOK, ADIDAS, SKECHERS, FILA, PUMA, ASICS, CROCS, RED TAPE, WOODLAND, RED CHIEF, BATA, UVEX, LIBERTY, ALLEN COOPER ETC. UTILIZING OUR LAB SERVICES ON REGULAR BASIS.



- It also provides test for testing of safety footwear as per national and international norms like ISO 20344, 20345, 20346, 20347 and IS: 15298 (part I to 4)
- It provides a comprehensive range of physical tests on leather, footwear, footwear components, textiles, plastics etc.
- The lab also provide its inspection services to Government organization, paramilitary forces and foreign buyers also.
- The laboratory maintains the highest standards of quality control.

CHEMICAL LABORATORY

- The Chemical Lab in FDDI's International Testing Center is well equipped with all the modern instruments/techniques of chemical analysis and highly trained technical manpower that have undergone extensive training at Prüf-und Forschungsinstitut Pirmasens e.V. (PFI), Germany.
- We have the capability for the testing of all the banned chemicals as per EN and ISO standards like Azo dyes, PCP, formaldehyde, Cr – VI, Dimethyl Fumerate, Allergenic and Carcinogenic Disperse dyes, Cadmium, Nickle free etc.
- The laboratory maintains the highest standards of quality control.





OUR SERVICES

(A) TESTING (Physical & Chemical)

- I. Complete footwear (Fashion, Safety & Industrial boot- Leather and Non leather)
- 2. 02. All footwear components
 - a) Leather & Synthetic upper/Lining material
 - b) Plastic/Rubber/PU Foam/Soling material)
 - c) Insole/Insock
 - d) Toe puff/Stiffener
 - e) Heels/top piece
 - f) Threads
 - g) Tapes/Binding
 - h) Fasteners (Zip/Velcro/Metal trims, buckles etc.)
 - i) Laces
 - j) Cardboard box
- k) Adhesives

- 3. Slippers and chappals
- 4. School shoes
- 5. School bags
- 6. Socks/Textiles
- 7. Footwear used in various paramilitary forces
- 8. Army boot
- 9. Sports Shoes (All types)
- 10. Automobile parts
- II. Ageing and weathering tests

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(B) CHEMICAL TESTING

Restricted Banned Chemical Substances

Restricted Substances List(RSL) testing helps manufacturers and retailers ensure their products comply with the fast changing regulations and standards that govern which kind of chemicals and substances can be used in products. RSL testing involves putting a product through a range of laboratory tests to ascertain which substances are used in the product, as well as reviewing the manufacturer's product notes. A report and certification can then be produced to demonstrate that the product is compliant.

- I. Allergenic and sensiting dyes
- 2. Aromatic amines from azo dyes
- 3. Chlorinated Paraffins
- 4. Chlorinated Phenols
- 5. Chromium VI
- 6. Dimethyl fumerate
- 7. Heavy metals
- 8. Nonylphenol ethoxylate and nonphenol
- 9. Organotin compounds
- 10. Perfluoroctane sulfonate
- II. Phthalates
- 12. Polyaromatic hydrocarbons
- 13. Formaldehyde
- 14. Nickle release
- 15. Volatile Organic Compounds
- 16. Substances of Very High Concern(SVHC)

(C) INSPECTION

(All types of footwear & related products, School bags, Socks, Belts, Wallets etc.)

- 1. Finish products at factory /Consignee sites
- 2. Inspection of raw material
- 3. Capacity verification/assessment of factory

(D) Assist in setting of In House lab at factory site

(E) Conduct Training programme on quality/testing at factory site/FDDI



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