



CIPET सि पे ट  
probe · perform · practice · Plastics

**केंद्रीय पेट्रोसायन अभियांत्रिकी एवं प्रौद्योगिकी संस्थान**  
(रसायन एवं पेट्रोसायन विभाग, रसायन एवं उर्वरक मंत्रालय, भारत सरकार)

**Central Institute of Petrochemicals Engineering & Technology (CIPET)**  
Department of Chemicals & Petrochemicals  
Ministry of Chemicals & Fertilizers, Govt. of India

# **तकनीकी सहायता सेवाएं** **TECHNICAL SUPPORT SERVICES**



Central Institute of Petrochemicals Engineering & Technology (CIPET) was established in 1968 and at present having 46 functional campuses across the country. CIPET is a STAR Institute (i.e. Skilling / Technical Support / Academics / Research) under Dept. of Chemicals & Petrochemicals, Ministry of Chemicals & Fertilizers, Government of India. All the centers are equipped with the state-of-the-art technical infrastructure at par with International Standards. Over the span of 50 years, a large number of industry clients recognized CIPET by availing Technology Support Services in the areas of Design, Tooling, Processing, Testing and Quality Assurance & Third Party Inspection. Many organizations including Government, PSUs, MNCs and Private Industries avail CIPET's expert domain knowledge as well as seek consultation.

- IS/ISO 9001:2015 certified institution
- NABL accredited laboratories as per ISO / IEC-17025:2017
- NABCB accredited Type "A" Inspection body as per ISO/IEC-17020:2012
- 1000+ working professionals with vast knowledge in the field of Polymers / Plastics Petrochemicals / Mechanical / Manufacturing Engineering
- Enriched Institute – Industry Interface
- AICTE approved Institution and NBA accredited academic programmes
- Educating youth to stimulate the growth of Petrochemicals and allied industries
- Generating Employment opportunities / Promoting Entrepreneurship for unemployed youth
- Applied Research leading to Technology transfer and commercialization
- Strong Alumni base spread across the globe occupying key positions in the industries

CIPET has an enviable interface with its business and industry partners. Always in the forefront of strengthening technological capabilities and have been constantly building capacities and leveraging our expertise, caliber and skill sets to meet the emerging and evolving needs of the industry.

**“Academics”** is one of the main domains of CIPET. Industry oriented Diploma, Post Diploma and Post Graduate Diploma Programs are offered at 28 Centres. Undergraduate and Postgraduate courses are offered at 8 Centres, these courses are affiliated to respective State Govt. Universities. 4000+ students are successfully passing out every year across the country. Exclusively dedicated 3 R&D Centres support the students and research scholars to get flourish in research activities.

**“Skill Development”** is the driving force of economic growth and social development of our Nation. Countries with higher & better levels of Skills adjust more effectively to the challenges and opportunities of globalization. NSQF aligned and NSQC approved Level 1 to Level 4 Skill Development Training Programmes (with 37 different specializations) are being conducted at CIPET centres. Every year more than 50,000 students have been successfully trained with excellent hands on practical exposure on state-of-the-art equipment and machinery in short term skill development courses. These Skill Development Training Programmes are sponsored by Public / Private Sectors under Corporate Social Responsibility Initiatives.

## TECHNICAL SUPPORT SERVICES

CIPET offers Technical Support Services (TSS) in the entire spectrum of Petrochemicals including Plastics & allied Industries. TSS is an integral portfolio of CIPET and highlights its core competency by offering high quality services to customers across the globe. Armed with an excellent infrastructure in terms of Technology and highly qualified Engineers / Scientists, CIPET renders technical, consultancy and advisory services to Plastics, Petrochemicals and allied industries, such as:

- Application development in all disciplines of Plastics Engineering & Technology
- Testing and standardization for Petrochemical materials and products
- Design and development of Moulds and Dies
- Material selection for new product development
- Machinery and equipment selection
- Setting up of Tool Room / Processing Industries
- Technical support to the industry in product design / mould design, product failure analysis with the help of CAD / CAM / CAE
- Training programmes on QMS & internal audit and measurement of uncertainty in testing laboratory
- Consultancy services on implementation of Laboratory Quality Management Systems (QMS)
- Setting up of laboratory as per National & International standards
- Plastics product manufacturing through state-of-the-art Injection moulding / Blow moulding / PET - stretch blow moulding / Pipe and film extrusion

- Standardization, Testing and Quality Control
- Pre - and Post Delivery Inspection (PDI) of plastics products like PVC and HDPE pipes, PPR-Pipes, PE/Al/PE Pipes, Woven sacks, Water storage tanks, Micro-irrigation components, cables, etc.,
- Pre-delivery inspection and testing of metallic pipes (CI/DI/GI/MS), fittings & valves
- Testing of Toys at Aurangabad and Lucknow
- Calibration Services at Ahmedabad, Bhubaneswar and Lucknow

## DESIGN/CAD/CAM/CAE

CIPET offers a wide range of Engineering services in CAD, CAM and CAE in the Design and Engineering to the plastic and allied industries as follows:

Plastics Product Design and Mould Design / Mould Flow analysis (Plastics) / Failure analysis / Finite Element Analysis (FEA) / Reverse Engineering / Rapid tooling Product, Mould design validation / Optimization of process parameters / Manufacturing Automation / Rapid prototyping

## TOOL ROOM

Tool Room at CIPET Centres focus towards making it a perfect apparatus space for any Tool maker. Tool Rooms are furnished with ultramodern, machines and CNC machinery to handle commercial job assignments for mould fabrication, high precision machining and manufacturing of standard mould bases for plastic products of any profile, shape or complexities. Besides, CIPET also undertakes job orders of varying magnitude such as repair of moulds and dies, CNC machining, CNC spark erosion, grinding, drilling, designing, development of jigs and fixtures, tool parts etc.

## Intricate Mould and Precision Machined Components by CIPET





## PROCESSING

CIPET Centres are equipped with the Hi-tech machinery for Plastics processing like two color Injection moulding machine, microprocessor-controlled Injection molding machine, all electric Injection molding machine, Multilayer blown film machine, Stretch Blow moulding machine, Roto-molding machine, Compression molding machine and Extruder.

### Injection Moulded Miniature Components



## CALIBRATION

Accredited with ISO / IEC-17025 by National Accreditation Board for Testing & Calibration Laboratories (NABL). The calibration laboratory of CIPET at Bhubaneswar & Lucknow are equipped with high accuracy master equipments, trained personnel and adhere to strict environmental conditions. These centres provide quality calibration services to manufacturing, research and development, testing and engineering organizations nationwide.

Laboratory offers calibration services for the following types of general purpose testing equipments: Dimension, Temperature, Volume, Time & RPM, Pressure, Force and Mass & Electrical calibration.

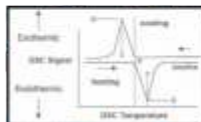
## TESTING

Testing laboratory at CIPET is prominent amongst other Plastics testing organizations in Asia. Testing labs of CIPET are accredited with ISO/IEC-17025 by National Accreditation Board for Testing and Calibration Laboratories (NABL) and furthermore approved by Bureau of Indian Standards (BIS) for third party certification of Plastic products as per various Indian standards.

Equipped with the advanced machineries / equipments for Plastics Testing, CIPET has focused on a wide range of testing and gives the complete scope of investigation of polymers, plastics and composites.

## TESTING CAPABILITIES

### Material Characterization



### Value Addition



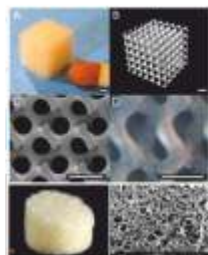
### Pipes & Sockets



### Industrial Components



### Morphology



### Automobile Components



### Medical Components



**Smart Card**



**Rail Components  
(Seat, Curtains, Doors & Windows)**



**Fabrics- Woven  
& Non-Woven**



**Electronic Items**



**Irrigation Systems**



**Crates, Containers & Tanks**



**Rigid & Flexible Foams**



**Multilayer Packaging**



## Services Offered

- Bureau of Indian Standards (BIS)
- Department of Health and Family Welfare (DH & FW)
- Research Design and Standards Organization (RDSO)
- Defence Research and Development Organization (DRDO)
- Rail India Technical & Economic Service (RITES)
- Director General Supplies & Disposals (DGS & D)
- Department of Telecommunication (DOT)
- Small Industries Service Institute (SISI), Ministry of Industries
- Dept. of Science & Technology (DST)
- Department of Customs
- Food Corporation of India (FCI)
- Telecom Engineering Center (TEC)
- Directorate General of Foreign Trade (DGFT)
- Central Bureau of Investigation (CBI)
- Central Forensic Science Laboratory (CFSL)
- Bureau of Police Research & Development (BPRD)
- Small Industries Development Bank of India (SIDBI)
- Gas Authority of India Limited (GAIL)
- Oil India Limited (OIL)
- UNICEF, New Delhi
- National Committee on Precision Agriculture & Horticulture (NCPAH)

## INSPECTION SERVICES

CIPET is the first Government of India Educational Institution which is accredited with ISO/IEC: 17020 (General Criteria for the operation of various types of bodies performing inspection) Type - A Inspection body in the field of Plastics, Metals and associated items. CIPET has specialized experts and is always prepared for monitoring different streams with rich involvement in review of different Plastics, Metals and associated items.

- CIPET helps the buyers in buying the correct items and the manufacturers enhancing their quality reliably
- Pre - and Post Delivery Inspection Services are offered to our elite customers
- With the philosophy of giving consistent support to customers, CIPET offers
  - (i) Third party independent inspection services
  - (ii) Determining the quality of the product for both the manufacturers as well as the suppliers

## PRESTIGIOUS ASSIGNMENTS

### Precision Machined Components for ISRO, Defence

CIPET has developed machined components for ISRO, Ordnance Factories, BHEL, HAL, TAFE, etc.



**Chandrayan I** : Developed Radio frequency Signal Input & Output components for Chandrayan-I project.

**Polymer Coated Currency:** When the Reserve Bank of India (RBI) planned to introduce Polymer coated currency to improve its durability, life span and to avoid circulation of fake currency by adding better security features, CIPET undertook the assignment to testing and evaluation of various types of polymer coated currencies as per the requirement of RBI and Govt. of India. The tests included tensile strength, tear strength, wet tensile strength, Cobb test / porosity, etc.

**Solar Lamp :** Development of Moulds for LED solar light lamp for Indian oil R&D Centre.

**Terafil Water Filters:** Low cost device to filter impure water into clean drinking water. Especially where the water is rich in sediments, suspended particles, iron and certain microorganism causing water borne diseases. Terafil Water Filter is jointly developed by Institute of Minerals & Materials Technology (IMMT), CSIR & CIPET, under the scheme of “Safe Drinking Water Mission Programme” of Government of Odisha. Terafil discs are prepared under license and training by IMMT. Terafil Water Filter Container (15 Ltr. capacity), Cover Lid, Supporting Ring and Terafil Holder were designed and processed by CIPET. Terafil Water Filter was promoted by various State Governments like Odisha, Tamil Nadu, Kerala for use in various departments, Anganwadis.

### Contraceptive and Disposable Syringes

The Ministry of Health & Family Welfare, Govt. of India has approved CIPET Laboratories and awarded contract for testing and evaluation of Contraceptive devices, i.e. Copper-T, Condoms and Tubal rings. Testing of disposable syringes are also carried out.

### HIGHLIGHTS

- Design & Development of mould for Fuze Container FS-2874 for Ordnance Factory, Dum Dum
- Design & Development of Magazine Assembly for Rifel 7.62mm (Ghaatak) for Rifle Factory, Ishapore
- Development of Plastic Scintillator Sheet / Rods for DRDO, Jodhpur







- Development of Worm wheel & shaft and spiral bevel gear for BHEL, Trichy



- Development and Supply of "Twin container assembly" for Ordnance Factory, Khamaria –Jabalpur



- Design & Development of case magazines of 20 round, 30 round and AMOGH for Ordnance Factory, Dum Dum



- Development of VVPAT printer cover for Electronics Corporation of India Ltd., Hyderabad

- Testing of Polycarbonate shield for ITBP & CRPF Department

- Development of EVM Power Pack Lid for Electronics Corporation of India Ltd. Hyderabad



- Development of mould for 125mm plastic container for packing Ammunition for HAPP Project, Trichy

- Development of Blown Film for Defence Research and Development Establishment (DRDE), Gwalior

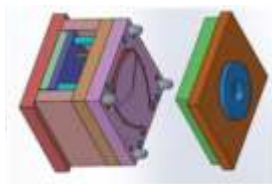
- Development of Tear Smoke Unit Components for Border Security Force, Tekanpur, Gwalior

- Testing of Geo bags for protection of soil erosion for Water Resource Management, Govt. of Bihar

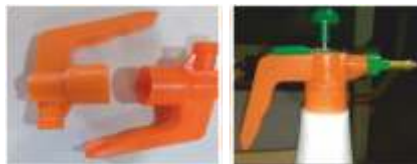
## Impact Protector Components for RL MK III Developed for Gun and Shell Factory, Kolkata



CIPET played a vital role in developing and producing PPE items for the frontline workers under Atma Nirbhar Bharat (Vocal for Local)



## Development of Spray Handle for Agrima International, Kottayam



## Design and Development of Sanitizer Bottle for SME units



Sanitizer Bottle Nozzle



Sanitizer Bottle Cap



Sanitizer Spray Pump



Final Product

तकनीकी सहायता सेवा आवश्यकताओं के लिए  
FOR TECHNICAL SUPPORT SERVICE REQUIREMENTS

सिपेट मुख्यालय  
CIPET HEAD OFFICE

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