

METALS TESTING & RESEARCH CENTRE

*THE CENTRE OF EXCELLENCE
FOR
RESEARCH, CONSULTANCY AND TESTING*



Dr.P.C.ANGELO, PhD
Director
Metals Testing and Research Centre

Director's Message

“The Metals Testing and Research Centre will serve as a pioneering institution in bringing an increases awareness regarding quality, reliability and efficiency in the metallurgical industries located in and around Coimbatore by providing excellent testing, consultancy, and research in the areas of materials and their processing”

ABOUT THE CENTRE

This centre, a part of Metallurgical Engineering Department, a comprehensive set-up at PSG Tech campus having the main objectives viz,

- Testing and characterization of metallic materials
- Development of new systems and composites
- Development of newer techniques of processing
- Fracture and failure investigations of metallic systems
- Solving technical problems
- Helping industries to substantially raise their profits by
 - Improving product quality
 - Increasing productivity
 - Reducing rejection rates

The centre aims to improve the global prospects of the industries as well as significantly improve metallurgical education and research in this region.

SERVICES

TESTING AND CONSULTANCY SERVICES

The Centre offers a variety of services under a single roof providing total solutions to industries from small, medium and large scale industrial sectors. The major areas in which the testing and consultancy services offered are:

1. Failure analysis of engineering components
2. Technical opinions on various industrial (Foundry and Welding) problems
3. Microstructural analysis of all metals and alloys
4. SEM Analysis with EDS
5. X-Ray Diffraction for phase analysis
6. Micro and Macro Tension Tests
7. Hardness and Micohardness Tests
 - Brinell, Vickers and Rockwell (A, B, C scales)
8. Corrosion Tests (As per ASTM standards)
 - Inter Granular Corrosion (IGC) Testing
 - Stress Corrosion Testing

9. Wear Tests

Pin-on-Disc, Dry sand Abrasion, Slurry Abrasion, Slurry Jet Abrasion, Air Jet Abrasion

10. Ferrite estimation in stainless steel

11. Nondestructive Testing

LPT, MPT, UT and Interpretation of radiographic films

SHORT TERM TRAINING COURSES

The centre offers training courses catering to the need of the local industries in various fields of metallurgy. To name a few:

- Metallography
- Heat Treatment
- Welding and Quality Inspection
- Metallurgy for Non-Metallurgists
- Product Development
- Foundry Practices for trainees
- Surface Engineering and Modification

Apart from the above titles, tailor- made training courses can also be offered to suit the individual needs of industries.

RECENTLY COMPLETED MAJOR TESTING AND CONSULTANCY ASSIGNMENTS

Sl.No	Client	Service Offered
1.	Roots Industries Limited	Microstructural analysis of riveted samples
2.	Roots Industries Limited	Failure analysis carried out on the diaphragm FC4 – Zinc Galvanised Spring Steel Strip
3.	Bimetal Bearings Limited	Failure analysis carried out on the Thrust Washer sample
4.	ELGI Equipments limited	Failure analysis of the wire cut sandvick samples
5.	ELGI Equipments limited	Failure analysis carried out on the SG iron crank shaft (SG 600/3) component
6.	ELGI Equipments limited	Failure analysis carried out on the failed crank shaft
7.	Deffree Engineering (P) Ltd.,	Failure analysis carried out on the monel Grade M25-S (ASTM A 494)
8.	ELGI Equipments limited	Failure analysis carried out on the Fritting sample
9.	ELGI Equipments limited	Failure analysis carried out on the broken piece having (ID. INOR 091074 3K-01-39)
10.	ELGI Equipments limited	Failure analysis carried out on the rotor rod sample
11.	ELGI Equipments limited	Failure analysis carried out on the hardened (AISI 8620H) broken gear sample
12.	ELGI Equipments limited	Failure analysis carried out on the two broken sample
13.	Sakthi Auto Component Limited,	Failure analysis carried out on the grey cast iron brake disc
14.	ELGI Equipments limited	Failure analysis carried out on the rotor shaft broken sample
15.	Shell Fabs, Coimbatore	welder performance Qualification test
16.	Bimetal Bearings	Failure analysis carried out on the cast copped lead strip
17.	Motley Wrenchyarn (P) Ltd, Tirupur	Failure analysis carried out on the rusted imported shoe liner supplied
18.	V.R.Foundries	Failure analysis carried out on the broken cast iron sample
19.	Sizer Metal corporation	Testing of the ferro alloys
20.	ELGI Equipments limited	Failure analysis carried out on the failed AISI 8620H gear part
21.	Vetri Engineers, Coimbatore	Failure analysis carried out on the failed LR D02S Draw frame Top Roller Shell and Needle Bearings
22.	Bimetal Bearings	Crack measurement
23.	Bimetal Bearings	Failure analysis conducted on the broken bearing samples
24.	ELGI Equipments limited	Failure analysis conducted on the grey cast iron coupling
25.	VKS Exports	Analysis carried out on the Iron powder sample
26.	ELGI Equipments limited	Failure analysis carried out on the failed input shaft sample
27.	ELGI Equipments limited	Failure analysis carried out on the failed rotor shaft sample
28.	ELGI Equipments limited	Failure analysis carried out on the Spring breakage of the samples
29.	Samraj Engineering Controls Pvt. Ltd.,	Failure analysis carried out on the fillet-weld specimens
30.	Mr.S.Raja, Insurance Surveyor	Failure analysis carried out on the leaf spring samples
31.	U&R Engineering (P) Ltd., Coimbatore	Failure analysis carried out on the fillet-weld specimens

PEOPLE



Dr.P.Gopalakrishnan, PhD (Surface Engineering)
Professor

*Metallography, Heat Treatment,
Failure Analysis, Corrosion and Wear Testing,
Mechanical Testing*



Dr.S.S.Mohamed Nazirudeen, PhD (Foundry Engineering)
Professor &
Coordinator, Testing and Consultancy

*Foundry Problems, Metallography, Heat Treatment,
Failure Analysis, Mechanical Testing*



Dr.V.Balusamy, PhD (Welding Engineering)
Associate Professor

*Welding metallurgy, Non Destructive Testing, Metallography,
Heat Treatment, Failure Analysis, Mechanical Testing*



Dr.R.Subramanian (Powder Metallurgy)
Associate Professor

*Powder metallurgy, Metallography, Composites
Heat Treatment, Failure Analysis, Mechanical Testing*



Mr.J.Krishnamoorthi

Assistant Professor

*Scanning Electron Microscopy and EDAX analysis, Failure Analysis,
X-Ray Diffraction, Metallography, Ultrasonic Testing*



Mr.K.Thillairajan

Assistant Professor

*Metallography, Heat Treatment, Non Destructive Testing
Failure Analysis, Corrosion and Wear Testing,
Mechanical Testing*



Mr.J.Anburaj

Assistant Professor

*Metallography, Heat Treatment,
Failure Analysis, Mechanical Testing*



Ms.R.Sivasankari

Assistant Professor

*Metallography, Heat Treatment,
Failure Analysis, Mechanical Testing*

FACILITIES



Scanning Electron Microscope with EDS



X-ray Diffraction Unit



MITUTOYO Microhardness Tester



Universal Tension Testing Machine



Digital Rockwell Hardness Tester



Dry Abrasion Wear

CLIENTS:

PARTIAL LIST OF CLIENTS

- **Anugraha Valve Castings Ltd**, Arasur, Coimbatore - 641 407
- **Bright Castings**, Coimbatore. 641 004.
- **Bimetal Bearings Ltd**, Coimbatore - 641 018.
- **Dresser Valve India Pvt Ltd**, Coimbatore - 641 021.
- **ELGI Ultra Industries Ltd**, Coimbatore - 641 018
- **ELGI Equipments Limited**, Coimbatore - 641 005.
- **Flow Link Systems (P) Ltd**, Coimbatore - 641 407.
- **Fluid Engineering works**, Coimbatore – 641 030
- **Hansen Drives Ltd**, Coimbatore – 641 018
- **Koso Fluid Controls (Pvt) Ltd**,Coimbatore – 641 653
- **Larsen & Toubro Limited**, Coimbatore – 641 035
- **L.G.Balakrishnan & Bros Ltd**, Coimbatore - 641 006
- **Lakshmi Machine Works Ltd**, Coimbatore - 641 407
- **Lakshmi Card Clothing Mfrs Co Ltd**, Coimbatore . 641 662.
- **Lakshmi Machine Works Ltd**, Coimbatore – 641 020.
- **Lakshmi Ring Travellers (Cbe) Ltd**, Coimbatore - 641 018
- **Magna Electro Castings Limited**, Coimbatore - 641 018.
- **Revathi -Cp equipment Ltd**, Coimbatore - 641 021.
- **Roots Cast Pvt Ltd**, Coimbatore - 641 006
- **SAM TURBO Industry Limited**, Coimbatore – 641 014
- **SEFORGE Limited**, Coimbatore – 641 659
- **Sri Ranganathar Industries P Ltd**, Coimbatore - 641 025
- **Shri Kara Engineering Ltd**, Coimbatore – 641 028
- **Sueeraa Alloys Global Pvt Ltd**, Coimbatore - 641 006
- **Ultimate Alloys (P) Ltd**, Coimbatore - 641 402
- **UR Castings and Alloys Private Limited**, Coimbatore - 641 105
- **V.R.Foundries**, Coimbatore – 641 004.
- **Sand Fits Foundries Pvt Ltd**, Coimbatore – 641 402
- **Sanees Alloys Pvt Ltd**, Coimbatore – 641 402

CONTACT US:

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