Director’s Message

“The Metals Testing and Research Centre will serve as a pioneering institution in bringing an increased 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

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

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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.
- 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 Ring Travellers (Cbe) Ltd, 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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