

# TRAINING ON BASIC INDUSTRIAL REQUIREMENTS, ALIGNMENT TECHNIQUE - INCLUDING LASER ALIGNMENT, VIBRATION ANALYSIS, THERMOGRAPHY - 04 WEEKS

CONDUCTED BY  
VIBROTECH TRAINERS & CONSULTANTS PVT. LTD.



## PROGRAMME OVERVIEW:

This program is developed with a mission to enhance the knowledge of the participants by practically training them on Basic Industrial Requirements, Fundamentals of Basic Maintenance Activities, Tools used for Maintenance Activities, Alignment Concepts along with advanced Laser Alignment Techniques, Thermography, Vibration Analysis, Diagnostic Studies and In-Site Dynamic Balancing of Rotors and also enhance with some of the soft skills which is an essence of this era.

## COURSE CONTENTS

### First Week

#### Operations, Types & Applications

- Spanner
- Allen Key
- Screw Driver
- Hammer
- Pliers
- Wrench
- Vice Clamp
- Bore Gauge
- Center Gauge
- Vernier Tooth Gauge
- Grinding machine
- Drilling Machine
- Welding
- Welding rods

### Second Week

#### Precision Instruments

- Dial Gauge Indicators,
- Micrometer & Its Types
- Vernier caliper
- Depth Gauge
- Vernier Height Gauge
- Vernier Depth Gauge
- Vernier Bevel protractor

#### Various types of

- Drill bits,
- Tap & Dies
- Reamer & Thread Extractor
- Gears & Bearings
- Pumps & Compressors
- Fans & Blowers
- Dampers

### Third Week

#### Alignment Concepts

- About Couplings & Types of Couplings
- Basics of Alignment & Effects of Misalignment
- Deducting Soft Foot & solving
- Types, Causes for Misalignment
- Advantages of Good Alignment
- Alignment methods including RAP Method
- Pre-conditions of Alignment & Alignment Tolerance

#### Basics of Vibration

- Define – Displacement, Velocity, Acceleration, Frequency, Phase & Spectrum
- Measure and record data using vibration analyzer
- Understanding Frequency & Phase Analysis of Unbalance, Bent Shaft, Looseness & Coupling Misalignment
- Vibration due to coupling and shaft misalignment
- Factors that affect natural frequency

#### Vibration Analysis

- Approach to Vibration Analysis.
- Analysis of defects in Bearings, Belt, Gearbox, Coupling.
- Analyzing electrical problem.
- Beat, resonance

#### Balancing

- Single Plane Balancing
- Prevention and correction of unbalance
- Single plane vs. Two plane unbalance
- Spectral analysis for unbalance
- Preventing unbalance due to assembly errors

#### Thermography - Practice

#### Vibration Transducers & its Selection Methods ISO Standards

### Fourth Week

The Practical Session on Dial gauge Alignment & also Laser Alignment, Vibration Analysis & Balancing shall be conducted. The practical session will be followed by Review and Certificate.

**Venue: M/s. VIBROTECH TRAINERS & CONSULTANTS PVT LTD.**

(INTERNATIONAL REPRESENTATIVE OF M/s. VIBRATION INSTITUTE, USA)

B2B, BBCL Sukhin, H -29 & 30, South Avenue, Kamaraj Nagar, Thiruvannamipur Chennai-600 041, Tamil Nadu, INDIA.

Phone: +91-44-24486363/ 24486364, Fax: +91-44-24486364 Mobile: +91 9444043414

Email: vibrotech@gmail.com, vibrotechchennai@yahoo.com

Website: [www.vibrotech.co.in](http://www.vibrotech.co.in)

## TERMS & CONDITIONS

### COURSE FEES:

The course fees for the Complete Training is Rs. 30,600\*/- only per candidate inclusive of 18%GST.

Course Fees for Only 1 <sup>st</sup> Week – Rs. 9,500/- per candidate	Course Fees for Only 3 <sup>rd</sup> Week – Rs. 19,500/- per candidate
Course Fees for Only 2 <sup>nd</sup> Week is Rs. 12,600/- per candidate	Course Fees for Only 4 <sup>th</sup> Week is Rs. 22,656/- per candidate
Course Fees for 1 <sup>st</sup> & 2 <sup>nd</sup> Week combined: Rs. 17,700/-	Course Fees for 3 <sup>rd</sup> & 4 <sup>th</sup> Week combined: Rs. 28,320/-

### Other Payment Terms:

- **Payment terms: Advance Payment**

- **Our Bank details are as follows:**

Account Name: **VIBROTECH TRAINERS AND CONSULTANTS PVT LTD**

Account Number: **64000350924**

Bank Name: **State Bank of India** Branch: **Tiruvanmiyur** Branch Code: **1985** IFSC / NEFT Code: **SBIN0001985**

- Fees can also be paid through Demand Draft, drawn on any nationalized Bank in favor of "**VIBROTECH TRAINERS AND CONSULTANTS PVT LTD**", payable at Chennai.
- The above Training Fees include Course Material (Books) & 18% GST.
- **18.0% GST SHALL BE REIMBURSED FOR GST - REGISTERED COMPANY SPONSORED CANDIDATES.**

### COURSE OUTCOME

- |  |   |
|--|---|
| <ul style="list-style-type: none"><li>• To Gain Knowledge on the various types Tools used in industry and their Operating Principle, purpose.</li><li>• To gain knowledge about Machine Elements used in the Equipment's in Industries.</li><li>• To gain knowledge about various Processes, Machineries used in the different industries like Cement, Power, Sugar, Pharmaceutical, Paper etc.</li><li>• To have knowledge about various problems occurring in Machineries and their Diagnosis</li><li>• To update the latest technologies used in Maintenance Field.</li></ul> | <ul style="list-style-type: none"><li>• To understand Vibration from Basics to Advanced level (Diagnosis of problem using spectrum)</li><li>• To identify the Problem of equipment using Vibration Analysis.</li><li>• To gain knowledge in the Coupling, different alignment techniques and latest trend in Alignment (Practical experience in Laser alignment)</li><li>• To gain practical experience in Dynamic Balancing of Machineries.</li><li>• To get experienced in Thermal image capturing to Problem Identification.</li></ul> |
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### OTHER DETAILS ABOUT THE COURSE

- **TOTAL NUMBER OF PARTICIPANTS – 08 Only.**
- Classes being conducted by experts in relevant field with more than 30 years of hands-on experience.
- Evaluation on weekly basis on the performance will be conducted.
- In-Situ Dynamic Balancing - Calculations, Procedure and hands-on training.
- On completion of Training, they will have to attend written exam & Practical exam including Dynamic Balancing.
- Course Completion / Internship Certificate will be provided.

### FACILITIES DURING TRAINING:

NOT MORE THAN 08 participant for the course as Individual focus in training required.

### FOR STAR PERFORMERS:

On successful completion of the training, if the candidate has performed beyond expectations, they will be hired by the company as a direct employee with a CTC of Rs. 15,000/- per month + Allowances.

The above training program is conducted at our premises. We also conduct similar training program at Plant / organization to suit individual Plant Maintenance requirement for recruited Trainees / Front Line Engineers / Technicians. Charges may vary accordingly.

**VIBROTECH TRAINERS & CONSULTANTS PVT. LTD., CHENNAI RESERVES THE RIGHT TO ACCEPT OR REJECT NOMINATION OF CANDIDATES FOR TRAINING.**

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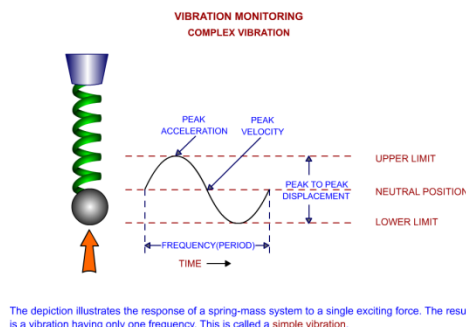
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CONTAINS THE FOLLOWING BENEFITS**



**Topic Wise-Power Point Presentation**



**Computer Based Tutorials (Animation)**



**Preliminary Inspection of Equipment**



**Practical Usage of Tools by Participants**



**Internship/ Completion Certificate**



**Infrared Thermography Application**



**Laser Alignment using Wireless Bluetooth Application**



**Vibration Analysis, Diagnostic Studies & Dynamic Balancing**

*“Learning is finding out what you already know;  
Doing is demonstrating what we learnt;  
Teaching is for others to know it as well as you do.  
We are all learners, doers, and teachers”.*

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