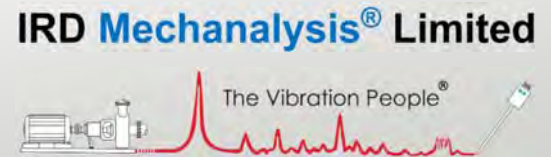


IRD Mechanalysis Vibration Analysis

ISO 18436-2 Category II



About IRD Mechanalysis Training Offering

IRD Mechanalysis Ltd. offers Vibration Condition Monitoring Training in accordance with ISO 18436-2. IRD boasts of training 40,000 plus engineers world over in Vibration analysis and in India it has trained 3000 plus engineers. The training is compliant to the requirements of ISO 18436-2 & ISO/IEC 17024

Vibration Analysis Training Category II

Individuals Trained and Certified to Category 2 are expected to carry out vibration measurements and basic vibration analysis using single-channel measurements, with or without phase trigger signals, according to established and recognized procedures. Personnel certified to Category II require all the knowledge and skills expected of Category I in deeper levels plus skills as per the course content.

The Trainers

Senior executives and Vibration analyst of IRD and its associates will conduct the training programme. The faculty members have wealth of experience in Vibration analysis and Reliability. The training is laced with IRD Training literature and Case studies.

Methodology

The training will consist of Theory, Case studies and "Hands On" experiments on Motor Demonstrator set in the class room. If the training is being conducted in Training Centre of the Plant, measurements on plant machines and discussions shall form a part of the training

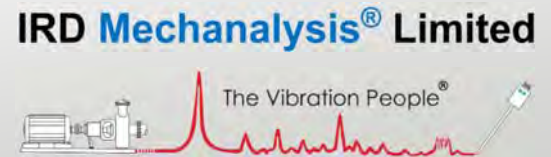
Content of the Training as per ISO18436-2

- 1. Principles of vibration** - Basics, Time and frequency domains, Vectors, modulation, Phase, Natural frequency, resonance, critical speeds
- 2. Data acquisition** - Instrumentation, Transducers, Sensor mounting, mounted natural frequency, Fmax, acquisition time, Proximity sensor conventions, Triggering, Test planning, Test procedures, Data formats, Recognition of poor data
- 3. Signal processing** - Analog sampling, digital sampling, FFT application, Time windows: uniform, Hanning, flat-top, Filters: low pass, high pass, band pass, tracking, Anti-aliasing, Bandwidth, resolution, Averaging: linear, synchronous time, exponential, Dynamic range
- 4. Condition monitoring** - Equipment evaluation and prioritization, Monitoring programme design, Baseline assessments, trending, Route planning, Fault condition recognition
- 5. Fault analysis** - Spectrum analysis, harmonics, sidebands, Mass unbalance, Misalignment, Mechanical looseness, Bearing defects: rolling element, journal, Electric motor defects, Gearbox analysis, Resonance and critical speeds
- 6. Corrective action** - Shaft alignment, Field balancing, Basic maintenance action
- 7. Equipment knowledge** - Electric motors, generators and drives, Pumps, fans, Steam turbines, gas turbines, Compressors, Reciprocating machinery, Rolling mills, paper machines, other process equipment, Machine tools, Structures, piping, Gearboxes Rolling element bearings, Journal bearings, Gearing, Couplings, belts
- 8. Acceptance testing** - Test procedure, Specifications and standards, Reporting, Impact testing, Forced response testing



IRD Mechanalysis Vibration Analysis

ISO18436-2 Category II



ISO18436-2 Category II other details

Duration

4 Days includes Training and Certification examination

Training format

- On premises
- Star Hotels in principal cities
- Virtual Training - Instructor led
- Virtual Training - Automatic from IRD website

Certification and Training

- In accordance with ISO18436-2 and ISO/IEC 17024
- Examination of 3 hours duration
- 100 questions - multiple choice
- Pass grade 70%
- Validity 5 years

Education Board

IRD Mechanalysis Education Board (IMLBoC) overseas the delivery and certification process

Eligibility for Trainees

18 months of work experience



About IRD Mechanalysis

IRD Mechanalysis was incorporated in Columbus, Ohio in the year 1955 by Sir Glen H. Thomas. The company made Instruments for Vibration Monitoring and provided Vibration analysis services. During the 1960's, IRD was offering Vibration Analysis services to **NASA** for their ground support equipment.

IRD was the world's first to introduce Formal Vibration Analysis Training in several levels. IRD was also the world's first to make Vibration data collector and Vibration software (IRD816 Data collector and IRD7090 Software)

IRD Mechanalysis Limited was originally registered in India in 1978 as a Joint Venture Company with IRD Mechanalysis Inc. USA and Chester UK. By the year 2000 these two overseas operations closed after being acquired, but the Indian company became an independent entity and registered as IRD Mechanalysis Limited. It continues to support IRD's Customers worldwide.

About IRD Mechanalysis Training

IRD created Vibration analysis Training programmes in the 60s in 5 levels. They started with Basic level to working level and then to very advanced level. It also had Training Courses in Balancing Technology, Data collection technology and Maintenance Management.

International Organization for Standardization (ISO) Geneva, created ISO18436 document in 2003 to rationalize and bring order in this very important aspect of Vibration Condition Monitoring. By this time IRD had globally trained 40,000 plus engineers and technicians.

IRD today offers all the four categories of Vibration analysis Training as defined by ISO18436. It also delivers its well known courses of the past - VT1 and VT2 (Vibration Technology 1 and 2). IRD has wealth of experience and documented literature and case studies pertaining to Vibration analysis. The current ISO18436 Training makes use of this priceless legacy of IRD.

Vibration Analyst CAT II
IRD Mechanalysis® Limited

