

## VEL TECH – DR. BALDEV RAJ NON DESTRUCTIVE TESTING FACILITIES

Vel Tech-Dr. Baldev Raj Non Destructive Testing laboratory is one of the facilities established in Vel Tech TBI. It promotes entrepreneurs in testing of materials by Non-destructive test methods such as Ultrasonic testing, Magnetic particle testing, Liquid penetrant testing, Radiographic testing and Eddy current testing. The field of non-destructive testing (NDT) comprises a vast array of analytical techniques that are applicable to a wide range of industries.

The priority areas for supporting innovations under Non Destructive Testing are,

- Manufacturing
- Automobile
- Aerospace
- Other Technology areas
- Aluminum construction
- metallurgy
- other transportation sectors

**Vel tech - Dr. Baldev Raj Non Destructive Testing Laboratory offers dedicated facilities for innovators / startup's / entrepreneurs / students**

### **Ultrasonic Testing**



**Ultrasonic testing (UT)** is a family of non-destructive testing techniques based on the propagation of ultrasonic waves in the object or material tested. In most common UT applications, very short ultrasonic pulse-waves with center frequencies ranging from 0.1-15 MHz, and occasionally up to 50 MHz, are transmitted into materials to detect internal flaws or to characterize materials.

The facility includes wide range of equipment's like:

**Ultrasonic flaw detector EPOCH 650 (Olympus make)**

### **Transducers:**

- Straight probe PF4R 4MHz
- T-R Probe DL4R 4MHz
- Angle Probe 60° AM4R 4MHz
- Contact probe V111-RM 10 MHz
- Contact Probe V154-RM 2.25MHz
- Contact probe V155-RM 5MHZ

## Eddy Current Testing



**Eddy-current testing** is one of many electromagnetic testing methods used in nondestructive testing (NDT) making use of electromagnetic induction to detect and characterize surface and sub-surface flaws in conductive materials.

The facility includes wide range of equipment's like:

- Eddy current flaw detector NORTEC 600 (Olympus make)  
Material size - 229 mm x

### Probes:

- SI.No.K19278, P/N 9222164.01-100 to 500KHz
- SI.No.K20101, P/N 9403399-200Khz to 1MHz
- SI.No.K19040, P/N 9222341 480KHz with cable

## Magnetic Particle Testing



**Magnetic particle Inspection (MPI)** is a non-destructive testing (NDT) process for detecting surface and shallow subsurface discontinuities in ferromagnetic materials such as iron, nickel, cobalt, and some of their alloys. The process puts a magnetic field into the part. The piece can be magnetized by direct or indirect magnetization.

The facility includes wide range of equipment's like:

- Electromagnetic yoke
- reference block for MPI
- Magnetic powder

## Liquid Penetrant Testing

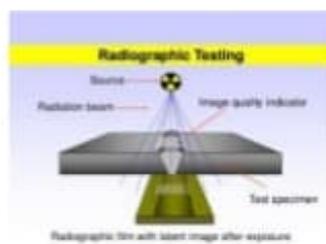


**liquid penetrate inspection (LPI) or penetrant testing (PT)**, is a widely applied and low-cost inspection method used to check surface-breaking defects in all non-porous materials (metals, plastics, or ceramics). The penetrant may be applied to all non-ferrous materials and ferrous materials.

The facility includes wide range of equipment's like:

- Liquid Penetrant (visible)
- Liquid Penetrant (Fluorescent)
- cleaner in 400ml aerosol can
- Developer in 400ml aerosol can
- Nickel chrome panel one set of 2
- Black light
- Aluminum cracked sample

## Radiography Testing



**Radiography** is a method of non-destructive testing where many types of manufactured components can be examined to verify the internal structure and integrity of the specimen. Radiography can be performed utilizing either X-rays or gamma rays. Both are forms of electromagnetic radiation.

The facility includes wide range of equipment's like:

- Reference Radiographs (weld)
- Reference Radiographs (casting)
- Radiographic film illuminator(sonaspection)