

MATRIX TESTING & TECHNOLOGIES PVT. LTD.



Matrix Testing Machine Services



COMPUTERIZED HYD. GRIP
UNIVERSAL HARDNESS TESTER



UCI HARDNESS TESTER



OPTICAL EMISSION
SPECTROMETER (OES)



DIGITAL COMPUTERIZED MICRO
VICKERS HARDNESS TESTER



AUTO IMPACT TESTING MACHINE
750 JOULES



CC-3069
NABL ACCREDITED LAB

Universal Testing Machine (UTM)
Optical Emission Spectrometer (OES)

Micro Vickers Hardness Tester

Metallurgical Microscope

PMI (XRF) Machine

Brinell Hardness Tester

King Brinell Hardness Tester

UCI Hardness Tester

Test Block and UTM Consumables

AMC and Calibration Services

Over

10

Years of
Consistent
Excellence

Group of
**MATRIX TESTING
MACHINE SERVICES**

Redefining Qualities...

NABL CERTIFICATE & AUTHORIZATION LETTER




**National Accreditation Board for
Testing and Calibration Laboratories**

CERTIFICATE OF ACCREDITATION

**MATRIX TESTING MACHINE SERVICES (CALIBRATION
DIVISION)**

has been assessed and accredited in accordance with the standard

ISO/IEC 17025:2017

**"General Requirements for the Competence of Testing &
Calibration Laboratories"**

for its facilities at

OFFICE NO. 813, EIGHTH FLOOR, RAMA EQUATOR, SAMRAT CHOWK, PIMPRI, PUNE,
MAHARASHTRA, INDIA

in the field of

CALIBRATION

Certificate Number: CC-3069
Issue Date: 23/10/2022 Valid Until: 22/10/2024

This certificate remains valid for the Scope of Accreditation as specified in the annexure subject to continued
satisfactory compliance to the above standard & the relevant requirements of NABL.
(To see the scope of accreditation of this laboratory, you may also visit NABL website www.nabl-india.org)

Name of Legal Identity : Matrix Testing Machine Services

Signed for and on behalf of NABL




N. Venkateswaran
Chief Executive Officer



Fuel Instruments & Engineers Pvt. Ltd.
Plot No. 68 To 69, Parvati Co-op. Industrial Estate,
YADRAV (CHALKARANJLI) - 416115.
Tal. Shirur, Dist. Kolhapur, Maharashtra State (INDIA)
• Cell : 98500 67733
• E-mail : account@fietest.com
• Website : www.fietest.com / www.fuelinstrument.com

TO WHOMSOEVER IT MAY CONCERN

This is to certify that, **MATRIX TESTING AND TECHNOLOGIES PVT. LTD.**

(Group of, **MATRIX TESTING MACHINE SERVICES**), having their office at,

Office No. 813, Eighth Floor, Rama Equator, Near Finlolex Chowk, Pimpri,

Pune - 411 018 is our **PRIME DEALER** for Sales, Services and Calibration of

material testing machines and balancing machine manufactured by us for the

period 01.04.2023 to 31.03.2024

Place : Yadrav For, Fuel Instruments & Engineers Pvt. Ltd.

Date: 25.04.2023


Authorized Signatory

Benefits of Prime Dealer

- ▶ Primary contact for FIE products
- ▶ Hassle free warranty claims
- ▶ Keep fast moving machines in stock
- ▶ PAN India presence
- ▶ Factory trained sales & service team
- ▶ Genuine spare parts in stock (Available in all branches)
- ▶ Provide customized solutions with FIE R&D team

OUR ESTEEMED CUSTOMERS



INDUSTRIES WE SERVE



AUTOMOTIVE



METAL FINISHING



ACCREDITED TESTING
LABS



ELECTRICALS &
ELECTRONICS



CASTING & FORGING



ISPAT INDUSTRIES



ENGINEERING
COLLEGES

Matrix Testing & Technologies Pvt. Ltd. (Group of Matrix Testing Machine Services) is a leader in Sales, Services and Calibration of Destructive and Non Destructive Testing Machines like Universal Testing Machine, Rockwell Hardness Tester, Vickers Hardness Tester, Micro Vickers Hardness Tester, Brinell Hardness Tester, Impact Testing Machine, UCI Hardness Tester, Balancing Machine Etc. We are a Prime Authorized Dealer of **FIE (Fuel Instruments and Engineers Pvt. Ltd)- INDIA, Mashproject - Russia & SPECTRO AMETEK**. Our Calibration Division is **Accredited by NABL under Quality Council of India**. Customer's satisfaction is the ultimate motto of each member of our Organization, So the desired quality and prompt services shall remain point of one and all. We have established our credential in this field with years of experience. We have qualified & professionally trained employees for carrying out servicing & calibration activities. Our customers list is drastically growing and it includes several renowned public & private sectors, government organizations.

The company was established in the year 2012 at Pune (Maharashtra, India). Under leadership of **Mr. Alpesh Tamrakar – Managing Director** having vast experience in the field of material testing machines, more than 6000 plus successful installation done across the India & Abroad.

Our Goals

- ▶ Provide Genuine Products & Application Solution
- ▶ Improve Customer Loyalty & Increase Customer Service Satisfaction.
- ▶ Cost-effective Products & Reasonable Delivery Time
- ▶ World Class Service Support



Our Team

We are backed by highly knowledgeable team of professionals that assist us in carrying out trading and supplying process efficiently. To maintain hassle-free work flow, we have team of procurement agents, sales & marketing representatives, storekeepers, packaging personnel, etc. In addition to this, we organize crucial seminars and training sessions for our professionals to keep them abreast with the latest market development.

Our Achievements

- ▶ Authorized Dealer :- FIE - India & SPECTRO AMETEK - Germany
- ▶ NDT Products from Russia & Germany
- ▶ PAN India presence
- ▶ NABL accredited lab with IS/ISO/ASTM calibration scope
- ▶ Customer base more than 4000.



Our Other Services

- ▶ Repairing and maintenance of Material Testing Machines.
- ▶ Third party calibration witnessed by authorities of IBR, TUV NORD INDIA, DNV Pune, SGS India, EIL, Powergrid & LRA Mumbai.
- ▶ Undertaking machines in Annual Maintenance Contract
- ▶ Retrofitting of UTM (Analogue to Digital or Servo)
- ▶ Upgradation of analogue/Optical Hardness Tester to Digital/Computer Interface
- ▶ Sale, service support presence in PAN India, Middle east & Africa

Our NABL Calibration Scope (As per IS/ISO & ASTM Standards)

- ▶ Uniaxial Testing Machine - Range up to 3000kN (Tensile & Compression mode)
- ▶ Hardness Testing Machines (Direct & Indirect Verification)
(Rockwell, Rockwell Superficial, Brinell, Vickers, Micro-Vickers, Leeb Hardness Tester, Durometers)
- ▶ Electronic / Mechanical / Extensometers (Clip-on, Long Travel, Non-Contact type)
- ▶ Microscope (Stereo & Metallurgical), Profile Projector & Erichsen Cupping Tester
- ▶ Charpy, Izod & Plastic Impact Testing Machine (Direct & Indirect Verification)
- ▶ Verification of Crosshead Displacement & Speed of Material Testing Machine



Destructive Testing Machines



Analogue Universal Testing Machines



Analogue Universal Testing Machines
Model : UTN



Analogue Hydraulic Grip Front Loading Universal Testing Machines
Model : UTN-HGFL



Analogue cum Electronic Universal Testing Machines
Model : UTNE

Electronic Universal Testing Machines



Electronic Universal Testing Machines
Model : UTE



Hydraulic Grip Front Loading Electronic Universal Testing Machines
Model : UTE-HGFL



Servo Controlled Electronic Universal Testing Machines
Model : UTES



Servo Controlled Hydraulic Grip Front Loading Universal Testing Machines
Model : UTES-HGFL

Computerized Touch Screen Universal Testing Machines



Computerized Touch Screen Universal Testing Machines
Model : UTE-TS



Computerized Touch Screen Hyd. Grip Front Loading Universal Testing Machines
Model : UTE-HGFL-TS



Servo Controlled Electronic Computerized Touch Screen Universal Testing Machines
Model : UTES-TS



Servo Controlled Hydraulic Grip Touch Screen Front Loading Universal Testing Machines
Model : UTES-HGFL-TS

Electro - Mechanical Universal Testing Machines



Electro Mechanical Universal Testing Machines
Model : UNITEK-9700



Electro Mechanical Universal Testing Machines
Model : UNITEK-97000a



Electro Mechanical Universal Testing Machines
Model : UNITEK-9400



Electro Mechanical Touch Screen Universal Testing Machines
Model : UNITEK 1600-TS



Destructive Testing Machines



Rockwell and Combined Hardness Testers



Rockwell & Combined
Hardness Tester
RAS | RAB1 | RAB-250, TWIN



Digital Rockwell & Combined
Hardness Tester
Model : RAS-D



Analogue Hardness
Tester
RASN, RASNT, RASNB



Digital Rockwell Hardness
Tester
Model : RASNE-3



Touch Screen Rockwell
Hardness Tester
Model : RASN-TS,
RASN-TSFA



Vickers Hardness Testers



Optical Vickers
Hardness Tester
Model : VM-50



Computerized Vickers
Hardness Tester
Model : VM 50-PC



Computerized Touch Screen
Vickers Hardness Tester
Model : VM 50-TS



Touch Screen MATSUZAWA
Vickers Hardness Tester
Model : VMT-X7



Advanced Motorized Turret
Vickers cum Micro Vickers
Hardness Tester
Model : MMT-X4 (Alpha Series)

Brinell Hardness Testers



Brinell
Hardness Tester
Model : B-3000 (H)



Brinell
Hardness Tester
Model : B-3000 (O)



Touch Screen Computerized
Brinell Hardness Tester
Model : B-3000 TS



Touch Screen Fully Automatic
Computerized Brinell Hardness Tester
Model : B-3000 TSFA



Load Cell based Computerized
Brinell Hardness Tester
Model : Brinmax-Mini-3000

Impact Testing Machines



Impact
Testing Machine
Model IT-30



Impact
Testing Machine
Model IT-30(D)



Impact
Testing Machine
Model IT-30 ASTM



Impact
Testing Machine
Model Auto Impact-30



Impact
Testing Machine
Model Auto Impact-40(ASTM)



Multi Axis-Bridge Type Brinell Hardness Tester

Moving Head Rockwell Hardness Tester



Multi Axis Computerized
Brinell Hardness Tester
Model : Brinmax-3000-V



Bridge Type Computerized
Brinell Hardness Tester
Model : Brinmax-3000-B



Load Cell Based Fully Automatic Moving
Head Rockwell Hardness Tester
Model - RASN TSFA MH

Bend Rebend Testing Machine

Chain & Rope Testing Machine

Compression Testing Machine



Bend Rebend Testing Machine
Model : Power Bend-Pro



Touch Screen Computerized
Chain & Rope Testing Machine
Model : CRE-TS



Electronic 4 Column Compression
Testing Machine
Model : CTE-200 & 300

EXTENSOMETERS



Mechanical Extensometer
Model EM-1



Electronic Extensometer
Model EE-2



Long Travel Extensometer
Model LTE-800



Strand Wire
Extensometer



VIDEO Extensometer for Optical
Strain Measurement

Horizontal Balancing Machines

Vertical Balancing Machines



Dynamic Balancing Machines
with Microprocessor Based
Measuring Panel
Model : HDM



Belt Driven Horizontal Balancing
Machine with Microprocessor
Based Measuring Panel
Model : HDCM



Vertical Balancing Machines
with Microprocessor
Based Measuring Panel
Model : HDVM



Auto Correction
Vertical
Balancing Machine
Model : Balance Tech VAC



SAMPLE PREPARATION MACHINE



Automatic Cutting Machine



Touch Screen Automatic Mounting Machine



Double Disc Polishing Machine

Ultrasonic Testing (UT)



Digital Ultrasonic Flaw Detector



Video Boroscope



Hot Tensile Test Furnace

Consumables



Strand Wire Grips



Rack Jaws



Standard Test Blocks



Diamond Spot Anvil



Ball & Diamond Indentors

Other Products



NIST Samples



UTM UPGRADATION KIT (PLC BASED)



Brinell Image Measuring System Model : B.I.M.S.



Load Cell



Manual Broaching Machine Model : Pro Broach



Automatic Broaching Machine Model : Pro Broach Plus



LEEB HARDNESS TESTER (PROTABLE) - MASH PROJECT RUSSIA

PORTABLE HARDNESS TESTER - TKM359 CE

Hardness is the mechanical resistance offered by a material. The definition of hardness differs from that of strength, which is the resistance of a material to deformation and separation.

DYNAMIC/LEEB HARDNESS TESTER TKM359 CE

High precision hardness tester TKM-359CE intended quick measuring of metal items in laboratorial, manufacturing and field conditions. It is designed to measure metal hardness, including thermo treatment quality check, HFC (high frequency current) tempering and mechanical Strength estimation.



Hot Product

MEASUREMENT :

Measurements on steel, cast iron, tool steel, stainless steel, gray and ductile iron, brass, bronze, aluminum and wrought copper alloys Measurements on large and small molds, bearings heavy work pieces and permanently assembled parts Failure analysis of pressure vessels, steam generators, etc.

UCI HARDNESS TESTER (PROTABLE) - MASH PROJECT RUSSIA

UCI HARDNESS TESTER - TKM459 CE

High precision hardness tester TKM-459CE intended for quick measuring of metal items hardness in laboratorial, manufacturing and field conditions. The TKM-459CE works on the principle of "Ultrasonic Contact Impedance": The piezoelectric crystal causes the rod in the probe to vibrate longitudinally. The Vickers diamond at the lower end of the rod is pressed by a spring into the work piece surface. Depending on probe choice, this id done with the thrust of 10, 50 or 100 Newton.

MEASUREMENT :

Hardness testing on fine-grained, weld joints n-walled materials and allows, carbonaceous and structural steels Items with surface-hardened layers such as cementation, nitride hardening, high frequency current hardening Heat-proof, corrosion-proof, non-corrosive steels, Plated coating (chrome), overlaying, Items of complicated configuration. Device is intended for non-destructive testing of production quality metallurgy, Automotive, Tubes & Pipes, Gear, Bearing, mechanical engineering, aircraft, shipbuilding, atomic industry, oil and gas industry.



Hot Product

PORTABLE LIBS SPECTROMETER (LIS-02)

A portable LIBS Spectrometer LIS-02 is designed for operational input inspection of rolled metal products, determination of steel grades, a scrap of non-ferrous and ferrous metals and alloys. The libs spectrometer provides high speed in determining chemical elements:

C, Si, Mn, Cr, Ni, Fe, Mg, Al, V, Cu, Zn, Sn, Mo, Ti, W, Nb, Pd, Ag, Cd, Pt, Au, and others.

FEATURES OF SPECTROMETER LIS-02

Carbon analysis: The spectrometer LIS-02 allows to measure carbon concentration in steels without using argon, directly in the air.

Speed & Accuracy : High speed analysis, result in 1 sec. Provides unsurpassed resolution of 0.01 nm over the entire measurement range.

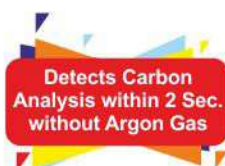
Reliable: LIBS Spectrometer has unlimited operating life, compared to X-ray fluorescence spectrometers (XRF).

CE Value: Measurement of carbon equivalent values

Camera: High resolution camera to capture the location of analysis.

AREAS OF USE

- Input/output control of metals, alloys
- Sorting scrap
- Spectral analysis in laboratory studies
- Positive metal identification(PMI Machine)
- Quality testing of metal



Detects Carbon Analysis within 2 Sec. without Argon Gas





STATIONARY METAL ANALYZERS (ARC / SPARK OES)

SPECTROLAB S

- ▶ Highly accurate results in under 20 seconds (example: low-alloy steels)
- ▶ Regular maintenance intervention requirements reduced by a factor of 8
- ▶ On average factor 2 improvement in detection limits for low-alloy steels and a factor 5 improvement for pure aluminum metals versus previous models
- ▶ Instrument footprint reduced by 27%
- ▶ iCAL 2.0 one sample standardization for the complete system, saving 30 min. a day



SPECTROMAXx

- ▶ Unique iCAL 2.0 one sample standardization helps maintain the same standardization regardless of most temperature shifts and saves on average 30 minutes per day
- ▶ 30% to 40% improved detection limits compared to its predecessor (example: iron, aluminum and copper base)
- ▶ Up to 64% reduced argon consumption during standby, compared to previous models
- ▶ Ideal for routine analysis and precise analysis of all incoming/outgoing materials and for process control (including nitrogen) in foundries — covering 10 matrices, 65 methods and 59 elements.



SPECTROCHECK

- ▶ Ideal for metal testing and quality control of iron-, aluminum- and copper-based samples; as well as dedicated solder bath analysis.
- ▶ Ultra-fast one sample standardization – based on SPECTRO's Intelligent Calibration Logic (iCAL) – saves on average 30 minutes per day.
- ▶ Industry unique app-like concept for user-friendly software operation.



PMI (XRF) MACHINE

SPECTRO xSORT Alloy

This Entry-level model employs an innovative silicon PIN (Si-PIN) detector. Get grade identification of metals in seconds without extensive analysis. With the xSORT family's reliability and ease of use (including an ultra-simple pass/fail sorting mode), SPECTRO xSORT Alloy is ideal for the quick incoming inspection of materials — and more!



Hot Product



SPECTRO xSORT Alloy Plus

With its top-of-the-line silicon drift detector (SDD), this model provides reliable, highproductivity measurement and analysis. Get metal grade analysis in only 2 seconds for most alloys, or take only 10 additional seconds to sort alloys containing "light" elements such as magnesium, aluminum, silicon, phosphorous, and sulfur. It's ideal for scrap metals sorting, positive material identification (PMI), and more!



MOBILE METAL ANALYZERS

SPECTROTEST

The SPECTROTEST is a mobile arc spark spectrometer ideal for many applications in the metal producing, processing, and recycling industries.

- ▶ No compromise: high resolution optical system for probably widest element range (even N, Li, Na), all elements necessary for a complete metal analysis on the spot are available
- ▶ Unique new iCAL 2.0 one sample standardization helps maintain the same standardization – regardless of most temperature shifts and saves on average 30 minutes per day



SPECTROPORT

When handhelds aren't enough, the amazing new SPECTROPORT portable metal analyzer applies more advanced OES technology — in a unit as easy to use as a handheld analyzer. SPECTROPORT delivers many advantages of SPECTRO's portable OES flagship, SPECTROTEST, in a smaller, lighter package.

- ▶ Unlike handheld XRF, accurately analyzes elements like C, P, S, B, Li, Be, Ca, Si, Mg and Al even at low and critical levels, in only a maximum of 10s
- ▶ Consistent results with unique new iCAL 2.0 one sample standardization combined with self-adjusting optical system – resilient to ambient temperature changes and saves on average 30 minutes per day





PORTABLE HYDRAULIC KING BRINELL HARDNESS TESTER

Portable Hydraulic King Brinell Hardness Tester

Available with
NABL Calibration

Portable Brinell Testers are versatile enough to test any size and shape of metal. Portable hydraulic Brinell Tester Bases allow testing of your tallest and widest metal pieces. Long Ram Test Head for easy access into recessed areas or over raised edges. Low Pressure Test Head for softer metals, can be calibrated to release loads of, 500 kgf, 750 kgf or 1000 kgf.

It could be applied in workshop, simple operation, easy carrying, and testing body hardness of large parts piece by piece.

Indication error, repeatability error and test force accuracy comply with ISO ,and ASTM standards , the same as desk testers



KBT-3000A



KBT-3000

Hot Product

SALT SPRAY CHAMBER

Salt Spray Test Chamber has been designed strictly as per the relevant Test Standard ASTM B-117 the ability of rust proofed components to withstand corrosion due to atmosphere conditions.

Features

- ▶ It is Double Walled.
- ▶ Available in 3 models: -
- ▶ Full Body F.R.P (Fiber Reinforced Polymer)
- ▶ Full stainless-steel body (Inner Body, Stainless Steel-316 & Outer Body, S.S-304)
- ▶ Inner S.S chamber & Outer Mild Steel.
- ▶ Temperature range from Ambient to 38 degree Celsius. (Temp. Accuracy $\pm 2^{\circ}\text{C}$)
- ▶ Solid State Digital Programmable Temperature Controller cum indicator with special Zero Corrosion PT 100 sensor.
- ▶ With Air Regulator, Pressure Gauge, Hour Meter
- ▶ Separate user-friendly Touch Screen Color Display.
- ▶ It's also Available with the Smart System of PLC & HMI Based with Automatic Data Logging and Graph Savings and Report Generation.



DIGITAL PROFILE PROJECTOR

Matrix PP series profile projector (Optical Comparator) is one reliable and affordable measuring system of high precision and efficiency. An excellent solution to the most critical requirements of high-quality Optical Profile Measuring Suitable for measuring different shapes. Complicated profiles such as press components, gears, cams, treads, tools, dies, turned components, automats etc. Profile Projector is the most effective device to measure most 2 Dimensional parameters like linear dimensions and angles.

MEASUREMENT FUNCTIONS: Line measurement, Distance measurement, Skew measurement, Point measurement, Circle measurement, Angle measurement.

FEATURES

- ▶ Linear and non-linear machine error compensation
- ▶ Grid compensation
- ▶ Edge detector mode
- ▶ USB interface for PC backup
- ▶ Resolution supported up-to 0.1 μm
- ▶ Result export to AutoCAD facility
- ▶ Graphic LCD Display
- ▶ Programming facility available
- ▶ Construction of feature
- ▶ Ergonomically laid out keypad ensures ease of operation
- ▶ Feather touch keyboard





DIGITAL COMPUTERIZED MICRO VICKERS HARDNESS TESTER

Highly precise hardness tester suitable for test of widely hardness ranges from softest to hardest materials. This machine available with Manual & automatic turret system guided by optical cross rail to achieve highly accurate & precise results. This machine is equipped with built-in encoder with click button on encoder to avoid human errors. Equipment is also featured with a DATA storage & calibration. Most compact in size & light weight.



MMT-X2 (ALPHA SERIES)

- ▶ Automatic motorized turret system
- ▶ Optical measurement with digital encoder
- ▶ Multifunctional digital LCD touch screen panel
- ▶ Flexible & Foldable design of hand wheel



MMT-X8 (ALPHA SERIES)

- ▶ Automatic Motorized Turret System.
- ▶ Optical Measurement with Digital Encoder.
- ▶ Multifunctional 8-inch LCD touch screen panel.
- ▶ Flexible & Foldable design of hand wheel.
- ▶ 8P Data Storage system with store up to 300 Test reports.

MICROSCOPE WITH IMAGE ANALYZER

→ STEREO MICROSCOPE (MATRIX-100M)

- ▶ A 45° inclined trinocular head comprised zoom optical system stereo microscope.
- ▶ WF10x/22mm eyepiece and 100 mm of working distance.
- ▶ Optional auxiliary lens 0.5X with 0.5X C-mount.
- ▶ Inter pupillary distance adjustable between 54 mm to 76 mm.
- ▶ 6.7 to 45X Total Magnification.
- ▶ 3W LED bulb for incident and transmitted illumination.

→ TRINOCULAR INVERTED METALLURGICAL MICROSCOPE (MATRIX-300M)

- ▶ Gerner trinocular 300 inclined head.
- ▶ Infinite optical system.
- ▶ Transmittance and Reflectance Kohler illumination system.
- ▶ 10 to 100X Infinite plan achromatic objectives.
- ▶ 100 to 1000X Total Magnification.
- ▶ 0.5X Video Coupler with LED illumination.

Metallurgical Image Analysis System Features

- | | |
|----------------------|---------------------------------|
| ➤ Grain Analysis | ➤ Dendritic Arm Specing |
| ➤ Phase Analysis | ➤ Porosity Analysis |
| ➤ Inclusion Analysis | ➤ Coating Thickness measurement |
| ➤ Nodule Analysis | ➤ Decarburization |
| ➤ Flake Analysis | ➤ Basic 2D measurement |



Over 250+ Installations





MATRIX TESTING & TECHNOLOGIES PVT. LTD.

(GROUP OF MATRIX TESTING MACHINE SERVICES)

Redefining Qualities...

Head Office & Registered Office

Office No. 813, Eighth Floor, Rama Equator, Near Finolex Chowk, Pimpri, Pune - 411018.

-Branch Offices-

MUMBAI | DELHI | KOLKATA | BARODA | RAJKOT | CHENNAI | NAGPUR | BANGALORE

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PRINCIPAL PARTNERS



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