Brief of Organization.

**EREC India Research Laboratory**

**(NABL Accredited Laboratory)**

To whom it may concerned

by

**Erec India Research Laboratory**

**(ISO 17025:2017 & ISO 9001:2015 Certified)**

OFFICE

EREC (MPG Complex), Rupnagar, Guwahati – 781032, Assam

Contact: 98640-66613, 90850-66613

Email: mpguw2@rediffmail.com

**Erec India Research Laboratory**

**(ISO 17025:2017 & ISO 9001:2015 Certified)**

**Office: EREC, Rupnagar, Guwahati PIN-781032, Assam**

**E Mail:** **mpguw2@rediffmail.com****. 98640-66613, 90850-66613**

**Web: erecindia.com**



 Certificate No. TC-5821

1. **Water Testing Laboratory NABL Accredited (2013)**
2. **Food Testing Laboratory NABL Accredited (2018)**
3. **Engineering Laboratory NABL Accredited (2021)**

**Sir,**

 Reference to the above subject, we are very happy to introduce our self as a Quality Testing Laboratory for testing of different types of construction parameters for Road (Highway) and Building along with other related parameters.

 Sir, EREC India Research Laboratory, an ISO 17025:2017-(NABL Accredited) & ISO 9001:2015 certified Laboratory is an apex private concerned Laboratory providing the testing in the field of “Water testing”, “Food testing”, “Non Destructive testing” and “Road & Building Construction material testing”.

 The laboratory was started in 2009 and well equipped for the above testing facilities in view to provide Quality, Reliable & Speedy test results in best competitive rates.

 From our long experience in the field of Laboratory testing, we can assured you to deliver the standard quality report in time where you can relied upon on the testing results.

 The required information/documents to support your recognisation are enclosed for your ready reference, so that, we may get an opportunity to serve you for your esteemed organization.

 Thanks a lot for your Positive needful action.

 With Best regards,

*Dr. Mahidhar Pathak (CEO)*

Chartered Engineer. & Chief Consultant

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1. BRIEF OF ORGANISATION

|  |  |  |
| --- | --- | --- |
| 1 | Kinds of organization | TESTING LABORATORY*(Road & RCC Building Construction materials)* |
| 2 | Name of Laboratory  | EREC India Research Laboratory,(NABL Accredited Laboratory) |
| 3 | Address of Laboratory | MPG Complex, Rupnagar, Guwahati, PIN – 781032, Assam. |
| 4 | Communication  | Ph : 98640-66613, 90850-66613 (O)Mail: mpguw2@rediffmail.com |
| 5 | Date of Establishment  | 1st Sept, 2007 |
| 6 | Legal status of the Unit | 1. SSI Regd. No. : 18062201610 Dated : 15.12.2012 by DI & CC, Kamrup, Assam.
2. Govt. of Assam – Reorganization certificate for testing laboratory.
3. Approved by GMDA.
 |
| 7 | Quality Assurance by | 1. ISO 9001:2015 awarded.
2. ISO 17025: 2017

(NABL Accredited) |
| 8 | Prime function of organization | To provide the testing facilities in the field of RCC Building construction/ structure/Road, Environmental Monitoring, water and Food sectors with the quality of Accuracy, Standard and speedy results. |
| 9 | Name & qualification of Key personal  | **Dr. Mahidhar Pathak.**Qualification: Ch. Engr.; MIE (Civil); AMIM (Auto); FIV; CPI, NDT; M.Sc. (IT); M.A (Eco); M. Com(Fin); MBA (Fin); LLB, Ph. D. Designation : *Chartered Engineer cum Chief Consultant (EREC Lab).* |

1. LIST OF TESTING Facilities

 (Engineering Section)

The ENGINEERING SECTION

*of Erec India Research Laboratory is a rich* Engineering Divisionestablished in 2009 with NDT services which is the pioneer in entire North East Region. It is one of the vital and progressive part of the EREC Laboratory. The whole building (five storied) under name and style EREC LAB is the prime testing lab of engineering parameters. It is situated at the Heart of the City (Guwahati). The EREC India Research Laboratory is now rich of its Testing Experience as well as engineering consultancy. The Testing devices, Standard Procedure (SOP), CRM, Yearly Calibration & AMC of equipment and Proper recording system are available. The testing is performed by the highly qualified and experience personals which can be challenge for its accuracy.

Engineering Section is also the NABL accredited.

**Testing Facilities in different fields:**

**Sub - Sections of Engineering Division:**

* **Steel Testing – Physical and Chemical**
* **Cement Testing,**
* **Soil Testing,**
* **Aggregate Testing section,**
* **Bitumen Testing section,**
* **Environmental Monitoring (Air and Water),**
* **NDT (Non-Destructive Testing),**
* **Other Testing – Cube test, Brick test, Core cutting, Mix design etc.**
* **Property Valuation**
1. **Steel Testing (Lab Testing):**

|  |  |  |  |
| --- | --- | --- | --- |
| SN | Name of Test | Method of test  | Available Equipments |
| 1 | Tensile strength with proof stress & Elongation | Indian Standard :1786-2008  | UTM-60T |
| 2 | Bend test | Indian Standard :1786-2008 | UTM-60T |
|  | Chemical test : |  |  |
| 3 | Carbon content  | Indian Standard :228-1987 Part 1 | Carbon Sulfur Apparatus |
| 4 | Sulfur content  | Indian Standard :228-1989 Part 9 | Carbon Sulfur Apparatus |
| 5 | Phosphorus  | Indian Standard :228-1987 Part 3 | Alkalimetric Method |
| 6 | Sulfur and phosphorus  | Indian Standard :228-1987 | IS Method |

1. **Cement Testing (Lab Testing)**

|  |  |  |  |
| --- | --- | --- | --- |
| SN | Name of Test | Method of test  | Available Equipment’ |
| 1 | Normal Consistency | Indian Standard :4031-1988 Part 4 | Vicat’s Apparatus |
| 2 | Initial and Final Setting time | Indian Standard :4031-1988 Part 5 | Vicat’s Apparatus |
| 3 | Soundness Test | Indian Standard :4031-1988 Part 3 | Le-Chatelier |
| 4 | Fineness test | Indian Standard :4031-1996 Part 1&2 | Sieves & Blaint’s air |
| 5 | Strength of cement  | Indian Standard :4031-1988 Part 6 | CTM |
| 6. | Chemical testing of cement  | Indian Standards | Existing chemical lab |
| 7 | Specific gravity of cement  | Indian Standard :2720 –(Part - 3) | Le-Chatelier Method |
|  |  |  |  |

1. **Bitumen Testing :**

|  |  |  |  |
| --- | --- | --- | --- |
| SN | Name of Test | Method of Testing. | Available Equipments |
| 1 | **Penetration test**  | Indian Standard : 1203-1978 | Penetrometer, Wash bath. |
| 2 | **Ductility test** | Indian Standard : 1208-1978 | Testing machine, Std mould, Water bath, Thermometer. |
| 3 | **Softening point Test** | Indian Standard : 1205-1978 | Standard Ring and Ball Apparatus. Thermometer. |
| 4 | **Specific Gravity test** | Indian Standard : 1202-1978 | Sp. Gravity Bottles, Water Bath, Bath thermometer.  |
| 5 | **Kinematic Viscosity** | Indian Standard : 1206-1978 | SayboltFurol Viscometer, Bath |
| 6 | **Flash & Fire Test** | Indian Standard : 1209-1978 | Pensky-martens Apparatus, Thermometer. |
| 7 | **Marshall Mix design** | Not available in IS | Marshall stability Equipment. |

8. **Core Coring** (101.6 mm) Core Cutting Method and Testing

1. **Aggregate Testing (Lab Testing)**

|  |  |  |  |
| --- | --- | --- | --- |
| SN | Name of Test | Method of Testing. | Available Equipment |
| 1 | Gradation (Sieve analysis)for GSB | Indian Standard :2386-1963 Part 1 | Sieve |
| 2 | Crushing Value test | Indian Standard : 2386 -1963 Part 4 | Aggregate Crushing Value |
| 3 | Abrasion Value test | Indian Standard : 2386 -1963 Part 4 | Loss Angeles Abrasion Value  |
| 4 | Soundness Test  | Indian Standard : 2386 -1963 Part 5 |  |
| 5 | Specific Gravity & water Absorption | Indian Standard : 2386 -1963 Part 3 |  |
| 6 | Impact Value  | Indian Standard : 2386-1963 Part 4 | Aggregate Impact Value  |
| 7 | Bulk Density  | Indian Standard : 2386-1963 Part 3 |  |
| 8 | Clay and Fine silt |  |  |
| 9 | Flakiness & Elongation | IS: 2386-Part 1: 1963 | Flakiness gauge, Elongation Gauge. Trays. |
| 10 | Chemical test | Indian Standard | Existing chemical lab |
|  |  |  |  |
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1. **Soil Testing (Lab Testing)**

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| --- | --- | --- | --- |
| SN | Name of Test | Method of test  | Available Equipments |
| 1 | Moisture content  | Indian Standard :2720-1990 Part 3, Section 1 | Moisture Box & Humidity Cabin |
| 2 | Specific Gravity  | Indian Standard :2720-1990, Section 2 |  |
| 3 | Sieve analysis  | Indian Standard :2720-1985 Part 4 | Sieves |
| 4 | Atterberg Limits | Indian Standard :2720-1985  | Attarbarg Liquid & Plastic Limit |
| 5 | Bulk Density |  |  |
| 6 | CBR (California Bearing ratio) | Indian Standard :2720-1990 Part 3 | CBR Load Frame + Proving rings  |
| 7 | Direct Shear test | Indian Standard :2720-1986 Part 13 | Direct Shear Apparatus |
| 8 | Tri-axial Shear Test | Indian Standard :2720-1971 Part 11 | Tri-axial Shear Apparatus |
| 9 | Plate bearing Test |  | Plate bearing Test Apparatus |
| 10 | Unconfined Compression Test | Indian Standard :2720-1991 Part 10 | Unconfined Compression Test Apparatus |
| 11 | MDD and OMC | Indian Standard :2720-1985 Part VI | Hot air oven. |
| 12 | Free Swelling Ratio | Indian Standard :2720-1985 Part 4 | Graduated glass cylinder. |
| 13 | Sulphate Content, Deleterious materials  | Indian standard | Existing Chemical Lab |
|  |  |  |  |

1. **Environmental Monitoring :(Air and Water)**

|  |  |  |  |
| --- | --- | --- | --- |
| SN | Name of Test | Method of test  |  |
| 1 | Ambient Air Monitoring  | CPCB Method | Combo PM2.5 & PM10. |
| 2 | Indoor Air Quality | CPCB Method | Indoor quality tester. |
| 3 | Flue Gas Analysis | CPCB Method | Portable Flue gas Analyzer. |
| 4 | Sound level Measurement | CPCB Method | Sound Level meter.  |
| 5 | Weather quality recoding  | CPCB Method | Automatic Weather Station. |
| 6 | Respiratory Air Quality | CPCB Method | Respiratory Dust Sampler |
| 7 | VOC Analyst | CPCB Method | VOC Analyser |

1. **Other testing/facilities (Lab Testing)**

|  |  |  |  |
| --- | --- | --- | --- |
| SN | Name of Test | Method of test  | Available Equipment |
| 1 | Concrete Mix Design M20- M50 .. | Indian Standard :456-2000 & Indian Standard :10262:2009 | Concrete Mixer, Slump cone & CTM |
| 2 | Core Cutting & Testing  | Indian Standard :516-2004 | Core Cutter & CTM |
| 3 | WMM Design for Highway  | IRC – 109: 1997 |  |
| 4 | GSB Mix design  |  IS 2386 Codes |  |
| 5 | DLC Mix design | IRC:SP:49 - 2014. |  |
| 6 | PQC Mix design  | IRC- 15/ 2006 |  |
|  |  |  |  |
| 7 | Flexural Test of beam | ASTM C 78 | Digital CTM |
|  |  |  |  |
| 8 | CLC block /Conc. Cube – compressive strength test | Indian Standard :15658-2006 & Indian Standard :516-2004 | Digital CTM |
| 9 | Earthen Brick – tests Dimensions, Water absorption, Fluoresces, Compressive strength.  | Indian Standard :3495-1992 | CTM,Digital Caliper, Measuring Tape, Distilled Water  |
| 10 | Construction water test  | Indian Standard :3025 | Chemical Lab |
| 11 | Concrete cube test | IS : 456:2000 | CTM, Digital Caliper, Measuring Tape |
| 12  | Coal Testing  |   | Bomb Calorimeter |

1. **Water and Food Testing Facilities:**
2. Water and Waste water testing:
* *All physical Test,*
* *All Chemical Test*
* *Microbiological Test.*

*(Total Test Parameters 79 Nos.)*

1. Food Testing Laboratory :
* *Proximate tests : Protein, Fats ….. etc.*
* *Chemical Tests with Pesticides*
* *Microbiological Testing,*
* *Energy determination by Bomb calorimeter.*
1. **Non- Destructive Testing [ NDT]**

|  |  |  |  |
| --- | --- | --- | --- |
| SN | Name of Test | Parameters | Equipment |
| 1 | **Hammer Test**  | Compressive Strength of Conc. | Schmidt Hammer. |
| 2 | **Rebar Location** | Rebar Position, Diameter, Coverage and spacing of b | Profometer+5 |
| 3 | **Resistivity** | Corrosion in % of Reinforcement.  | Scanin + |
| 4 | **UV Pulse Velocity** | Quality, Strength, Homogeneous structure. Crack detection. | Ticco  |
| 5 | **Pile Test** | Length of pile (upto 99.00 m), Surface of pile, Bulb position, Crack, void etc on pile and quality of casting of pile.  | PET. |
| \*\*\* | **Retrofitting**  | The super Engineering techniques by which the unsound or suspected RCC structure can be restructured for use and expansion without breaking existing structure which is known as Retrofitting. EREC is the expert in Retrofitting after proper NDT testing of any type RCC structure or RCC Building.  |

1. **Valuation:**

Valuation is the original profession of the organization. The Key person of the organization is a Govt. Approved Valuer and Chartered Engineer. He is also empaneled valuer of Financial Institution, Govt. Body, CBDT etc. and also the Doctorate holder in the field of Valuation.

Expert /Test performers

(Engineering Section)

The following personals are working in the laboratory to provide the Laboratory Test Result :

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Sl No | Name |  Qualification | Experience | Designation |
| 1 | Dr. Mahidhar Pathak | Ch. Engr, MIE (Civil), AMIMI (Auto), FIV, M.Sc, MA, M Com, MBA, LLB, Ph.D  | 25 Yrs | CEO, Chief Consultant. |
| 2 | Mr. Pritam Pathak | B.Sc,. Internal Quality Auditor. | 3 Yrs | Quality Manager |
| 3 | Mr. Harballav Sarma | B.Sc | 20 Yrs | Technician. |
| 4 | Er. Kandarpa Sarma  | MIE (Structure), M.Sc (IT) | 25 Years | Engineer. Dy TM |
| 5 | Mr. Biman Bhuyan | B.A | 20 Yrs | Technician |
| 5 | Er. Madhusmita Seal | B. Tech | 6 years | Civil Engineer |
| 6 | Sri Niku Kalita | J.E (Mech) | 3 Years | Lab Analyst. |
| 9 | Ms. Trishna Barman | B.A, MBA  | 6 Years | Accountant |
| 10 | Mr. Hemanta Das | ITI  | 8 Years | Sample Collector |

|  |
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| General INFRASTRUCTURE of the Establishment |
| Sl No. | Particulars | Quantity | Remarks |
| 1. | Office Space  | 1. 1400 Sq. ft. at MPG Complex as sitting area and reception.
 | Own Buildings. |
| Laboratory -1 | 1. 2200 Sq. ft. of 2nd floor Water Testing and Food Testing & 3rd floor as EREC Library
 |  |
|  | Laboratory - 2 | Five storied Building. (EREC LAB)Ground Floor : Steel and Soil Lab.First Floor : Lab Office 2bd Floor : Instrumentation. 3nd Floor : Bitumen Lab, Chemical Lab.3rd Mezzanine Floor : Bitumen test.4th Floor : Store, Cement LabTotal Area : 9300 Sqft., Parking 1500 Sqft |  |
| 2 | Computers (a) P.C.. (b) Laptop . (c) Printers | (a) 15 Nos.(b) 5 No.(c) 8 Nos. | Own by Organization |
| 3 | P.A.S. ,Sound system | 1 Set |  |
| 4 | L.C.D. Projector | 1 No. |  |
| 5 | Digital Camera | 5 Nos. |  |
| **6** | Scientific Steel Tape /Lasher distance meter | 1 No. + 1 No. |  |
| **7.** | GPS MAP 60. S / No. 37845240 | 1 Nos. |  |
| **8.** | Geological Compass | 1 No. |  |
| **10** | NDT equipment | Schmidt Hammer – ProceqProfometer 5+Tico Canin +PET (Pile Tester)  | Own  |
| **11** | Water Testing Laboratory | 2200 Sqft (Main Building) | Own |
|  | Food Testing Laboratorry | 2200 Sqft (Main Building) | Own |
| **11** | Concrete Cutting machine, Drill machine  | 3 set  | Own |
| **12** | Internet facility | TATA-net- connection. | Connected |
| **13** | Vehicles  | 4 wheelers - 4, Lab Van (Winger) -1, Bike -12 Nos. | Own |
| **14** | Library | The Library is equipped with 474 Nos. of Books on Civil Engineering, Research methodology, Environmental Engineering and management, Valuation, Hydrology, Geography, Geology, Survey, Accounts, Entrepreneurship etc. | Own |
| 15 | Conference hall | Capacity: 70 participants | Own |

Machinery and Equipments

The Machinery and equipment for the testing facilities in all divisions are separately placed to provide the testing service. The Machinery and equipments are divided & places as Under.

1. Water Testing – Chemical and Microbiology. (all area calibrated)
2. Food Testing - Chemical and Microbiology. (all area calibrated),
3. Soil Test Division.
4. Steel and Cement Test Division,
5. Bitumen Division,
6. NDT Division.

*Name of the Lab Promoter/ In-charge*

Dr. Mahidhar Pathak

Ch. Engr.; MIE (Civil); M. Tech(H&T); AMIMI(Auto); FIV; NDT (L-II); CPI; M.Sc (IT); MA(Eco); M.Com (Fin); MBA; LLB; Ph. D.

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