

PROFILE OF

EREC India Research Laboratory

(NABL Accredited/ GOVT. of Assam Recognized)

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

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Laboratory Address

EREC Lab, Rupnagar, Guwahati – 781032, Assam

Contact: **98640-66613, 90850-66613, 70029-00145**

Email: mpguw2@rediffmail.com

Organization:

EREC India Research Laboratory in short EREC (ইবেক) was established in 2008 with its aim to establish an updated & sophisticated TESTING & RESEARCH Laboratory. Consultancy on testing is also included for the greater benefit of public and researchers.

Erec India Research Laboratory



National Accreditation Board for
Testing and Calibration Laboratories

CERTIFICATE OF ACCREDITATION

EREC INDIA RESEARCH LABORATORY

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

EREC LAB, MPG COMPLEX, R-2, RUPNAGAR, GUWAHATI, KAMRUP METRO, ASSAM, INDIA

in the field of

TESTING

Certificate Number: TC-4109

Issue Date: 09/05/2023

Valid Until: 08/05/2025

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 : Erec India Research Laboratory

Signed for and on behalf of NABL



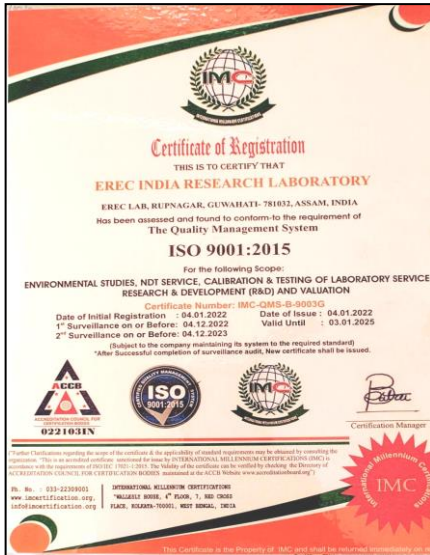
N. Venkateswaran
Chief Executive Officer

Certificate

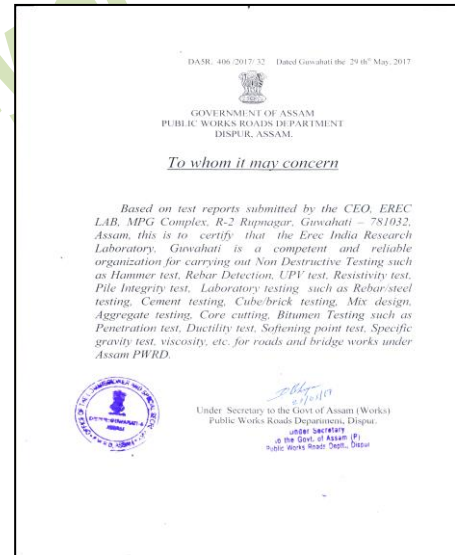
Lab Name : EREC INDIA RESEARCH LABORATORY
Address : EREC LAB, MPG COMPLEX, R-2, RUPNAGAR
Guwahati, Pin - 781032
ASSAM , INDIA

Field	Testing	Discipline	Biological,Mechanical,Chemical
Certificate No.	TC-4109		
Issue Date	09/05/2023	Valid Upto	08/05/2025
Extend Upto	-	Amendment date	-

Discipline	Group	Sub Group
Biological	Food and Agricultural Products	Bakery & Confectionery Products
Biological	Food and Agricultural Products	Beverages (Alcoholic / Non-Alcoholic)
Biological	Food and Agricultural Products	Fruit & Fruit Products
Biological	Food and Agricultural Products	Meat & Meat Products
Biological	Food and Agricultural Products	Milk & Dairy Products
Biological	Food and Agricultural Products	Other Specified Food Items
Biological	Water	Ground Water/ Surface Water
Chemical	Food & Agricultural Products	Bakery & Confectionery Products
Chemical	Pollution & Environment	Waste Water (Effluents/Sewage)
Chemical	Soil and Rock	Clays & Soils
Chemical	Solid Fuels	Coal
Chemical	Water	Surface Water
Mechanical	Buildings Materials	Aggregates
Mechanical	Buildings Materials	Bitumen
Mechanical	Buildings Materials	Cement
Mechanical	Buildings Materials	Others
Mechanical	Buildings Materials	Reinforcement Steel (rebar)



Contact :
M- 90850-66613.
M- 98640-66613,
M -70029-00145.



Establishment and Accreditation:

- | | |
|------------------------------------|-------------------------------|
| 1. Engineering Laboratory | NABL Accredited (2020) |
| 2. Water Testing Laboratory | NABL Accredited (2013) |
| 3. Food Testing Laboratory | NABL Accredited (2018) |

RENEWAL : 09.05.2023 Valid upto 08.05.2025

1. BRIEF OF ORGANISATION

1	Kinds of organization	TESTING LABORATORY. <i>(with standard methods, calibrated-sophisticated testing equipments and competent personals)</i>
2	Name of Laboratory	EREC India Research Laboratory. In short - EREC (ইবেক)
3	Address of Laboratory	EREC Lab, Rupnagar, Guwahati, PIN - 781032, Assam.
4	Communication	M- 98640-66613 (TM), M- 7002900145 (QM), M- 90850-66613 (Office) Mail: mpguw2@rediffmail.com Office- EREC Tower, Rupnagar, Guwahati, Assam, PIN - 781032
5	Date of Establishment	1 st Sept, 2007
6	Legal status of the Unit	<ol style="list-style-type: none"> 1. SSI Regd. No. : 18062201610 Dated : 15.12.2012 by DI & CC, Kamrup, Assam. 2. Govt. of Assam - Recognition certificate for testing laboratory. 3. Approved by GMDA.
7	Quality Assurance by	<ol style="list-style-type: none"> 1. ISO 9001:2015 awarded. 2. ISO 17025: 2017 - (NABL Accredited)
8	Prime services of organization	<u>To provide the testing facilities in the field of</u> <ul style="list-style-type: none"> ➤ Civil Engineering Materials Section, ➤ Chemical section, ➤ Microbiological section, ➤ Solid Fuel (Coal) Section, ➤ Proximate analysis, ➤ Physical analysis, ➤ Energy section, and ➤ NDT (Building Testing) Section,

9	Name & qualification of Key personal	<p>Dr. Mahidhar Pathak. <u>Qualification:</u> Ch. Engr.; MIE (Civil); M. Tech (Highway), AMIM (Auto); FIV;CPI, NDT; M.Sc. (IT); M.A (Eco); M. Com(Fin); MBA (Fin); LLB, Ph. D. Designation :CEO cum <i>cum TM of EREC.</i></p>
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2. Engineering Section

The ENGINEERING SECTION of Erec India Research Laboratory is a rich Engineering Division established 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.

Testing Facilities in different fields:

I. ENGINEERING DIVISION:

- A. **Steel Testing – Physical and Chemical**
- B. **Cement Testing,**
- C. **Soil Testing,**
- D. ***Aggregate Testing section,***
- E. **Other Testing – Cube test, Brick test, Core cutting, Mix design etc.**
- F. ***Coal Testing.***
- G. **Bitumen Testing section,**
- H. **Environmental Monitoring (Air and Water),**
- I. ***NDT (Non-Destructive Testing),***

(A) Steel Testing (Lab Testing):

SN	Name of Test	Method of test	Available Method
	PHYSICAL Steel Test :	Universal Testing Machine (UTM-60 T)	
1	Tensile strength with proof stress & longation etc.	Indian Standard	:1786-2008
2	Bend test, Re-bend	Indian Standard	:1786-2008
	Chemical test : (through	VAS Spectrometer)	Alt. Method
3	Carbon content	Indian Standard	:228-1987 Part 1
4	Sulfur content	Indian Standard	:228-1989 Part 9
5	Phosphorus	Indian Standard	:228-1987 Part 3
6	Sulfur and phosphorus	Indian Standard	:228-1987 Part 5

(B) 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

© Soil Testing (Lab Testing)

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

(D) 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

(E) COAL Testing.

I. Proximate Analysis :

SN	Name of Test	Units	Available Equipments
1	Ash Content,	%	Muffle furnace
2	Volatile Matter,	%	Muffle furnace
3	Sulfur content.	%	Chemical Lab
4	Fix carbon,	%	Calculation
5	Moisture content	%	Moisture Balance meter

6	Caking Index	No	Heating Equipment
7	GCV – Gross Calorific Value	Kcal/Kg	Bomb Calorimeter

II. ULTIMATE Analysis :

SN	Name of Test	Units	Available Equipments
1	Oxygen content	Kcal/Kg	Chemical Lab
2	Hydrogen Content	%	Chemical Lab
3	Nitrogen content	%	Chemical Lab
4	Ash Content	%	Chemical Lab
5	Carbon content	%	Chemical Lab
6	Sulfur content	%	Chemical Lab

(F) Other Engineering test :

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	Core Cutting and testing		Core cutter and CTC Machine.

(G) 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	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) and Testing		Core Cutting Method

(H) 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

(I). 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.	Canin +
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.	

(J) Valuation:

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

NON ENGINEERING TESTING

(K) FOOD Tests :

SN	Name of Test	Available Equipment
1	Calorific Value (Kcal/kg)	Bomb Calorimeter
2	Protein Estimation	Digital Kjeldahl
3	Fats Content	Digital Soxhlet
4	Carbohydrate	By calculation
5	Sugar content	Chemical process
6	Moisture	Digital Moisture Meter
7	Fibre content	Digital Fibremeter.
7	Vitamins A,B,D,K	Chemical Process
8	Other Nutrients	Chemical Process
9	Density	Chemical process
10	Viscosity	Chemical process
11	Particle size	Physical process
12	Other Chemical test	Chemical process
13	Pesticides	HPLC & GC-ECD, NPD & FID.
14	Heavy metals	AAS with HG
15	Curcumin	Chemical process
16	Micro Biological test parameters	Food Micro lab
17	Radioactive test	Authorized agent of BRIT
18	Other Nutritional test	As per requirement

Water and Food Testing Facilities:

Drinking water, Domestic water, waste water, ETP water, Medical water, Pond water & river water.

Testing as per IS 10500: 2012 and IS 14543: 2005 are also available.

Parameters as per IS 10500:2012

GR. I – Physical Parameter : (Primary Test)			
Sl No	Parameter		Parameter
1	pH	4	Turbidity
2	TDS (Total Dissolved Solids)	5	Colour
3	Taste	6	Odor

Gr II (A) – Chemical Parameters.			
Gr. II – (General Parameters)			
1	Alkalinity	12	Free Residual Chlorine
2	Calcium	13	Aluminum
3	Iron	14	Barium
4	Total Hardness	15	Silver
5	Manganese	16	Phenolic compounds
6	Nitrate	17	Oil & grease
7	Fluoride	18	Anionic surface active agent
8	Magnesium	19	Ammonia
9	Sulphate	20	Sulphide
10	Chloride	21	Boron
11	Chloramines		

Gr II (B) – Heavy metal Parameters.			
1	Mercury	6	Chromium
2	Selenium	7	Nickel
3	Arsenic	8	Copper
4	Lead	9	Zinc
5	Cadmium	10	Molybdenum

Gr. III - Microbiological & Other Test :			
1	Escherichia Coli	2	Coliform Bacteria
3	Parasitological Analysis	4	Virological Analysis

Gr IV. Pesticides Group.			
1	Pesticide Group .. (18 nos)		
Radioactive Test .			
1	Alpha, Beta ..etc Radioactive element		As per order

Total water parameters.

- *All physical Test* **6 Parameters**
- *All Chemical Test* **26 Parameters**
- *Heavy Metals Test* **8 Parameters.**
- *Microbiological Test.* **13 Parameters**
- *Pesticide* **30 Nos.**

The other test parameters are also available as per order.

COMPETENT PERSON

(Only Engineering Section)

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

Sl No	Name	Qualification	Experience	Designation
1	Dr. Mahidhar Pathak	Ch. Engr, MIE (Civil), M. Tech (H&T), AMIMI (Auto), FIV, M.Sc, MA, M Com, MBA, LLB, Ph.D	25 Yrs	CEO, Chief Consultant.
2	Mr. Pritam Pathak	M.Sc., Internal Quality Auditor.	3 Yrs	Sr. Quality Manager
3	Mr. Harballav Sarma	B.Sc, IIT	20 Yrs	Technician.
4	Er. Gobin Ch Dutta	MIE (Mech), B Sc.	25 Years	Engineer.
5	Ms. Pooja Agarwal	M. Sc. CS.	5 Years	Supervisor
6	Er. Disha Sarma	B. Tech (Civil)	3 Years	Engineer
7	Er. Nirmali Lahkar	B. Tech (Civil)	3 Years	Engineer
8	Mr. Biman Bhuyan	B.A,	20 Yrs	Technician
	Mr. Haravallav Sarma	BA. ITI (Elc)	25 Yrs	Supervisor
9	Ms. Trishna Barman	B.A, PGDCA	6 Years	Accountant
10	Mr. Amar Goswami	ITI, BA	4 Years	Sample Collector
11	Mr. Manoj Kalita	Technician	12 Yrs	Field worker.
12	Sri Biraj kalita	B.A (ITI)		

The Competent persons for other banches are not shown here.

Exclusive authority of IIT

General INFRASTRUCTURE of the Establishment

Sl No.	Particulars	Quantity	Remarks
1.	Office Space	a) 1400 Sq. ft. at MPG Complex as office area and reception.	Own Buildings.
	Laboratory -1	b) 2200 Sq. ft. of 2 nd floor Water Testing and Food Testing & 3 rd floor as EREC Library	
	Laboratory - 2	Five storied Lab Building. (EREC Tower) Ground Floor : Steel and Soil Lab. 1 st Floor : Lab Office 2 nd Floor : Instrumentation. 3 rd Floor : Coal testing, Chemical Lab. 3 rd Floor Mezzanine - : Bitumen test. 4 th Floor : Store, Cement Lab Total 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 - Proceq Profometer 5+ Tico Canin + PET (Pile Tester)	Own
11	Water Testing Laboratory	2200 Sqft (Main Building)	Own
	Food Testing Laboratory	2200 Sqft (Main Building)	Own
11	Concrete Cutting machine, Drill machine	3 set	Own
12	Internet facility	TATA-net- connection.	Connected
13	Official 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. Soil Test Division.
2. Steel and Cement Test Division,
3. Bitumen Division,
4. NDT Divisions. (Both Civil and Metal section)
5. Coal Testing section
6. Water Testing – Chemical and Microbiology.(all area calibrated)
7. Food Testing - Chemical and Microbiology.(all area calibrated),

Thanks :

Dr. Mahidhar Pathak

Rupnagar, Guwahati, the 01.06.2023.

Mob: 98640-66613

XXXXXXXXXXXXXXXXXXXXX END XXXXXXXXXXXXXXXXXXXXXXXX

Exclusive authority of EREC