



कार्यालय सिविल अभियांत्रिकी विभाग

लोकमाता देवी अहिल्याबाई होल्कर
राजकीय इंजीनियरिंग कॉलेज मैनपुरी
आगरा रोड, खर्वा, मैनपुरी (उप्र) - 205119

Email ID : hod.ce@recmainpuri.in

पत्रांक : 44/आर.ई.सी.एम./सी.ई.डी./2026

दिनांक : 13/मार्च/2026

Industrial Visit Report

Location: Shree Cement Grinding Unit – Malawan, Etah (U.P.)
Students: 2nd Year & Final Year, Total 27 Present.
Date & Time: 13/03/2026 & 9:30 AM To 3:30 PM
Organiser: BIS Noida Office, Mr. M.K. Singh (Resource Person)
Faculty Coordinator: Mr. Saket Rusia, 2nd Year Class Coordinator I/c. Head Civil.

1. Introduction

An industrial visit was organized for the students as part of the BIS Chapter activities of L.D.A.H. Rajkiya Engineering College. The visit was conducted at the Shree Cement Grinding Unit located at Malawan, Etah. The objective of this visit was to understand the cement manufacturing process after the clinker grinding stage, observe laboratory testing procedures, and learn about industrial quality control and environmental practices. This visit provided practical exposure to the cement grinding process, laboratory testing techniques, plant operations, and safety protocols followed in the cement industry.

2. Basic Details of the Plant

The Shree Cement Grinding Plant at Malawan, Etah was commissioned in April 2025. This unit mainly performs the cement grinding and packing process, where clinker is ground with gypsum and other additives to produce different types of cement.

Key details of the plant:

- Annual Production Capacity: 3 Million Tonnes per annum
- Raw Material Source: Clinker supplied from ,Beawar Rajasthan
- Types of Cement Manufactured:
 - Ordinary Portland Cement (OPC)
 - Portland Pozzolana Cement (PPC)
 - Premium Cement

The plant also manufactures OPC 43 grade cement according to quality standards.

3. Raw Materials and Storage System

3.1 Clinker

Clinker is the primary raw material used in cement production. At this plant, clinker is transported from Beawar, Rajasthan and unloaded at the clinker unloading section.

The clinker is then stored in a clinker silo with a capacity of 60,000 metric tonnes (MT) before being used in the grinding process.

3.2 Fly Ash

Fly ash is used as an additive for the production of PPC cement. The plant receives fly ash from a nearby thermal power station, Jawahar Thermal Power Plant, which fulfills approximately 15% of the fly ash requirement of the grinding unit.

- Fly Ash Silo Capacity: 5,000 MT

3.3 Cement Silos

After grinding, the finished cement is stored in separate silos according to the cement type.

The plant has three separate cement silos, each having a capacity of 10,000 tonnes for:

- OPC Cement
- PPC Cement
- Premium Cement

4. Cement Manufacturing Process at the Plant

The plant mainly deals with post-clinker cement manufacturing processes, which include grinding, blending, and packing.

The sequence of operations observed during the visit is as follows:

Rp.

N. KUSHWAHA

Q



कार्यालय सिविल अभियांत्रिकी विभाग

लोकमाता देवी अहिल्याबाई होल्कर

राजकीय इंजीनियरिंग कॉलेज मैनपुरी

आगरा रोड, खर्गा, मैनपुरी (उ०प्र०) - 205119

Email ID : hod.ce@recremainpuri.in

4.1 Clinker Unloading

Clinker transported from Rajasthan is unloaded using automated unloading systems and transferred to the clinker storage silo.

4.2 Clinker Storage

The clinker is stored in a 60,000 MT capacity silo to maintain a continuous supply to the grinding mill.

4.3 Raw Material Feeding

Clinker, gypsum, and other additives (such as fly ash) are proportionally fed into the grinding mill.

- Gypsum is added to regulate the setting time of cement.
- Fly ash is added for PPC cement production.

4.4 Cement Grinding (Vertical Roller Mill)

The grinding process takes place in a Vertical Roller Mill (VRM).

- Grinding Mill Air Capacity: 10,750,000 cubic meters per hour
- This process reduces clinker and additives into fine cement powder.

Vertical roller mills are highly efficient and consume less energy compared to conventional grinding mills.

4.5 Cement Storage

After grinding, the cement is transported pneumatically and stored in separate cement silos based on the type of cement.

4.6 Packing and Dispatch

Finally, cement is packed in bags through automatic packing machines and dispatched to the market.

5. Laboratory and Quality Control

The visit started from the Quality Control Laboratory, where various physical and chemical tests of cement are conducted to ensure that the cement meets BIS standards.

The laboratory plays a crucial role in maintaining the quality of cement produced in the plant.

5.1 Physical Tests of Cement

The following physical tests are conducted in the laboratory:

- Fineness Test
- Standard Consistency Test
- Initial Setting Time Test
- Final Setting Time Test
- Compressive Strength Test (using CTM – Compression Testing Machine)
- Soundness Test
- Specific Gravity Test

These tests determine the mechanical strength and physical properties of cement.

5.2 Chemical Tests of Cement

Chemical analysis ensures that the composition of cement is within standard limits.

The following tests are performed:

- XRF Test (X-Ray Fluorescence Test)
 - Used to determine the chemical composition of cement.
 - It provides the results within approximately 30 seconds.
- Loss on Ignition (LOI) Test
 - Determines the amount of moisture and volatile substances in cement.
- Lime Saturation Test
- IR Test (Insoluble Residue Test)
 - Determines the percentage of insoluble residue present in cement.

These tests ensure proper proportions of compounds such as lime, silica, alumina, and iron oxide in cement.

6. Environmental and Safety Measures

The plant strictly follows environmental protection guidelines and industrial safety measures.

Some of the environmental practices observed include:

- Maintaining Air Quality Index (AQI) standards
- Installation of bag filters and bag houses to control dust emissions

Rp

N. Kushwaha



कार्यालय सिविल अभियांत्रिकी विभाग
लोकमाता देवी अहिल्याबाई होल्कर
राजकीय इंजीनियरिंग कॉलेज मैनुपुरी
आगरा रोड, खर्गा, मैनुपुरी (उ०प्र०) - 205119

Email ID : hod.ce@recmainpuri.in

- Proper dust collection systems
- Controlled material handling systems

Safety measures observed in the plant include:

- Mandatory use of safety helmets, masks, and goggles
- Use of personal protective equipment (PPE)
- Controlled access to industrial areas

These measures ensure both environmental protection and worker safety.

7. Interaction with Plant Officials

During the visit, students interacted with Vashisth Manu, Quality Control Officer, who explained the cement manufacturing process, quality testing methods, and plant operations in detail.

The CCR (Central Control Room) officer also demonstrated how the entire grinding process is monitored and controlled digitally from the control room.

8. Learning Outcomes

The industrial visit provided valuable practical exposure to:

- Cement grinding technology
- Laboratory quality control methods
- Environmental management in cement plants
- Industrial safety procedures
- Automated plant operation and monitoring

Students gained a clear understanding of the cement production process after clinker formation, as well as the importance of quality testing and environmental compliance in cement manufacturing.

9. Conclusion

The industrial visit to the Shree Cement Grinding Unit at Malawan, Etah was highly informative and educational. It provided students with practical knowledge about cement grinding processes, quality control procedures, and modern industrial operations.

The interaction with industry professionals and the observation of advanced machinery helped bridge the gap between theoretical knowledge and practical application.

Overall, the visit enhanced the students' understanding of cement manufacturing technology and industrial quality standards.

Attachment: Photos, Attendance Sheet

Report Prepared by: Mr. Vikash Kushwaha (Student Head for Industrial visit) *V. Kushwaha*

Rp
Rupesh Patel
Lab Instructor

(Saket Rusia)
In-Charge, Head of Department
Department of Civil Engineering

Copy to:

1. HOD/Director Sir, LDAH REC Mainpuri (for kind information).
2. Dean (A).
3. BIS Noida Office, Mr. M.K. Singh (Resource Person)

I/c Head of Deptt. Civil
Lokmata Devi Ahilya Bai Holkar
Rajkiya Engineering College
Mainpuri (U.P.) 205119



कार्यालय सिविल अभियांत्रिकी विभाग
लोकमाता देवी अहिल्याबाई होल्कर
राजकीय इंजीनियरिंग कॉलेज मैनपुरी
आगरा रोड, खर्दा, मैनपुरी (उ०प्र०) - 205119

Email ID : hod.ce@recmainpuri.in



Visit: Madawar, Etah, 13/03/2026.

Rp:

V. K. Singh



भारतीय मानक ब्यूरो
Bureau of Indian Standards
The National Standards Body of India

(NOIDA BRANCH OFFICE)

Name of School/Institute:
L.D.A.M. Rajkiya Engineering College, Mainpuri

Date: 13/03/2024

Time: 10:00 AM

ATTENDANCE SHEET (Exposure Visit) Location: Shree Cement Plant, Malan

Sl. No.	Name	Class	Mobile No.	Signature
1	Jyoti Singh	Civil 2nd	846 7890847	Jyoti
2	Lovely	Civil 2nd	9557121974	Lovely
3	Vishal Kumar	Civil 2nd	9795377195	Vishal
4	Manisha Kumari	Civil 2nd	9771662808	Manisha
5	Jyoti	Civil 2nd	9859590196	Jyoti
6	Nikhil Yadav	Civil 2nd	7380811082	Nikhil
7	Ansh Singh	Civil 2nd	6386589451	Ansh Singh
8	Ritik Pawar	CE 2nd	90459880919	Ritik
9	Suman Kumar	CE 4th	8890822202	Suman
10	Arubhan Patel	CE 4th	7068497198	Arubhan
11	Prem Sagar	CE 2nd	8104509059	Prem Sagar
12	Harsh Kumar	CE 2nd	8953268024	Harsh
13	Amyan Ratra	CE 2nd	8285882727	Amyan
14	Pranjal Kumar	CE 2nd	7307492440	Pranjal
15	Rakesh K	CE 2nd	9835728019	Rakesh
16	Aman Sharma	CE 2nd	9794568217	Aman Sharma
17	Sachi Anand	CE 4th	7080715253	Sachi
18	Shalini Ponia	CE 4th	8941081255	Shalini
19	Latika Singh	CE 2nd	8071840820	Latika
20	Uday Pattak	CE 2nd	8006669850	Uday Pattak
21	Abhay	CE 2nd	9821652707	Abhay
22	Suryjeet	CE 4th	8957007758	Suryjeet
23	Vikas Kushwaha	CE 4th	8112566850	V. Kushwaha
24	Ashay Yadav	CE 2nd	8853146453	Ashay
25	Nitin Yadav	CE 2nd	9820614703	Nitin Yadav
26	Abhay Kumar Yadav	CE 4th	7394992442	Abhay Kumar Yadav
27	Ajeendra Vatsal	CE 2nd	7522089499	Ajeendra
28	Saket Rastogi	Asst. Prof. I/c HOD	9713553877	Saket


13/03/26
I/c Head of Deptt. Civil
Lokmata Devi Ahilya Bai Holkar
Rajkiya Engineering College
Mainpuri (U.P.) 205119

Visit: Shree cement Plant malawan,

13/03/26

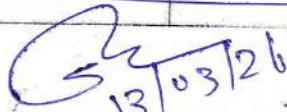
10:50 AM.



भारतीय मानक ब्यूरो
Bureau of Indian Standards
The National Standards Body of India

LDH REC Mainpuri

29	R.K. Patel	lab instructor	8881117841	Rp
30	Sanjeev	Lab attendant/Peon	7017463896	Sanjeev
31				
32				
33				
34				
35				
36				
37				
38				
39				
40				
41				
42				
43				
44				
45				
46				
47				
48				
49				
50				
51				
52				
53				
54				
55				
56				
57				
58				
59				
60				
61				
62				


13/03/26
I/c Head of Deptt. Civil
Lokmata Devi Ahilya Bai Holkar
Rajkiya Engineering College
Mainpuri (U.P.) 205119

Lokmata Devi Ahilya Bai Holkar, Rajkiya Engineering College Mainpuri

Department of Civil Engineering

BIS Industrial Visit Shree Cement Plant Malawan Etah

Date : 13/03/2026

Sl.	Name of Students	Roll No.			Remark
1	ABHAY YADAV	2408400000001	Abhay	Abhay	
2	AHMAD RAZA	2408400000002			
3	ALI AKHTAR KHAN	2408400000003			
4	ANSH SINGH	2408400000004	Ansh Singh	Ansh	
5	ARYAN RATNA	2408400000006	Aryan	Aryan	
6	ATYENDRA VATSAL	2408400000007	Atyendra	Atyendra	
7	DEEPANKAR SHAKYA	2408400000008			
8	JYOTI SINGH	2408400000009	Jyoti	Jyoti	
9	KRISH RATHI	2408400000010			
10	LOVELY	2408400000011	Lovely	Lovely	
11	MANISHA KUMARI	2408400000012	Manisha		
12	NIKHIL YADAV	2408400000013	Nikhil	Nikhil	
13	PAVI	2408400000014	Pavi	Pavi	
14	PRANJAL KUMAR	2408400000015	Pranjal	Pranjal	
15	PREM SAGAR VERMA	2408400000016	Prem	Prem	
16	RAUSHAN KUMAR	2408400000017	Raushan	Raushan	
17	RITIK PAWAR	2408400000018	Ritik	Ritik	
18	SAURABH SINGH YADAV	2408400000019			
19	VISHAL KUMAR	2408400000020	Vishal Kumar	Vishal Kumar	
20	ABHAY YADAV	2508400009001	Abhay	Abhay	
21	ADHISHIR KUMAR	2508400009002			
22	AMAN SHARMA	2508400009003	Aman Sharma	Aman Sharma	
23	HARSH KUMAR	2508400009004	Harsh	Harsh	
24	LATIKA SINGH	2508400009005	Latika	Latika	
25	NITIN YADAV	2508400009006	Nitin Yadav	Nitin Yadav	
26	SHIVANI DEVI	2508400009007			
27	SHIVANI VERMA	2508400009008			
28	UDAY PATHAK	2508400009009	Uday Pathak	Uday Pathak	
29	SACHI ANAND	2208400000016	Sachi	Sachi	
30	SHALVI PONIA	2208400000017			
31	SURJEET	2208400000020	Surjeet	Surjeet	
32	ABHAY KUMAR YADAV	2308400009001	Abhay Kumar Yadav	Abhay Kumar Yadav	
33	ANUBHAV PATEL	2308400009002	Anubhav	Anubhav	
34	SAMEER KUMAR	2308400009004	Sameer Kumar	Sameer Kumar	
35	VIKAS KUSHWAHA	2308400009006	Vikas		

5 13/03/26
 I/c Head of Deptt. Civil
 Lokmata Devi Ahilya Bai Holkar
 Rajkiya Engineering College
 Mainpuri (U.P.) 205119