



*Jayawant Shikshan Prasarak Mandal's*

**JSPM Narhe Technical Campus**

S. No. 12/2/2 and 14/9, Narhe, Tal.: Haveli, Dist.: Pune - 411041  
Phone.: +91 20 2460 8700, 701, 702 Fax : +91 20 2460 8888 Web : www.jspmntc.edu.in  
Affiliated to Savitribai Phule Pune University. Approved by AICTE New Delhi and DTE  
Maharashtra.



**Prof. Dr. T. J. Sawant**  
D.E.E., B.E.(Electrical), Ph.D., MISTE  
FOUNDER SECRETARY

**Prof. (Dr) S. A. Choudhari**  
B.E.(Civil), M.E.(WRE.), Ph.D.(Engg.)  
DIRECTOR

**To,**

**The coordinator,**

**NAAC, Bengaluru.**


**Subject:** Grants received from Govt. and Non-Govt. agencies.

**Reference:** 3.3.1 - Grants received from Government and non-governmental agencies for research projects / endowments in the institution during the year (INR in Lakhs)

**Dear Sir/Madam,**

The detail of the grant received from government and non-governmental agencies for research projects / endowments in the institution during the year is attached herewith this letter.



  
**Director**  
JSPM Narhe Technical Campus  
Narhe, Pune-41.

Enclosure-

1. Acceptance letter



# NIKHIL CONSTRUCTION

Specialist in Civil & Concrete Work,  
Manufacturing & Supplying of Crushed Sand, Metal and R.M.C

**HEAD OFFICE :**

91/Ashok Society, Durga Nagar,  
Senapati Bapat Road, Pune - 411 016  
Mobile : 9822015471, 9850971012, 9850800744  
• E-mail : [nikhil.construction@yahoo.com](mailto:nikhil.construction@yahoo.com)

**CORPORATE OFFICE :**

"SARTHAK", 721/3 - Shree Swayamsiddha Hsg. Soc.,  
Opp. Bhide Hospital, L.B.S. Road, Navi Peth, Pune - 30  
Phone : + 91 20 24530007, Mobile : + 91 8888 809 967  
• Website : [www.nikhilgroup.in](http://www.nikhilgroup.in)

Reference No. 2022/108

Date: 25/02/2022

To,  
**Dr. S. B. Khaple**  
**HOD Civil Dept.,**  
Department of civil engineering  
JSPM Narhe Technical Campus, Narhe. Pune

**Subject: Acceptance of research proposal for, "Strength and Durability Characteristics of Concrete by Using Nanosilica- Nanovanadium Mixture"**

**Dear Dr. S. B. Khaple**

I am writing on behalf of Nikhil Construction to let you know that we have accepted "Strength and Durability Characteristics of Concrete by Using Nanosilica- Nanovanadium Mixture", proposal for our organization. Out of all the proposals we received, we felt that yours was closest to what we had in mind for our company and the most realistic in terms of reaching our goals in the allotted time. You may be interested to know that the proposal was unanimously agreed upon by our board of directors.

We would like to begin the project as soon as possible and look forward to meeting with you and receiving the necessary paperwork. To discuss this matter further, please contact me at your convenience at 9834147757. We look forward to hearing back from you and will return any messages as quickly as possible.

We are greatly appreciative of all of Acme Construction & Consulting's hard work and cooperation with us on this project. We are looking forward to continued cooperation with you as our business expansion becomes a reality. We thank you for your consideration in this matter and will be on the lookout for your prompt response.

Yours Truly,

Yours Truly,

**Mr. Gajanan Late**  
Technical Manager  
Nikhil Construction



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Opp. Bhide Hospital, L.B.S. Road, Navi Peth, Pune - 30.  
Phone : + 91 20 24530007, Mobile : + 91 8888 809 967  
• Website : www.nikhilgroup.in

Ref. No.:308

Date:15/03/2022

To,  
The Director  
JSPM's Narhe Technical Campus, Narhe  
Pune-411041

Sub: Budget Expenditure for Project entitled as **"Strength and Durability Characteristics of Concrete by Using Nanosilica- Nanovanadium Mixture"**.

Dear Sir,

As per the budget of Rs.52, 000/-sanctioned for your proposal for Project entitled as **"Strength and Durability Characteristics of Concrete by Using Nanosilica- Nanovanadium Mixture"**. The details of amount disbursed as below;

Sr. No.	Particulars	Expenditure Amount in Rs.
1	Equipments	NIL
2	Books & Journals	4000
3	Chemicals & Consumables	15000
4	Hiring Services	25000
5	Field Work & Travel	5000
6	Contingency	3000
TOTAL		52000

Thanking You.

Yours Truly,

Mr. Gajanan Late  
Technical Director  
Nikhil Construction, Pune



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Phone : + 91 20 24530007, Mobile : + 91 8888 809 967  
• Website : [www.nikhilgroup.in](http://www.nikhilgroup.in)

Ref. No.:2021-22/185

Date: 26/04/2022

To  
The Director,  
JSPM's Narhe Technical Campus,  
Narhe, Pune-411041

Sub: Sanctioned the budget for Project entitled as, **“Strength and Durability Characteristics of Concrete by Using Nanosilica- Nanovanadium Mixture”**.

Dear Sir,

As per the budget of Rs. 52,000/- mentioned in your proposal for Project entitled as **“Strength and Durability Characteristics of Concrete by Using Nanosilica- Nanovanadium Mixture”**. We are glad to inform you that budget of Rs. 52,000/- **(in words Fifty Two Thousand Only)** for your proposal have been sanctioned. Let us know if any extra requirement for the smooth completion of project.

Thanking You.

Yours Truly,

**Mr. Gajanan Late**  
Technical Manager  
Nikhil Construction



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Opp. Bhide Hospital, L.B.S. Road, Navi Peth, Pune - 39  
Phone : + 91 20 24530007, Mobile : + 91 8888 809 967  
• Website : www.nikhilgroup.in

## CERTIFICATE OF COMPLETION

**Date:-**28/05/2022

**Ref. No.:** JSPM/NTC/ CIVIL/21-22/185

This is to certify that **Dr.S.B.Khapse** has successfully completed Research project work titled, "**Strength and Durability Characteristics of Concrete by Using Nanosilica-Nanovanadium Mixture**" He has conducted project work during 14/07/2021 to 28/05/2022 at Nikhil Construction, Pune.

We, Nikhil Construction, Pune wish him all success in his future endeavors and look for same in future also.

Regards,

Yours Truly,

Mr. Gajanan Late  
Technical Manager  
Nikhil Construction



Jayawant Shikshan Prasarak Mandal's  
**JSPM Narhe Technical Campus**

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DTE Code : 6755 PUN Code : CEGP019070 AISHE Code : C-45874



**DEPARTMENT OF CIVIL ENGINEERING**

Ref.:JSPM/NTC/2020-2021/CIVIL/45

Date:14<sup>th</sup> July, 2021

To,  
The Technical Director  
Nikhil Construction,  
Pune

**Subject:**Seeking Permission for Sponsoring Research Work.

**Respected sir,**

With reference to the above subject, our faculty **Dr.S.B.Khapse**, seeking permission for carrying out research project entitled “**Strength and Durability Characteristics of Concrete by Using Nanosilica- Nanovanadium Mixture**”. Research proposal and derailed estimate of project is attached with this letter. Kindly sponsor the research project.

Thank you for consideration.

With Best Regards,

Dr.S.B.Khapse  
HOD.civil Dept  
Department of Civil Engineering,  
JSPM Narhe Technical Campus, Pune.

**Dr. S. B. Khapse**  
R & D Coordinator,  
Department of Civil Engineering

**Dr. S. B. Khapse**  
Head,  
Department of Civil Department





Jayawant Shikshan Prasarak Mandal's  
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DTE Code : 6755 PUN Code : CEGP019070 AISHE Code : C-45874



**DEPARTMENT OF CIVIL ENGINEERING**

Ref. No. JSPM/NTC/ CIVIL/ 2021-22/ 107

Date 20/05/2022

To,  
The Technical Director  
Nikhil Construction,  
Pune

**Subject: Submission of Project Closure Report for project Titled, “Strength and Durability Characteristics of Concrete by Using Nanosilica- Nanovanadium Mixture”**

Respected Sir/Madam,

This is to inform you that the project Titled “**Strength and Durability Characteristics of Concrete by Using Nanosilica- Nanovanadium Mixture**” has been completed on 28/05/2022. I would like to thank the Staff & Research Society, Institutional Ethics Committee and Dean for permitting me to conduct the study. I shall submit the detailed Report within 2 week.

Thanking you.

With Best Regards,

**Dr.S,B.Khaple.**

Assistant Professor

Department of Civil Engineering,

**Dr. S. B. Khaple**  
R & D Coordinator,  
Department of Civil Engineering

**Dr. S. B. Khaple**  
Head,  
Department of Civil Department

# **Research Project Proposal**

**Project Title: “Strength and Durability Characteristics of Concrete by Using Nanosilica- Nanovanadium Mixture”**

**Submitted to:**

**Mr. Gajanan Late**  
Technical Manager  
Nikhil Construction

**By:**

Dr. S. B. Khaple  
HOD Civil Dept.,  
Rushikesh kale,  
Mehul Ahirrao,  
Sourab h mohite,  
Pramod baviskar  
Department of civil engineering  
JSPM Narhe Technical Campus, Narhe. Pune



# Research Project Status Report

1. Broad subject area: **Concrete Technology.**
2. Specialization: **“Strength and Durability Characteristics of Concrete by Using Nanosilica- Nanovanadium Mixture”**
3. Title of the proposed project: **“Strength and Durability Characteristics of Concrete by Using Nanosilica- Nanovanadium Mixture”**

4. Name and address of the Principal Investigator:

**Dr.S.B.Khaple** , HOD, Department of Civil Engineering

JSPM, Narhe Technical Campus,

S. No. 12/2/2 and 14/9 Narhe, Tal : Haveli, Dist.: Pune - 411041.

Phone: 020- 24608700 (Office), 07249830830 (Mobile)

**E-mail:**civilhjspmntc@gmail.com

**5. Reporting Period:** July 2021 to May 2022

## **6.Project Description:**

Nano silica is one of the advance material that can be used to achieve strength of concrete and this method is one of the active method which is used in research in all industries.concerete is most important material which is used in construction industry. We can Achieve Strength and Durability Characteristics of Concrete by Using Nanosilica- Nanovanadium Mixture.

**Keywords:** *Nano silica , Nanivanadium, strength ,Durability*

## 1.2 Problem statement

To Achieve Strength and Durability Characteristics of Concrete by Using Nanosilica-Nanovanadium Mixture..

## 1.3 Objectives

- 1 To study Properties of nano silica and Nanovanadium
- 2 To study/compare technologies and use best suitable technology for the mixture.
- 3 To make mix design.
- 4 To obtain the results computationally.

## 1.4 Limitations of study

1. Experimentation on the actual model using different technologies would be costly so we are totally relying on software.
- 2 Testing the model in lab and on the field may give different results, so analysing the actual efficiency is difficult.

## 1.5 Expected outcomes

- 1 The following technology will Achieve more strength and durability of concrete.
- 2 make the mix design to achieve strength

## 1.6 Future scope

- 1 Physical working model can be prepared based on this technology.
- 2Expensive different nano-fibers can be used to get even higher efficiency

### Time Schedule:

Sr. No.	Activity	Duration
1	Procurement and Installation of infrastructure facilities Knowledge acquisition for development of the proposed system	3month
2	Design of the proposed system	4month
3	Testing and verification of the system	3month

### Details of financial requirements

Sr. No.	Particulars	Expenditure Amount in Rs.
1	Equipment	NIL
2	Books & Journals	4000
3	Chemicals & Consumables	15000

4	Hiring Services	25000
5	Field Wok & Travel	5000
6	Contingency	3000
<b>TOTAL</b>		<b>52000</b>



**Dr.S.B.Khaple**  
Assistant Professor  
Department of Civil Engineering,  
JSPM Narhe Technical Campus, Pune.



**Dr. S. B. Khaple**  
R & D Coordinator,  
Department of Civil Engineering



**Dr. S. B. Khaple**  
Head,  
Department of Civil Department



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Phone : + 91 20 24530007, Mobile : + 91 8888 809 967  
• Website : www.nikhilgroup.in

Reference No. 2021/108

Date: 12/07/2021

To,  
**Dr. S. B. Khaple**  
**HOD Civil Dept.,**  
**Rushikesh kale,**  
**Mehul Ahirrao,**  
**Sourab hmohite,**  
**Pramod baviskar**

Department of civil engineering  
JSPM Narhe Technical Campus, Narhe. Pune

**Subject: Acceptance of research proposal for, "Strength and Durability Characteristics of Concrete by Using Nanosilica- Nanovanadium Mixture"**

**Dear Dr. S. B. Khaple and his team,**

I am writing on behalf of Nikhil Construction to let you know that we have accepted, "Strength and Durability Characteristics of Concrete by Using Nanosilica- Nanovanadium Mixture", proposal for our organization. Out of all the proposals we received, we felt that yours was closest to what we had in mind for our company and the most realistic in terms of reaching our goals in the allotted time. You may be interested to know that the proposal was unanimously agreed upon by our board of directors.

We would like to begin the project as soon as possible and look forward to meeting with you and receiving the necessary paperwork. To discuss this matter further, please contact me at your convenience at 9834147757. We look forward to hearing back from you and will return any messages as quickly as possible.

We are greatly appreciative of all of Acme Construction & Consulting's hard work and cooperation with us on this project. We are looking forward to continued cooperation with you as our business expansion becomes a reality. We thank you for your consideration in this matter and will be on the lookout for your prompt response.

Yours Truly,

**Mr. Gajanan Late**  
Technical Manager  
Nikhil Construction





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Phone : + 91 20 24530007, Mobile : + 91 8888 809 967  
• Website : www.nikhilgroup.in

Ref. No.:309

Date:22/03/2022

To,  
The Director  
JSPM's Narhe Technical Campus, Narhe  
Pune-411041

Sub: Budget Expenditure for Project entitled as **"Manufacturing of Bricks Using Fly Ash and Rice Husk"**.

Dear Sir,

As per the budget of Rs.52, 000/-sanctioned for your proposal for Project entitled as **"Manufacturing of Bricks Using Fly Ash and Rice Husk"**.The details of amount disbursed as below;

Sr. No.	Particulars	Expenditure Amount in Rs.
1	Equipments	NIL
2	Books & Journals	4000
3	Chemicals & Consumables	15000
4	Hiring Services	25000
5	Field Work & Travel	5000
6	Contingency	3000
TOTAL		52000

Thanking You.

Yours Truly,

Mr. Gajanan Late  
Technical Director  
Nikhil Construction, Pune



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• E-mail : [nikhil.construction@yahoo.com](mailto:nikhil.construction@yahoo.com)

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Phone : + 91 20 24530007, Mobile : + 91 8888 809 967  
• Website : [www.nikhilgroup.in](http://www.nikhilgroup.in)

Ref. No.:2021-22/185

Date: 28/04/2022

To  
The Director,  
JSPM's Narhe Technical Campus,  
Narhe, Pune-411041

Sub: Sanctioned the budget for Project entitled as, "**Manufacturing of Bricks Using Fly Ash and Rice Husk**".

Dear Sir,

As per the budget of Rs. 52,000/- mentioned in your proposal for Project entitled as "**Manufacturing of Bricks Using Fly Ash and Rice Husk**". We are glad to inform you that budget of Rs. 52,000/- (**in words Fifty Two Thousand Only**) for your proposal have been sanctioned. Let us know if any extra requirement for the smooth completion of project.

Thanking You.

Yours Truly,

**Mr. Gajanan Late**  
Technical Manager  
Nikhil Construction





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**CORPORATE OFFICE :**

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Opp. Bhide Hospital, L.B.S. Road, Navi Peth, Pune - 39  
Phone : + 91 20 24530007, Mobile : + 91 8888 809 967  
• Website : www.nikhilgroup.in

## CERTIFICATE OF COMPLETION

**Date:-**28/05/2022

**Ref. No.:** JSPM/NTC/ CIVIL/21-22/185

This is to certify that **Prof.A.S.Jadhav** has successfully completed Research project work titled, "**Manufacturing of Bricks Using Fly Ash and Rice Husk**" He has conducted project work during 24/07/2021 to 26/05/2022 at Nikhil Construction, Pune.

We, Nikhil Construction, Pune wish him all success in his future endeavors and look for same in future also.

Regards,

Yours Truly,

Mr. Gajanan Late  
Technical Manager  
Nikhil Construction



Jayawant Shikshan Prasarak Mandal's  
**JSPM Narhe Technical Campus**

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DTE Code : 6755 PUN Code : CEGP019070 AISHE Code : C-45874



**DEPARTMENT OF CIVIL ENGINEERING**

Ref.:JSPM/NTC/2021-2022/CIVIL/47

Date:24<sup>th</sup> July, 2021

To,  
The Technical Director  
Nikhil Construction,  
Pune

**Subject:** Seeking Permission for Sponsoring Research Work.

**Respected sir,**

With reference to the above subject, our faculty **Prof.A.S.Jadhav** , seeking permission for carrying out research project entitled “**Manufacturing of Bricks Using Fly Ash and Rice Husk**”. Research proposal and derailed estimate of project is attached with this letter. Kindly sponsor the research project.

Thank you for consideration.

With Best Regards,

Dr.S.B.Khaple  
HOD.civil Dept  
Department of Civil Engineering,  
JSPM Narhe Technical Campus, Pune.

**Dr. S. B. Khaple**  
R & D Coordinator,  
Department of Civil Engineering

**Dr. S. B. Khaple**  
Head,  
Department of Civil Department



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DTE Code : 6755 PUN Code : CEGP019070 AISHE Code : C-45874



**DEPARTMENT OF CIVIL ENGINEERING**

Ref. No. JSPM/NTC/ CIVIL/ 2020-21/ 107

Date 26/05/2022

To,  
The Technical Director  
Nikhil Construction,  
Pune

**Subject: Submission of Project Closure Report for project Titled, “Manufacturing of Bricks Using Fly Ash and Rice Husk”**

Respected Sir/Madam,

This is to inform you that the project Titled “**Manufacturing of Bricks Using Fly Ash and Rice Husk**” has been completed on 26/05/2022.

I would like to thank the Staff & Research Society, Institutional Ethics Committee and Dean for permitting me to conduct the study. I shall submit the detailed Report within 2 week.

Thanking you.

With Best Regards,

**Prof.A.S.Jadhav**  
Assistant Professor  
Department of Civil Engineering,

**Dr. S. B. Khaple**  
R & D Coordinator,  
Department of Civil Engineering

**Dr. S. B. Khaple**  
Head,  
Department of Civil Department



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DTE Code : 6755 PUN Code : CEGP019070 AISHE Code : C-45874



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**DEPARTMENT OF CIVIL ENGINEERING**

# **Research Project Proposal**

**Project Title: “Manufacturing of Bricks Using Fly Ash and Rice Husk”**

**Submitted to:**

**Mr. Gajanan Late**  
Technical Manager  
Nikhil Construction

**By:** Prof. A. S. Jadhav  
Assistant Professor,  
Prem Alli  
Prafull Dhekale  
Sairaj Jadhav  
Taheer Kazi  
Department of civil engineering  
JSPM Narhe Technical Campus, Narhe. Pune

# Research Project Status Report

1. Broad subject area: **Environmental Engineering**
2. Specialization: **“Manufacturing of Bricks Using Fly Ash and Rice Husk”**
3. Title of the proposed project: **Manufacturing of Bricks Using Fly Ash and Rice Husk”**
4. Name and address of the Principal Investigator:

**Prof. A. S. Jadhav**  
Assistant Professor

JSPM, Narhe Technical Campus,

S. No. 12/2/2 and 14/9 Narhe, Tal : Haveli, Dist.: Pune - 411041.

Phone: 020- 24608700 (Office), 9766295825 (Mobile)

**E-mail:** anjalijadhav0018@gmail.com

**5. Reporting Period:** July 2021 to May 2022

## **6. Project Description:**

Fly ash and rice husk benefits fresh concrete by reducing the mixing water requirement and improving the paste flow behavior. When we used rice husk and fly ash in concrete block then it will achieve the greatest strength and also reduce the cost.

**Keywords:** *fly ash , rice husk, strength*

## **1.2 Problem statement**

To Achieve Strength and Durability Characteristics of Concrete by Using fly ash and rice husk.

## **1.3 Objectives**

- 1 To study Properties of fly ash and rice husk

- 2 To study/compare technologies and use best suitable technology for the mixture.
- 3 To make mix design.
- 4 To obtain the results computationally.

### 1.4 Limitations of study

1. Experimentation on the actual model using different technologies would be costly so we are totally relying on software.
- 2 Testing the model in lab and on the field may give different results, so analysing the actual efficiency is difficult.

### 1.5 Expected outcomes

- 1 The following technology will Achieve more strength and durability of concrete.
- 2 make the mix design to achieve strength

### 1.6 Future scope

- 1 Physical working model can be prepared based on this technology.
- 2low cost material like rice husk fly ash is used in concretet.

#### Time Schedule:

Sr. No.	Activity	Duration
1	Procurement and Installation of infrastructure facilities Knowledge acquisition for development of the proposed system	3month
2	Design of the proposed system	4month
3	Testing and verification of the system	3month

#### Details of financial requirements

Sr. No.	Particulars	Expenditure Amount in Rs.
1	Equipment	NIL
2	Books & Journals	4000
3	Chemicals & Consumables	15000
4	Hiring Services	25000
5	Field Wok & Travel	5000
6	Contingency	3000
<b>TOTAL</b>		<b>52000</b>





**Prof.A.S.Jdhav**

Assistant Professor  
Department of Civil Engineering,  
JSPM Narhe Technical Campus, Pune.



**Dr. S. B. Khaple**  
R & D Coordinator,  
Department of Civil Engineering



**Dr. S.B.Khaple**  
Head,  
Department of Civil Department