



A.G.PATIL POLYTECHNIC INSTITUTE SOLAPUR

NBA ACCREDITED PROGRAMS

Department of Civil Engineering

NEWSLETTER

Academic Year:- 2022–2023



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Find us....

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Welcome



The department of civil engineering was started in the academic year 2010-2011 with an aim of promoting quality technical education in the field of civil engineering. The academic activities of the department emphasis deep skill development of students, acquiring the lat-

est technological trends to handle the challenges of civil engineering and to solve the problems of industry and society.

The Department of Civil Engineering is putting all efforts to ensure the overall progress of the students. Any suggestions for further improvement will be greatly appreciated. I wish one and all a bright future in coming academic year 2022-23.

Mr .N. B. Pawar

Head of the Department

Vision

To strive for making professionally skilled civil engineers by imparting quality technical education to meet the needs of industry and society

Mission

- 1.To provide excellent technical skills
- 2.To impart latest trends in technology with ability for research
- 3.To develop competent civil engineers for meeting needs of industrial and society

Program Educational Objective (PEOs)

- 1.Provide socially responsible, environment friendly solutions to Civil engineering related broad-based problems adapting professional ethics.
2. Adapt state-of-the-art Civil engineering broad-based technologies to work in multidisciplinary work environments.
- 3.Solve broad-based problems individually and as a team member communicating effectively in the world of work.

Academic Performance

Third Year

Name of Student	Percentage	Rank
Mr MD Taufique Alam	86.84%	First
Mr. Gautam Kumar	85.79%	Second
Mr Aditya Kumar	85.47%	Third

Second Year

Name of Student	Percentage	Rank
Mr.Vishal Yadav	68.00%	First
Mr.Ratan deep-SHIVSHARAN	63.25%	Second
Mr. Aryan Joshi	62%	Third

First Year

Name of Student	Percentage	Rank
Mr.Maaz Pathan	85.21%	First
Ms.Sanjana Sulgadale	83.79%	Second
Mr.Sujal Surve	82.32%	Third



High Flyers



MD Alam



Gautam Kumar



Aditya Kumar



Vishal Yadav



R Shivsharan Aryan Joshi



Maaz Pathan



S Sudugle



Sujal Surve

CO-CURRICULAR ACTIVITY

1. "EAC" Camp sponsored by DST-NIMAT is organized for Third Year on 24th Sept to 28th Sept 2022.

2. Department has Organized a one-day workshop on "Non Destructive Testing" in collaboration with Institution of Engineers India (IEI) on 07/2/2022.

3. Department has organized a State Level Event NIRMAAN on 02nd Mar. 2022 for diploma students. Under this Poster Presentation competition were arranged.

4. Department has organized a National Level Technical Paper Presentation Competition Annum 2K22 on 02nd Apr. 2023.

Extra Curricular Activity

On auspicious day in presence of Honourable Head of Department Mr N B Pawar Sir , Competition Conveyor Mr P.S Dara Sir , Competition Coordinator Mr. S B Pandhre Sir, Mr O S Shinde Sir , Chief Lab Assistant Mr .V B Kadam Sir , All faculty student had been successfully completed NSS Tree plantation programme



2. NDT WORKSHOP 2022-23



3. Har Ghar Dhyan



BEST OUTGOING STUDENT OF THE DEPARTMENT



Ms.Sanjana sudugle



Industrial Visits (SY & TY)

Second year students visited to the following industries during their academic year.

1. Building Layout Practise ,Solapur



2. Sewage Treatment Plant



3. Railway Station



Water Treatment Plant , Solapur (TY)



Water Treatment Plant (Pakni)

Master Talks (Expert Lecture)



NDT Workshop



Manufacturing of Cement



Career Opportunity in Civil Engineering

NirmaaN 2K22 & Annum 2K22



Sports Winner Team—2022-23 (Cricket)



Champion Cricket Team—Civil Engineering Dept (SY Students)



Champion Cricket Team—Civil Engineering Dept (SY Students) with Vice Principal S.K.Mohite, Sports Co-ordinate S.L Mudagi, Mr.K.T.Shembade, Mr S.B.Pandhre

Traditional Day Celebrations



Best Project

Experimental Investigation on Making of Plastic Brick

Abstract— The plastic waste is the hazardous problem in today's world. This is most dangerous problem in front of humanity. The most hazardous type of wastes are LDPE and PTE and the plastic below 50micron is also causing a serious problem. These plastic mixed in the soil, it directly effects on fertility of the soil. Nowadays, the large amount of plastic is deposited into sea. This plastic wastes gives hazardous effect on the aquatic life and quality of seawater also polluted by this plastic. So, we try to finding efficient way to solve this problem of plastic waste. So, we added this plastic wastes into the bricks and create the bricks by using plastic wastes. It is most economical solution present in the construction industry and it is also economical and environment friendly solution of the plastic wastes. The bricks produced are light weight, have smooth surface and fine edges, do not have cracks and have high crushing strength and very low water absorption. The bricks are manufactured by heating waste plastic to temperature range of 150 to 200 degree centigrade and mixing sand to the molten plastic.

Keyword—LDPE, CTM, PTE ,Water Absorption

I. INTRODUCTION

Low density polyethylene (LDPE) is the most common packaging material used worldwide and is used for packaging a variety of products. It is also used for making containers and bottles. However they pose great threat to the environment as their effective disposal is a herculean task. They are not easily degradable; it usually takes more than ten decades to decompose. As a result, they clog water ways, channels and drains. As they require many years to decompose, they fill up the landfills faster. Polythene bags and packaging sheets harm aquatic life if and wildlife as they pose the threat of chocking ingested. Low density polythene can be reused for making bricks. Bricks are the basic components of a building and are required in bulk. By using plastic in making the brick, the overall cost of the brick will get reduced as, waste polyethylene is being reused. Brick earth is costly, and digging of brick earth poses some damage to the environment. Hence using plastic to make bricks is not only cost effective and eco friendly but also the plastic bricks have a smooth finish, devoid of cracks and have low water absorption value, and will not have problems like efflorescence & Dampness of wall in future.

Materials Used:

- Waste Plastic (LDPE type)
- River Sand

Brick Manufacturing Process:

Collection: Plastic from waste (bags, wrappers, bottles).

Batching: 70% plastic & 30% sand (e.g., 2.1 kg plastic + 0.9 kg sand per brick).



Melting: Heat plastic to **150–200°C** in a closed vessel.

Mixing: Hand mixing of molten plastic and



sand.

Moulding: Fill mixture in a standard brick mould (19×9×9 cm).

Curing: Cool for 3 hours.

(19×9×9 cm). & **Curing:** Cool for 3 hours. Mixing





Demolding of Plastic Brick

Conclusion:

Plastic bricks are lightweight, cost-effective, and reduce plastic pollution.

Ideal for partition and exterior walls.

Offer better water resistance, preventing dampness.

Available in various colors.

REFERENCE

- [1] Dinesh S; Dinesh A; and Kirubhakaran k., “Utilisation of Waste Plastic in Manufacturing of Bricks and Paver Blocks” International Journal of Applied Engineering Research, Vol.2 (4), pp. 364-368.
- [2] II . Nitin Goyal ; Manisha., “Constructing structures using eco-bricks”, International Journal of Recent Trends in Engineering & Research . Vol.2 (4), pp. 159-164
- [3] Puttaraj M.H; Shanmukha S; Navaneeth Rai P.G; and Prathima T.B, “Utilization of Wate Plastic in Manufacturing of Plastic- soil Bricks” International Journal of Technology Enhancement and Emerging Engineering Reseach Vol. 2(4), pp. 102-107.

Comparison between Clay Brick & Plastic Brick

Sr.no	Properties	Clay brick	Plastic Brick
1	Material	Soil	- Plastic - Waste - Sand
2	Water Absorption	22.80%	1.35%
3	Comp. Strength	6.11N/mm ²	5.13N/mm ²
4	Hardness	Low	High
5	Toughness	Low Toughness	High Toughness
6	Weight	2.1-2.3Kg	1.6-1.8Kg
7	Time	300-500/day	400-500 /Hr
8	Cost of Manufacturing	4-5rs/Brick	1.5-2rs /Brick

Tests Performed

Test Result (Plastic Brick)

Water Absorption 1.35% (Much lower than 22.8% in clay bricks)

Compressive Strength 5.13 N/mm² (Slightly lower than 6.11 N/mm² in clay)

Hardness No scratch — High

Toughness No break — High

Staff Activity and Achievement

Sr.No	Name of Staff	Designation	Achievement
1	Mr. N.B Pawar	HOD	- Worked as Internal Academic Monitoring Committee member - Worked as RAC QC In charge - Attended FDP and Online webinar in Current Academic year - External Vigilance Squad - External Academic Monitoring
2	Mr. S.A. Boga	Lecturer	- Departmental NBA Co- coordinator. - MSBTE Exam Sealing Supervisor -- NSS Chief co-ordinator. -- Attend FDP and Online Webinar in current Academic year
3	Mr. P.S. Dara	Lecturer	-Worked as Internal Academic Monitoring Committee member -Dept. Co-ordinator of Alumni - DRCC Co-ordinator -Attended FDP and online webinar in current academic year
4	Mr.S.B.Pandhre	Lecturer	-Worked as MSBTE Online Exam Co-ordinator -Dept.Co-ordinator of Nirmaan 2K23 -TY Civil Class Co-ordinator -Attendend FDP and Online Webinar in Current academic year
5	Ms.Solankar A.G	Lecturer	-Worked as Class Test In--charge -Worked as MSBTE Online Exam Controller -Worked as National Technical Paper Presentation ANNUM 2K22
6	Ms.Rokade V V	Lecturer	- Worked as FY Class Test In--charge - MSBTE RAC QC Member



Shanti Education Society's

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Approved by : All India Council for Technical Education (AICTE), New Delhi

Recognized by : Government of Maharashtra

Approved by : Directorate of Technical Education (DTE), Mumbai

Affiliated to : Maharashtra State Board of Technical Education (MSBTE), Mumbai

An 'Excellent' Grade awarded by MSBTE, Mumbai

Discipline	Intake Capacity	Duration of Course	Accreditation Status
Mechanical Engineering	60	3year	NBA ACCRIDITED
Electronics and Telecom. Engineering	60	3year	NBA ACCRIDITED
Civil Engineering	60	3year	NBA ACCRIDITED
Computer Engineering	60	3year	NBA ACCRIDITED
Electrical Engineering	60	3year	NBA ACCRIDITED
TOTAL	300		

