



SRI VENKATESWARA

COLLEGE OF ENGINEERING AND TECHNOLOGY

Thirupachur-631203, Tiruvallur TK & DT
Approved by AICTE New Delhi & Affiliated to Anna University, Chennai
(A Telugu Minority Institution)

1.3.2 List of Students Under taking Project work/Mini project/ Internship For the Academic Year 2022-2023

Program Name: CIVIL ENGINEERING

PROJECT BATCH LIST 2022-2023

BATCH	REG NUMBER	STUDENT NAME	PROJECT TITLE	INTERNAL GUIDE
I	112419103002	Angel s	An experimental investigation on High strength concrete with metakaolin and glass fiber	MrUdhayakumar
	112419103004	Dineshkumar m		
	112419103008	Tamilarasi s		
	112419103304	Rajesh s		
II	112419103005	Naveen s	An experimental study on Nano Silica in Self compacting concrete	MrUdhayakumar
	112419103006	Prasath g c		
	112419103302	Prabinkathayat		
	112419103303	Pughazhendi s		
III	112419103007	Raghul r	Stabilization of clayey soil using steel slag	MrUdhayakumar
	112419103003	Awichalkumarsingh		
	112419103301	Govarathanan k p		
	112419103001	Ajay j		



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STABILIZATION OF CLAYEY SOIL USING STEEL SLAG

A PROJECT REPORT

Submitted by

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R. RAHUL	-	112419103007
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in partial fulfillment for the award of the degree

of

BACHELOR OF ENGINEERING

in

CIVIL ENGINEERING

SRI VENKATESWARA COLLEGE OF ENGINEERING AND TECHNOLOGY

THIRUPACHUR – 631203



ANNA UNIVERSITY, CHENNAI – 600025

MAY 2023



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BONAFIDE CERTIFICATE

This is to certify that this project report on “STABILIZATION OF CLAYEY SOIL USING STEEL SLAG” is the bonafide work of J.AJAY(112419103001), AWICHAL KUMAR SINGH (112419103003), R. RAHUL (112419103007), GOVARDHANAN K.P (112419103301). Who carried out project work under my supervision.

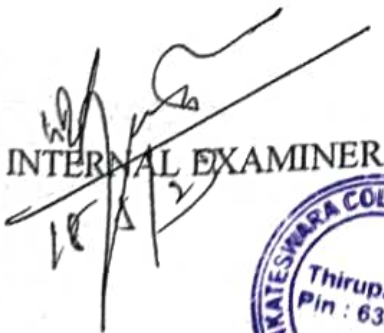

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INTERNAL EXAMINER




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ACKNOWLEDGEMENT

We express our gratitude to our beloved chairman **Mr. S.K.PURUSOTHAMAN , Ph.D.** and the management team for having provided us with splendid infrastructure, well qualified and experienced faculty and adequate laboratory facilities throughout the course of our study.

We also owe our regards to our Principal, **Dr. S. PALANI, M.E., Ph.D.**, for giving us spontaneous and whole support and encouragement during the course in the department of Civil Engineering.

We express our sincere gratitude to **Mr. B. UDHAYA KUMAR, M.E.**, Head of the department of Civil engineering for his encouragement for the completion of this project.

We express our sense of gratitude to **Mr. B. UDHAYA KUMAR, M.E.**, our design project guide, for his kind encouragement, expert guidance, inspiring discussions and keen interest shown throughout the course of his project work . we are much indebted to our project guide as he had spared his valuable time in bringing out this project successfully.

We also sincerely thank all our department faculty members, teaching, and non-teaching staffs of **SRI VENKATESWARA COLLEGE OF ENGINEERING AND TECHNOLOGY** for all the technical guidance and support during our project.

Our sincere and heartfelt thanks to students of the department of Civil Engineering for their constant encouragement and supporting accomplishing our design project in time.



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ABSTRACT

In modern days, engineers have to face different kinds of problems like construct heavy structure, heavy mobility. But some places on earth soil have poor engineering properties like bad workability, low bearing capacity and strong compressibility.

So in order to improve the strength of soil, add some stabilizers. The aim of this study is to improve the engineering properties of soil using steel slag.

Black cotton soils are poor in strength and they will result in poor pavement support and ultimately affects the pavement performance and its life period. Specimens are prepared to know the properties of soil with percentage of 16% , 20% and 24% of steel slag mixture passed through 180 micron and 300 micron sieve.

Standard proctor test, unconfined compressive strength, liquid limit and plastic limit tests are performed to analysis compressive strength, Maximum Dry Density (MDD) and optimum moisture content (OMC) of soil mixture.

KEYWORDS: OMC, MDD, UCS and steel slag.



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CHAPTER 6

CONCLUSION

- In this project the soil is stabilized using the steel slag for various percentage like 16% , 20% and 24% .
- In this the soil gets maximum stabilizes by the addition of 20% of steel slag and it gets reduced at 24% of steel slag.
- Thus the soil is stabilized using steel slag and thus the standard proctors and others tests have been carried and the comparative results have been represented using the line chart.



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AN EXPERIMENTAL STUDY ON NANO SILICA IN SELF COMPACTING CONCRETE

A PROJECT REPORT

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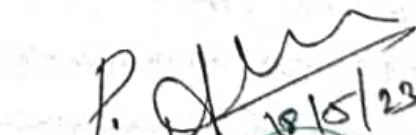
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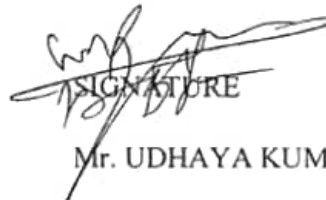
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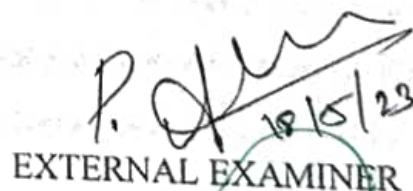
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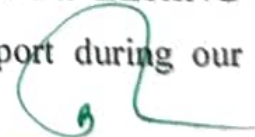
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ABSTRACT

Concrete is the most common used material for construction and their designs consumes almost the total cement production in the world. The use of large quantities of cement increases CO₂ emissions, and as a consequence the greenhouse effect. A road to reduce the cement content in concrete mixes is the use of Nano silica fines. In this study, different mix ratios of self compacting concrete such as 0%,1%,2%,3%,4% were casted and tested for 7 and 28 days, for the selected mix, the fresh concrete properties such as slump flow, L - box, V - funnel, U - box and hardened concrete properties such as compressive, flexural strength and tensile strength were tested for curing condition at short and long term.



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CHAPTER 5

CONCLUSION

The study dealing with the Nano silica in Self compacting concrete.

- Use of 2% Nano silica in SCC, it increases in compressive strength, flexural strength, split tensile strength about 11.93%, 10.51%, 13.01% respectively.
- Use of 3% Nano silica in SCC, it increases in compressive strength, flexural strength, split tensile strength about 18.8%, 16.01%, 23% respectively.
- But the use of Nano silica in SCC, it decreases in compressive strength, flexural strength, split tensile strength 0.4%, 1.29%, 14.4% compared with 3% addition of Nano silica in SCC respectively.
- The durability test conducted on 3% addition of Nano silica in SCC shows that more acid resistance compared with conventional concrete.
- Environmentally does not affect because emission control when compare with other normal concrete the durability will be more.



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AN EXPERIMENTAL INVESTIGATION ON HIGH STRENGTH CONCRETE WITH METAKAOLIN AND GLASS FIBRE

A PROJECT REPORT

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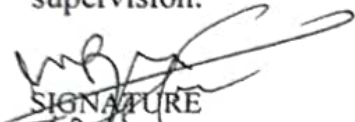
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CHAPTER 5

CONCLUSION

The following are the conclusions:

The Study clearly indicates that 1 percentage of replacement metakaolin by cement and 1 percentage fine aggregate by glass fibre , Metakaolin and glass fiber is encouraging and the compressive strength is higher than the conventional concrete. This glass fiber gives more tensile strength when compared to others. In this weird world spending amount for the construction is increasing day by day. But the rate of glass fiber is very high when compared to other materials. but adding upon only small amount gives us more tensile strength. If glass fiber is added in excess amount it may result if failure of the structure. According to AR glass fiber it gives max strength when added with of about 90-100gm per gram of cement



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