

(54) Title of the invention : CONCRETE COMPOSITION UTILIZING GRANITE WASTE AND M-SAND FOR ENHANCED STRENGTH

(51) International classification	:C04B0028040000, C04B0028020000, C04B0018140000, C04B0018100000, C04B0111000000	(71)Name of Applicant : 1)HINDUSTHAN COLLEGE OF ENGINEERING AND TECHNOLOGY Address of Applicant :HINDUSTHAN COLLEGE OF ENGINEERING AND TECHNOLOGY, VALLEY CAMPUS,POLLACHI HIGHWAY,COIMBATORE,TAMILNADU,INDIA. PIN:641032 9894094930 principal@hicet.ac.in ----- Name of Applicant : NA Address of Applicant : NA
(86) International Application No	:NA	(72)Name of Inventor : 1)Dr. Akil K Address of Applicant :Professor and Head/ Civil Hindusthan College of Engineering and Technology Valley Campus, Pollachi Highway Coimbatore Tamilnadu India 641032 -----
Filing Date	:NA	2)Sakthivel R Address of Applicant :Professor and Head/ Civil Hindusthan College of Engineering and Technology Valley Campus, Pollachi Highway Coimbatore Tamilnadu India 641032 -----
(87) International Publication No	: NA	3)Parthasaarathi R Address of Applicant :Professor and Head/ Civil Hindusthan College of Engineering and Technology Valley Campus, Pollachi Highway Coimbatore Tamilnadu India 641032 -----
(61) Patent of Addition to Application Number	:NA	4)Madhavan G R Address of Applicant :Professor and Head/ Civil Hindusthan College of Engineering and Technology Valley Campus, Pollachi Highway Coimbatore Tamilnadu India 641032 -----
Filing Date	:NA	5)Marudhu Vignesh V Address of Applicant :Professor and Head/ Civil Hindusthan College of Engineering and Technology Valley Campus, Pollachi Highway Coimbatore Tamilnadu India 641032 -----
(62) Divisional to Application Number	:NA	6)Mohana Prasath S Address of Applicant :Professor and Head/ Civil Hindusthan College of Engineering and Technology Valley Campus, Pollachi Highway Coimbatore Tamilnadu India 641032 -----
Filing Date	:NA	7)Sheemen D Address of Applicant :Professor and Head/ Civil Hindusthan College of Engineering and Technology Valley Campus, Pollachi Highway Coimbatore Tamilnadu India 641032 -----

(57) Abstract :
Abstract: This invention introduces a novel concrete composition incorporating granite waste, M-Sand, and Rice Husk Ash to enhance compressive strength and sustainability. Traditional concrete relies on natural sand, which is increasingly scarce, necessitating alternative fine aggregates. The proposed mix replaces 25% of M-Sand with granite waste and includes 10% Rice Husk Ash as a Mineral admixture. Designed as per IS 10262-2019 standards, the mix maintains a water-cement ratio of 0.43, ensuring optimal hydration and strength development. Experimental results demonstrate an increase in compressive strength compared to conventional concrete: 4.0% at 7 days, 15.4% at 14 days, and 20.3% at 28 days. The mix reduces environmental impact by utilizing industrial waste while maintaining superior performance. This eco-friendly and cost-effective composition is suitable for structural applications, offering a viable solution to address material shortages in the construction industry. The invention presents an optimized, high-strength alternative for sustainable concrete development.

No. of Pages : 6 No. of Claims : 1

(54) Title of the invention : SUSTAINABLE PAVING BLOCKS USING GLASS POWDER AND COCONUT SHELL

(51) International classification :C04B0111000000, C04B0028020000, E01C0005060000, E01C0005220000, C04B0028040000 (86) International Application No :NA Filing Date :NA (87) International Publication No :NA (61) Patent of Addition to Application Number :NA Filing Date :NA (62) Divisional to Application Number :NA Filing Date :NA	(71)Name of Applicant : 1)HINDUSTHAN COLLEGE OF ENGINEERING AND TECHNOLOGY Address of Applicant :HINDUSTHAN COLLEGE OF ENGINEERING AND TECHNOLOGY,VALLEY CAMPUS,POLLACHI HIGHWAY,COIMBATORE,TAMILNADU,INDIA. PIN:641032 9894094930 principal@hicet.ac.in ----- Name of Applicant : NA Address of Applicant : NA (72)Name of Inventor : 1)Dr. Akil K Address of Applicant :HINDUSTHAN COLLEGE OF ENGINEERING AND TECHNOLOGY,VALLEY CAMPUS,POLLACHI HIGHWAY,COIMBATORE,TAMILNADU,INDIA. PIN:641032 9894094930 principal@hicet.ac.in ----- 2)Sakthivel R Address of Applicant :HINDUSTHAN COLLEGE OF ENGINEERING AND TECHNOLOGY,VALLEY CAMPUS,POLLACHI HIGHWAY,COIMBATORE,TAMILNADU,INDIA. PIN:641032 ----- 3)Parthasaarathi R Address of Applicant :HINDUSTHAN COLLEGE OF ENGINEERING AND TECHNOLOGY,VALLEY CAMPUS,POLLACHI HIGHWAY,COIMBATORE,TAMILNADU,INDIA. PIN:641032 ----- 4)Muhammed Safvan K Address of Applicant :HINDUSTHAN COLLEGE OF ENGINEERING AND TECHNOLOGY,VALLEY CAMPUS,POLLACHI HIGHWAY,COIMBATORE,TAMILNADU,INDIA. PIN:641032 ----- 5)Sayyid Mubaris Hashim Address of Applicant :HINDUSTHAN COLLEGE OF ENGINEERING AND TECHNOLOGY,VALLEY CAMPUS,POLLACHI HIGHWAY,COIMBATORE,TAMILNADU,INDIA. PIN:641032 ----- 6)Amritha M Address of Applicant :HINDUSTHAN COLLEGE OF ENGINEERING AND TECHNOLOGY,VALLEY CAMPUS,POLLACHI HIGHWAY,COIMBATORE,TAMILNADU,INDIA. PIN:641032 ----- 7)Ashish K Babu Address of Applicant :HINDUSTHAN COLLEGE OF ENGINEERING AND TECHNOLOGY,VALLEY CAMPUS,POLLACHI HIGHWAY,COIMBATORE,TAMILNADU,INDIA. PIN:641032 -----
---	--

(57) Abstract :
This project explores the potential of utilizing waste materials— glass powder and coconut shells—as partial replacements for cement and coarse aggregate, respectively, in the production of concrete paving blocks. With millions of tons of glass waste globally and significant quantities of coconut shell waste in India, their disposal presents considerable environmental challenges. Glass, primarily composed of silica, and coconut shells, a lightweight, non- biodegradable material, offer a sustainable alternative for construction materials when repurposed. In this study, concrete paver blocks were produced by replacing cement with 8%, 10%, and 12% glass powder, and coarse aggregate with 4%, 6%, and 8% coconut shells. A total of 12 blocks were cast, including control specimens. The compressive strength was tested on the 7th and 28th days, achieving a maximum strength of 57.14 N/mm2, consistent across all mixes. Water absorption values for the modified blocks ranged from 1.42% to 3.95%, adhering to IS 15658:2006 standards which permit a maximum absorption of 6%. The findings reveal that the replacement mixes not only achieve equivalent compressive strength but also exhibit reduced water absorption in some cases, enhancing durability. Cost analysis shows a reduction in cost per block with increasing replacement percentages, making this method both economically and environmentally viable. This study underscores the potential of leveraging industrial and agricultural waste materials to develop sustainable construction products, offering a promising approach for eco-friendly infrastructure development.

No. of Pages : 6 No. of Claims : 3

(12) PATENT APPLICATION PUBLICATION

(19) INDIA

(22) Date of filing of Application :29/04/2025

(21) Application No.202541041116 A

(43) Publication Date : 30/05/2025

(54) Title of the invention : AUTOCLAVED AERATED CONCRETE(AAC)BLOCKS INCORPORATING CONSTRUCTION AND DEMOLITION WASTE

(51) International classification :C04B0111400000, C04B0111280000, C04B0018140000, C04B0028020000, C04B0028000000 (86) International Application No :NA Filing Date :NA (87) International Publication No : NA (61) Patent of Addition to Application Number :NA Filing Date :NA (62) Divisional to Application Number :NA Filing Date :NA	(71)Name of Applicant : 1)HINDUSTHAN COLLEGE OF ENGINEERING AND TECHNOLOGY Address of Applicant :HINDUSTHAN COLLEGE OF ENGINEERING AND TECHNOLOGY,VALLEY CAMPUS,POLLACHI HIGHWAY,COIMBATORE,TAMILNADU,INDIA. PIN:641032 9894094930 principal@hicet.ac.in ----- Name of Applicant : NA Address of Applicant : NA (72)Name of Inventor : 1)Dr. A kil K Address of Applicant :HINDUSTHAN COLLEGE OF ENGINEERING AND TECHNOLOGY,VALLEY CAMPUS,POLLACHI HIGHWAY,COIMBATORE,TAMILNADU,INDIA. PIN:641032 9894094930 principal@hicet.ac.in ----- 2)Sakthivel R Address of Applicant :HINDUSTHAN COLLEGE OF ENGINEERING AND TECHNOLOGY,VALLEY CAMPUS,POLLACHI HIGHWAY,COIMBATORE,TAMILNADU,INDIA. PIN:641032 9894094930 principal@hicet.ac.in ----- 3)Parthasaarathi R Address of Applicant :HINDUSTHAN COLLEGE OF ENGINEERING AND TECHNOLOGY,VALLEY CAMPUS,POLLACHI HIGHWAY,COIMBATORE,TAMILNADU,INDIA. PIN:641032 9894094930 principal@hicet.ac.in ----- 4)Dhinesh Kumar R Address of Applicant :HINDUSTHAN COLLEGE OF ENGINEERING AND TECHNOLOGY,VALLEY CAMPUS,POLLACHI HIGHWAY,COIMBATORE,TAMILNADU,INDIA. PIN:641032 9894094930 principal@hicet.ac.in ----- 5)Nivetha K Address of Applicant :HINDUSTHAN COLLEGE OF ENGINEERING AND TECHNOLOGY,VALLEY CAMPUS,POLLACHI HIGHWAY,COIMBATORE,TAMILNADU,INDIA. PIN:641032 9894094930 principal@hicet.ac.in ----- 6)Pauldhilipan P Address of Applicant :HINDUSTHAN COLLEGE OF ENGINEERING AND TECHNOLOGY,VALLEY CAMPUS,POLLACHI HIGHWAY,COIMBATORE,TAMILNADU,INDIA. PIN:641032 9894094930 principal@hicet.ac.in ----- 7)Mohammad Hussain Address of Applicant :HINDUSTHAN COLLEGE OF ENGINEERING AND TECHNOLOGY,VALLEY CAMPUS,POLLACHI HIGHWAY,COIMBATORE,TAMILNADU,INDIA. PIN:641032 9894094930 principal@hicet.ac.in -----
---	---

(57) Abstract :
Abstract: This invention presents a sustainable approach to manufacturing Autoclaved Aerated Concrete (AAC) blocks by incorporating construction and demolition (C&D) waste as a partial replacement for fine aggregates. The optimized mix design replaces 5%-25% of natural sand with processed C&D waste, reducing environmental impact while maintaining the lightweight, thermal insulation, and fire resistance properties of AAC blocks. The composition includes OPC 53 grade cement, lime powder, gypsum, aluminum powder, and fly ash, ensuring high strength and durability. Experimental results indicate a compressive strength increase of up to 9.2% compared to conventional AAC blocks, with an optimal density of 650 kg/m3. The controlled aeration process and high-pressure autoclaving contribute to structural efficiency and sustainability. This innovation provides a cost-effective, eco-friendly alternative for modern construction, minimizing landfill waste while enhancing building performance.

No. of Pages : 6 No. of Claims : 1

(12) PATENT APPLICATION PUBLICATION

(19) INDIA

(22) Date of filing of Application :29/04/2025

(21) Application No.202541041117 A

(43) Publication Date : 30/05/2025

(54) Title of the invention : CONCRETE COMPOSITION UTILIZING BASALT AND COIR FIBERS FOR ENHANCED STRENGTH

(51) International classification :E04C0005070000, C08J0005040000, C04B0020000000, C04B0014380000, C04B0020060000
(86) International Application No :NA
Filing Date :NA
(87) International Publication No : NA
(61) Patent of Addition to Application Number :NA
Filing Date :NA
(62) Divisional to Application Number :NA
Filing Date :NA

(71)Name of Applicant :

1)HINDUSTHAN COLLEGE OF ENGINEERING AND TECHNOLOGY

Address of Applicant :HINDUSTHAN COLLEGE OF ENGINEERING AND TECHNOLOGY, VALLEY CAMPUS, POLLACHI
HIGHWAY, COIMBATORE, TAMILNADU, INDIA. PIN:641032 9894094930
principal@hicet.ac.in -----

Name of Applicant : NA

Address of Applicant : NA

(72)Name of Inventor :

1)Dr. Akil K

Address of Applicant :HINDUSTHAN COLLEGE OF ENGINEERING AND TECHNOLOGY, VALLEY CAMPUS, POLLACHI
HIGHWAY, COIMBATORE, TAMILNADU, INDIA. PIN:641032 9894094930
principal@hicet.ac.in -----

2)Sakthivel R

Address of Applicant :HINDUSTHAN COLLEGE OF ENGINEERING AND TECHNOLOGY, VALLEY CAMPUS, POLLACHI
HIGHWAY, COIMBATORE, TAMILNADU, INDIA. PIN:641032 -----

3)Parthasaarathi R

Address of Applicant :HINDUSTHAN COLLEGE OF ENGINEERING AND TECHNOLOGY, VALLEY CAMPUS, POLLACHI
HIGHWAY, COIMBATORE, TAMILNADU, INDIA. PIN:641032 9894094930
principal@hicet.ac.in -----

4)Pandi M

Address of Applicant :HINDUSTHAN COLLEGE OF ENGINEERING AND TECHNOLOGY, VALLEY CAMPUS, POLLACHI
HIGHWAY, COIMBATORE, TAMILNADU, INDIA. PIN:641032 -----

5)Prasanth S

Address of Applicant :HINDUSTHAN COLLEGE OF ENGINEERING AND TECHNOLOGY, VALLEY CAMPUS, POLLACHI
HIGHWAY, COIMBATORE, TAMILNADU, INDIA. PIN:641032 9894094930 -----

6)Sonu Prabu T

Address of Applicant :HINDUSTHAN COLLEGE OF ENGINEERING AND TECHNOLOGY, VALLEY CAMPUS, POLLACHI
HIGHWAY, COIMBATORE, TAMILNADU, INDIA. PIN:641032 9894094930 -----

7)Nandu G

Address of Applicant :HINDUSTHAN COLLEGE OF ENGINEERING AND TECHNOLOGY, VALLEY CAMPUS, POLLACHI
HIGHWAY, COIMBATORE, TAMILNADU, INDIA. PIN:641032 9894094930
principal@hicet.ac.in -----

(57) Abstract :

Abstract: This invention presents a novel concrete composition reinforced with basalt and coir fibers to enhance mechanical properties while promoting sustainability. Conventional concrete has high compressive strength but low tensile strength; thus, fiber reinforcement improves overall performance. The study investigates the effects of basalt and coir fibers on compressive strength, split tensile strength, and flexural strength of M25 grade concrete. Experimental results show that the inclusion of 2.0% basalt and coir fibers provides optimal compressive strength, with a 6.7% increase compared to conventional concrete at 28 days. Similarly, split tensile and flexural strength show improvements of 3.3% and 3.4%, respectively. The fiber-reinforced concrete also reduces unit weight while maintaining strength, making it suitable for lightweight applications. Additionally, the use of natural fibers minimizes environmental impact by utilizing biodegradable and recyclable materials. This invention offers an eco-friendly, high-performance alternative to traditional concrete, with enhanced durability and mechanical efficiency.

No. of Pages : 7 No. of Claims : 1

(12) PATENT APPLICATION PUBLICATION

(21) Application No.202541041118 A

(19) INDIA

(22) Date of filing of Application :29/04/2025

(43) Publication Date : 30/05/2025

(54) Title of the invention : BUILDING BLOCKS USING GRANITE WASTE FOR SUSTAINABLE CONSTRUCTION

(51) International classification :C04B0028040000, C04B0014040000, C04B0028020000, B32B0027300000, C04B0018020000 (86) International Application No :NA Filing Date :NA (87) International Publication No : NA (61) Patent of Addition to Application Number :NA Filing Date :NA (62) Divisional to Application Number :NA Filing Date :NA	(71)Name of Applicant : 1)HINDUSTHAN COLLEGE OF ENGINEERING AND TECHNOLOGY Address of Applicant :HINDUSTHAN COLLEGE OF ENGINEERING AND TECHNOLOGY,VALLEY CAMPUS,POLLACHI HIGHWAY,COIMBATORE,TAMILNADU,INDIA. PIN:641032 9894094930 principal@hiket.ac.in ----- Name of Applicant : NA Address of Applicant : NA (72)Name of Inventor : 1)Dr. Akil K Address of Applicant :HINDUSTHAN COLLEGE OF ENGINEERING AND TECHNOLOGY,VALLEY CAMPUS,POLLACHI HIGHWAY,COIMBATORE,TAMILNADU,INDIA. PIN:641032 9894094930 principal@hiket.ac.in ----- 2)Sakthivel R Address of Applicant :HINDUSTHAN COLLEGE OF ENGINEERING AND TECHNOLOGY,VALLEY CAMPUS,POLLACHI HIGHWAY,COIMBATORE,TAMILNADU,INDIA. PIN:641032 9894094930 principal@hiket.ac.in ----- 3)Parthasaarathi R Address of Applicant :HINDUSTHAN COLLEGE OF ENGINEERING AND TECHNOLOGY,VALLEY CAMPUS,POLLACHI HIGHWAY,COIMBATORE,TAMILNADU,INDIA. PIN:641032 9894094930 principal@hiket.ac.in ----- 4)Dhayanantha Selvan B Address of Applicant :HINDUSTHAN COLLEGE OF ENGINEERING AND TECHNOLOGY,VALLEY CAMPUS,POLLACHI HIGHWAY,COIMBATORE,TAMILNADU,INDIA. PIN:641032 9894094930 principal@hiket.ac.in ----- 5)Kishore B Address of Applicant :HINDUSTHAN COLLEGE OF ENGINEERING AND TECHNOLOGY,VALLEY CAMPUS,POLLACHI HIGHWAY,COIMBATORE,TAMILNADU,INDIA. PIN:641032 9894094930 ----- ----- 6)Muhilan M Address of Applicant :HINDUSTHAN COLLEGE OF ENGINEERING AND TECHNOLOGY,VALLEY CAMPUS,POLLACHI HIGHWAY,COIMBATORE,TAMILNADU,INDIA. PIN:641032 9894094930 ----- ----- 7)Santhosh A G Address of Applicant :HINDUSTHAN COLLEGE OF ENGINEERING AND TECHNOLOGY,VALLEY CAMPUS,POLLACHI HIGHWAY,COIMBATORE,TAMILNADU,INDIA. PIN:641032 9894094930 ----- -----
--	---

(57) Abstract :
This study explores the use of granite waste in manufacturing solid blocks as an eco-friendly alternative to natural sand. Various mix proportions were tested by replacing fine aggregate with 0%, 25%, 50%, 75%, and 100% granite waste. The blocks were evaluated for compressive strength, water absorption, and workability. The results indicate that 50% granite waste replacement achieved the highest compressive strength, beyond which strength declined. The optimum water absorption percentage was also observed at 50% replacement, ensuring better durability. Workability improved significantly at this proportion, achieving the maximum slump value compared to other mixes. This research confirms that replacing 50% of fine aggregate with granite waste provides the best balance of strength, durability, and workability. The findings contribute to sustainable construction by reducing reliance on natural sand and effectively utilizing industrial waste.

No. of Pages : 6 No. of Claims : 4

(54) Title of the invention : EXPERIMENTAL INVESTIGATION OF BASALT AND PET FIBRE REINFORCED CONCRETE

		(71)Name of Applicant : 1)HINDUSTHAN COLLEGE OF ENGINEERING AND TECHNOLOGY Address of Applicant :HINDUSTHAN COLLEGE OF ENGINEERING AND TECHNOLOGY,VALLEY CAMPUS,POLLACHI HIGHWAY,COIMBATORE,TAMILNADU,INDIA. PIN:641032 ----- Name of Applicant : NA Address of Applicant : NA (72)Name of Inventor : 1)Dr. Akil K Address of Applicant :HINDUSTHAN COLLEGE OF ENGINEERING AND TECHNOLOGY,VALLEY CAMPUS,POLLACHI HIGHWAY,COIMBATORE,TAMILNADU,INDIA. PIN:641032 ----- 2)Sakthivel R Address of Applicant :HINDUSTHAN COLLEGE OF ENGINEERING AND TECHNOLOGY,VALLEY CAMPUS,POLLACHI HIGHWAY,COIMBATORE,TAMILNADU,INDIA. PIN:641032 ----- 3)Parthasaarathi R Address of Applicant :HINDUSTHAN COLLEGE OF ENGINEERING AND TECHNOLOGY,VALLEY CAMPUS,POLLACHI HIGHWAY,COIMBATORE,TAMILNADU,INDIA. PIN:641032 ----- 4)Arun S Address of Applicant :HINDUSTHAN COLLEGE OF ENGINEERING AND TECHNOLOGY,VALLEY CAMPUS,POLLACHI HIGHWAY,COIMBATORE,TAMILNADU,INDIA. PIN:641032 ----- 5)Devaraj B Address of Applicant :HINDUSTHAN COLLEGE OF ENGINEERING AND TECHNOLOGY,VALLEY CAMPUS,POLLACHI HIGHWAY,COIMBATORE,TAMILNADU,INDIA. PIN:641032 ----- 6)Vignesh Kumaran R Address of Applicant :HINDUSTHAN COLLEGE OF ENGINEERING AND TECHNOLOGY,VALLEY CAMPUS,POLLACHI HIGHWAY,COIMBATORE,TAMILNADU,INDIA. PIN:641032 ----- 7)Selvam P Address of Applicant :HINDUSTHAN COLLEGE OF ENGINEERING AND TECHNOLOGY,VALLEY CAMPUS,POLLACHI HIGHWAY,COIMBATORE,TAMILNADU,INDIA. PIN:641032 -----
(51) International classification	:C04B0028040000, E04C0005070000, B29B0017000000, C04B0028020000, C08J0005040000	
(86) International Application No	:NA	
Filing Date	:NA	
(87) International Publication No	: NA	
(61) Patent of Addition to Application Number	:NA	
Filing Date	:NA	
(62) Divisional to Application Number	:NA	
Filing Date	:NA	

(57) Abstract :
The present invention introduces an innovative concrete composition integrating basalt fibers and polyethylene terephthalate (PET) waste fibers to enhance mechanical strength, durability, and environmental sustainability. PET fibers, derived from recycled plastic waste, provide an eco-friendly reinforcement, while basalt fibers significantly improve tensile and compressive strength. This optimized fiber blend, with 1% basalt fibers and 0.5% PET fibers by volume, results in a concrete mix with superior mechanical performance compared to conventional concrete. Experimental investigations reveal that the inclusion of these fibers enhances compressive strength by approximately 15%. while also improving flexural strength and reducing permeability. Standardized tests, including compressive strength, split tensile strength, and slump tests, validate the improved structural properties of the proposed fiber- reinforced concrete. Additionally, the novel composition effectively mitigates plastic waste disposal challenges while offering a cost-effective and durable alternative to traditional reinforcement methods. The incorporation of PET fibers reduces shrinkage and cracking, while basalt fibers enhance the material's fire and corrosion resistance. This innovation provides a sustainable, high-performance concrete solution suitable for modern construction applications, addressing both structural reliability and,environmental concerns. The optimized composition ensures enhanced longevity, reduced maintenance, and greater sustainability in construction projects.

No. of Pages : 6 No. of Claims : 5

(12) PATENT APPLICATION PUBLICATION

(19) INDIA

(22) Date of filing of Application :11/04/2023

(21) Application No.202341026667 A

(43) Publication Date : 05/05/2023

(54) Title of the invention : EXPERIMENTAL STUDY ON SISAL FIBER REINFORCED CONCRETE

(51) International classification :A01K 150200, C04B 033000, E04H 121200, G01M 090600, G01N 170000
(86) International Application No :NA
Filing Date :NA
(87) International Publication No : NA
(61) Patent of Addition to Application Number :NA
Filing Date :NA
(62) Divisional to Application Number :NA
Filing Date :NA

(71)Name of Applicant :

1)HINDUSTHAN COLLEGE OF ENGINEERING AND TECHNOLOGY

Address of Applicant :HINDUSTHAN COLLEGE OF ENGINEERING AND TECHNOLOGY, VALLEY CAMPUS, POLLACHI HIGHWAY, COIMBATORE, TAMILNADU, INDIA 641032. -----

Name of Applicant : NA

Address of Applicant : NA

(72)Name of Inventor :

1)DR. K. AKIL

Address of Applicant :PROFESSOR & HEAD -CIVIL, HINDUSTHAN COLLEGE OF ENGINEERING AND TECHNOLOGY, VALLEY CAMPUS, POLLACHI HIGHWAY, COIMBATORE, TAMILNADU, INDIA 641032. -----

2)MR. M. DINESH KUMAR

Address of Applicant :ASSISTANT PROFESSOR -CIVIL, HINDUSTHAN COLLEGE OF ENGINEERING AND TECHNOLOGY, VALLEY CAMPUS, POLLACHI HIGHWAY, COIMBATORE, TAMILNADU, INDIA 641032. -----

3)MR. K. SELLAKUMAR

Address of Applicant :ASSISTANT PROFESSOR -CIVIL, HINDUSTHAN COLLEGE OF ENGINEERING AND TECHNOLOGY, VALLEY CAMPUS, POLLACHI HIGHWAY, COIMBATORE, TAMILNADU, INDIA 641032. -----

4)MR. M. SHIVAKUMAR

Address of Applicant :HINDUSTHAN COLLEGE OF ENGINEERING AND TECHNOLOGY, VALLEY CAMPUS, POLLACHI HIGHWAY, COIMBATORE, TAMILNADU, INDIA 641032. -----

5)MR. S. THOUFIQAHAMED

Address of Applicant :HINDUSTHAN COLLEGE OF ENGINEERING AND TECHNOLOGY, VALLEY CAMPUS, POLLACHI HIGHWAY, COIMBATORE, TAMILNADU, INDIA 641032. -----

6)MR. R. VISHNUVARDHAN

Address of Applicant :HINDUSTHAN COLLEGE OF ENGINEERING AND TECHNOLOGY, VALLEY CAMPUS, POLLACHI HIGHWAY, COIMBATORE, TAMILNADU, INDIA 641032. -----

(57) Abstract :

ANNEXURE-III The project's goal is to assess the compressive, tensile, and flexural strengths of concrete as well as the strength of sisal fibre reinforced concrete (SFRC), which uses sisal fibre as a reinforcement material. Sisal fibre is a material that is widely accessible and can be used to create reinforced concrete. In this project, sisal fibre is added as 0.5%, 1%, or 1.5% of the mass of cement to the nominal M25 grade concrete. The concrete samples underwent standard moist curing at room temperature. At days 7, 14, and 28, the compressive, flexural, and tensile strengths were assessed. The optimal percentage of sisal fibre addition to concrete is discovered by comparing the strengths of regular M25 grade concrete with fibre reinforced concrete. Results indicate that sisal fiber-infused concrete has increased compressive strength and improved concrete durability.

No. of Pages : 5 No. of Claims : 1

(12) PATENT APPLICATION PUBLICATION

(21) Application No.202241030766 A

(19) INDIA

(22) Date of filing of Application :30/05/2022

(43) Publication Date : 10/06/2022

(54) Title of the invention : MANUFACTURE OF RUBCRETE SLAB

(51) International classification :C04B0018220000, E01C0007260000, C08J0011100000, E01C0011000000, C04B0014020000 (86) International Application No :NA Filing Date :NA (87) International Publication No : NA (61) Patent of Addition to Application Number :NA Filing Date :NA (62) Divisional to Application Number :NA Filing Date :NA	(71)Name of Applicant : 1)HINDUSTHAN COLLEGE OF ENGINEERING AND TECHNOLOGY Address of Applicant :VALLEY CAMPUS, POLLACHI HIGHWAY, COIMBATORE, TAMIL NADU, INDIA, PIN CODE-641032. ----- Name of Applicant : NA Address of Applicant : NA (72)Name of Inventor : 1)Dr. P. SUBASHREE Address of Applicant :ASSOCIATE PROFESSOR/CIVIL, HINDUSTHAN COLLEGE OF ENGINEERING AND TECHNOLOGY, VALLEY CAMPUS, POLLACHI HIGHWAY, COIMBATORE, TAMIL NADU, INDIA, PIN CODE-641032. --- ----- 2)Dr. K. AKIL Address of Applicant :PROFESSOR & HEAD/CIVIL, HINDUSTHAN COLLEGE OF ENGINEERING AND TECHNOLOGY, VALLEY CAMPUS, POLLACHI HIGHWAY, COIMBATORE, TAMIL NADU, INDIA, PIN CODE-641032. --- -----
---	--

(57) Abstract :

Rubberized concrete (Rubcrete) is created from scrap rubber tyres with partial replacement of fine aggregates by crumb rubber. Waste rubber tyres are harmful to the environment and it is estimated that only 4% is used in civil engineering applications. As fine aggregates are available in limited quantity, waste tyres can be utilized for partial replacement of fine aggregates in concrete. Preliminary concrete properties with partial replacement of fine aggregates by pre-treated crumb rubber in amounts of 10%, 15%, and 20% of the total weight of fine aggregates and addition of rubber fibres in proportions of 1%, 1.5% and 2% of the total weight of coarse aggregates were examined for M25 grade concrete. Rubberized concrete specimens were tested for workability, compressive strength, split tensile strength and flexural strength. Optimum percentage of fine aggregate replacement with crumb rubber and optimum proportion of rubber fibres were arrived. With the optimum values arrived, specimens of size 300mm x 300mm x 50mm was cast and tested for impact load. The number of blows required for the first crack and total slab collapse was determined. The characteristics were investigated. Hybrid rubberized concrete slab made of two layers, with rubber concrete on top and normal concrete at the bottom was investigated. Rubber concrete is used as the top layer as it absorbs more impact energy and conventional concrete is used as the bottom layer as it has better tensile strength. The energy absorption and ductility index of hybrid rubberized concrete slabs were found to be higher and showed better results. This hybrid rubberized concrete can be used where concrete surfaces are subjected to high impact loads such as roads, machine floors, etc. thereby improving the quality and performance of the surfaces. This reduces the risk of accidents also.

No. of Pages : 5 No. of Claims : 5

(12) PATENT APPLICATION PUBLICATION

(19) INDIA

(22) Date of filing of Application :05/07/2022

(21) Application No.202241038504 A

(43) Publication Date : 15/07/2022

(54) Title of the invention : METAL GRINDING DUST IN BRICK MANUFACTURING

(51) International classification :B28B0015000000, B28B0007000000, G06Q0010100000, B29L0031000000, B28B0001087000
(86) International Application No :NA
Filing Date :NA
(87) International Publication No : NA
(61) Patent of Addition to Application Number :NA
Filing Date :NA
(62) Divisional to Application Number :NA
Filing Date :NA

(71)Name of Applicant :
1)HINDUSTHAN COLLEGE OF ENGINEERING AND TECHNOLOGY

Address of Applicant :HINDUSTHAN COLLEGE OF ENGINEERING AND TECHNOLOGY, VALLEY CAMPUS, POLLACHI HIGHWAY, COIMBATORE, TAMILNADU, INDIA 641032. -----

Name of Applicant : NA

Address of Applicant : NA

(72)Name of Inventor :

1)MR.R.SAKTHIVEL

Address of Applicant :ASSISTANT PROFESSOR/CIVIL, HINDUSTHAN COLLEGE OF ENGINEERING AND TECHNOLOGY, VALLEY CAMPUS, POLLACHI HIGHWAY, COIMBATORE, TAMILNADU, INDIA 641032. -----

2)MR.R.PARTHASAARATHI

Address of Applicant :ASSISTANT PROFESSOR/CIVIL, HINDUSTHAN COLLEGE OF ENGINEERING AND TECHNOLOGY, VALLEY CAMPUS, POLLACHI HIGHWAY, COIMBATORE, TAMILNADU, INDIA 641032. -----

3)MR.M.DINESH KUMAR

Address of Applicant :ASSISTANT PROFESSOR/CIVIL, HINDUSTHAN COLLEGE OF ENGINEERING AND TECHNOLOGY, VALLEY CAMPUS, POLLACHI HIGHWAY, COIMBATORE, TAMILNADU, INDIA 641032. -----

4)MR.V.SURESH

Address of Applicant :ASSISTANT PROFESSOR/CIVIL, HINDUSTHAN COLLEGE OF ENGINEERING AND TECHNOLOGY, VALLEY CAMPUS, POLLACHI HIGHWAY, COIMBATORE, TAMILNADU, INDIA 641032. -----

(57) Abstract :

Annexure-3 The fundamentals of brick manufacturing have not changed over time.. However, technological advancements have made contemporary brick plants substantially more efficient and have improved the overall quality of the products. A more complete knowledge of raw materials and their properties, better control of firing, improved kiln designs and more advanced mechanization have all contributed to ' advancing the brick industry. Other Technical Notes in this series address the classification and selection of brick considering the use, exposure and required durability of the finished brickwork.

No. of Pages : 6 No. of Claims : 5

(12) PATENT APPLICATION PUBLICATION

(19) INDIA

(22) Date of filing of Application :05/07/2022

(21) Application No.202241038506 A

(43) Publication Date : 15/07/2022

(54) Title of the invention : PRECAST BUILDING STEEL TUBLER USING WASTE RECYCLING

(51) International classification :E04B0005040000, G06Q0050080000, G06Q0010060000, G06Q0010000000, B28B0015000000
(86) International Application No :NA
Filing Date :NA
(87) International Publication No : NA
(61) Patent of Addition to Application Number :NA
Filing Date :NA
(62) Divisional to Application Number :NA
Filing Date :NA

(71)Name of Applicant :

1)HINDUSTHAN COLLEGE OF ENGINEERING AND TECHNOLOGY

Address of Applicant :HINDUSTHAN COLLEGE OF ENGINEERING AND TECHNOLOGY, VALLEY CAMPUS, POLLACHI HIGHWAY, COIMBATORE, TAMILNADU, INDIA 641032. -----

Name of Applicant : NA

Address of Applicant : NA

(72)Name of Inventor :

1)MS.R.PRIYADHARSHINI

Address of Applicant :ASSISTANT PROFESSOR/CIVIL, HINDUSTHAN COLLEGE OF ENGINEERING AND TECHNOLOGY, VALLEY CAMPUS, POLLACHI HIGHWAY, COIMBATORE, TAMILNADU, INDIA 641032. -----

2)MR.R.PARTHASAARATHI

Address of Applicant :ASSISTANT PROFESSOR/CIVIL, HINDUSTHAN COLLEGE OF ENGINEERING AND TECHNOLOGY, VALLEY CAMPUS, POLLACHI HIGHWAY, COIMBATORE, TAMILNADU, INDIA 641032. -----

3)MR.R.SAKTHIVEL

Address of Applicant :ASSISTANT PROFESSOR/CIVIL, HINDUSTHAN COLLEGE OF ENGINEERING AND TECHNOLOGY, VALLEY CAMPUS, POLLACHI HIGHWAY, COIMBATORE, TAMILNADU, INDIA 641032. -----

4)MR.V.SURESH

Address of Applicant :ASSISTANT PROFESSOR/CIVIL, HINDUSTHAN COLLEGE OF ENGINEERING AND TECHNOLOGY, VALLEY CAMPUS, POLLACHI HIGHWAY, COIMBATORE, TAMILNADU, INDIA 641032. -----

(57) Abstract :

Annexure-3 The government of Malaysia has introduced Industrialized Building System (IBS) or commonly termed offsite construction in other countries to replace the conventional method of construction, as one of the initiatives to overcome the problems related to waste generation and negative environmental impact in the construction industry. There are few studies of the construction waste generation focus on-the offsite, particularly at precast production plant as compared to the construction site. This study aims to investigate the significant type of construction waste generated at precast concrete plants in Johor. In order to identify the type of waste generated in the process of manufacturing the precast concrete component, this study involved field observation to three precast concrete plants in Johor, together with analysing the selected organization's document on the waste generation and management record. Interviews were also conducted with the production man-ager/engineer to support the data collection process. The findings revealed that, the types of construction waste that commonly found in the precast concrete plants are concrete and steel. The most significant type of waste generated at precast concrete factory is concrete (total 1,298.56 tonnes for 3 factories, followed by 820 tonnes; 350 tonnes and 128.56 tonnes). This study provides useful information concerning waste assessment data to achieve a better understanding of construction waste in the precast concrete manufacturing industry.

No. of Pages : 6 No. of Claims : 5

(12) PATENT APPLICATION PUBLICATION

(21) Application No.202241038507 A

(19) INDIA

(22) Date of filing of Application :05/07/2022

(43) Publication Date : 15/07/2022

(54) Title of the invention : INTEGRATION OF PITCHER AND DRIP IRRIGATION SYSTEMS FOR EFFECTIVE WATER MANAGEMENT

(51) International classification :A01G0025020000, C02F0001280000, A61K0038000000, C02F0001000000, A01G0025000000 (86) International Application No :NA Filing Date :NA (87) International Publication No : NA (61) Patent of Addition to Application Number :NA Filing Date :NA (62) Divisional to Application Number :NA Filing Date :NA	(71)Name of Applicant : 1)HINDUSTHAN COLLEGE OF ENGINEERING AND TECHNOLOGY Address of Applicant :HINDUSTHAN COLLEGE OF ENGINEERING AND TECHNOLOGY, VALLEY CAMPUS, POLLACHI HIGHWAY, COIMBATORE, TAMILNADU, INDIA 641032. ----- Name of Applicant : NA Address of Applicant : NA (72)Name of Inventor : 1)K. AKILL Address of Applicant :PROFESSOR & HEAD/CIVIL, HINDUSTHAN COLLEGE OF ENGINEERING AND TECHNOLOGY, VALLEY CAMPUS, POLLACHI HIGHWAY, COIMBATORE, TAMILNADU, INDIA 641032. ----- 2)A.ALEX LIVINGSTON RAJA Address of Applicant :ASSISTANT PROFESSOR/CIVIL, HINDUSTHAN COLLEGE OF ENGINEERING AND TECHNOLOGY, VALLEY CAMPUS, POLLACHI HIGHWAY, COIMBATORE, TAMILNADU, INDIA 641032. ----- 3)K.SARASWATHI Address of Applicant :ASSISTANT PROFESSOR/CIVIL, HINDUSTHAN COLLEGE OF ENGINEERING AND TECHNOLOGY, VALLEY CAMPUS, POLLACHI HIGHWAY, COIMBATORE, TAMILNADU, INDIA 641032. ----- 4)R.SENTHIL KUMAR Address of Applicant :ASSISTANT PROFESSOR/CIVIL, HINDUSTHAN COLLEGE OF ENGINEERING AND TECHNOLOGY, VALLEY CAMPUS, POLLACHI HIGHWAY, COIMBATORE, TAMILNADU, INDIA 641032. -----
---	---

(57) Abstract :

Annexure-3 Integration of drip irrigation with pitcher irrigation can be even more cost and time effective as they reduce the manual work of refilling the pitchers, especially when adopted for large areas. As two or more plants can be planted around the periphery of the pitcher, it can considerably reduce the number of laterals and emitters, thereby reducing the initial cost. Water requirement can be regulated based on the number of pitchers per acre, type of the crop grown-, available quality of water and filling schedule. The laterals of the drip can be drawn below the ground level to reduce the physical damages and to increase the longevity of the pipes. Water stored in small tanks at a higher elevation can be used as a source for the drips to enable gravity flow thereby avoiding the usage of pumps. The pitchers have to be installed in such a way that its openings are at least a few inches above the ground level to prevent the entry of soil into it. The opening must be shut using an earthen lid after filling to prevent any loss of water due to evaporation. Organic fertilizers can be mixed and added along with the water if required.

No. of Pages : 5 No. of Claims : 5

(54) Title of the invention : RUBBERIZED HIGH FRACTURE RESISTANCE CONCRETE BARRIER FOR HIGHWAYS

(51) International classification :C04B0018220000, B60C0001000000, G01N0003300000, B29B0017000000, G01N0003480000

(86) International Application No :NA
Filing Date :NA

(87) International Publication No : NA

(61) Patent of Addition to Application Number :NA
Filing Date :NA

(62) Divisional to Application Number :NA
Filing Date :NA

(71)Name of Applicant :**1)HINDUSTHAN COLLEGE OF ENGINEERING AND TECHNOLOGY**

Address of Applicant :HINDUSTHAN COLLEGE OF ENGINEERING AND TECHNOLOGY, VALLEY CAMPUS, POLLACHI HIGHWAY, COIMBATORE, TAMILNADU, INDIA 641032. -----

Name of Applicant : NA**Address of Applicant : NA****(72)Name of Inventor :****1)DR.P.SUBASHREE**

Address of Applicant :ASSOCIATE PROFESSOR/CIVIL, HINDUSTHAN COLLEGE OF ENGINEERING AND TECHNOLOGY, VALLEY CAMPUS, POLLACHI HIGHWAY, COIMBATORE, TAMILNADU, INDIA 641032. -----

2)K. AKILL

Address of Applicant :PROFESSOR & HEAD/CIVIL, HINDUSTHAN COLLEGE OF ENGINEERING AND TECHNOLOGY, VALLEY CAMPUS, POLLACHI HIGHWAY, COIMBATORE, TAMILNADU, INDIA 641032. -----

3)MR.S.VIVEK

Address of Applicant :ASSISTANT PROFESSOR/CIVIL, HINDUSTHAN COLLEGE OF ENGINEERING AND TECHNOLOGY, VALLEY CAMPUS, POLLACHI HIGHWAY, COIMBATORE, TAMILNADU, INDIA 641032. -----

4)MR.K.SIDDHARTH

Address of Applicant :ASSISTANT PROFESSOR/CIVIL, HINDUSTHAN COLLEGE OF ENGINEERING AND TECHNOLOGY, VALLEY CAMPUS, POLLACHI HIGHWAY, COIMBATORE, TAMILNADU, INDIA 641032. -----

(57) Abstract :

Annexure-3 Waste tyre disposal is currently a serious waste management issue around the world. It was discovered that there are 1.2 billions of waste tyre rubber generated globally each year, with 11 percent of post-consumer tires being exported, 27 percent being sent to landfill, stockpiled, or illegally discarded, and only 4 percent being utilized for Civil Engineering projects. As a result, attempts have been made to identify waste tyre applications in civil engineering. Rubberized Concrete was created in this study by casting several concrete mixes including varied % substitutions of coarse and fine crumb rubber for normal particles. The mechanical parameters of standard specimens formed of this rubberized concrete, such as compressive strength and elastic modulus values, were determined. It has been projected that the best % replacement of fine and coarse crumb rubber mix will be found. Experiments were carried out till the flexural characteristics of rubberized concrete slab specimens measuring 100 mm x 500 mm were well understood. To determine the influence of rubber on energy dissipation, 500 mm x 500 mm slabs were cast and put through dynamic Impact drop tests. The test findings were validated using an analytical model for flexural and impact strength. The finished product would be ideal for concrete safety barriers that require high strength, fracture resistance, and energy dissipation.

No. of Pages : 5 No. of Claims : 5

(12) PATENT APPLICATION PUBLICATION

(19) INDIA

(22) Date of filing of Application :05/07/2022

(21) Application No.202241038509 A

(43) Publication Date : 15/07/2022

(54) Title of the invention : FIBER REINFORCED PRE STRESSED CONCRETE BEAM TO REBEL THREE LOAD FACTOR

(51) International classification :E01D0101260000, E04C0005010000, E04C0005070000, F27D0001000000, E04C0005160000
(86) International Application No :NA
Filing Date :NA
(87) International Publication No : NA
(61) Patent of Addition to Application Number :NA
Filing Date :NA
(62) Divisional to Application Number :NA
Filing Date :NA

(71)Name of Applicant :
1)HINDUSTHAN COLLEGE OF ENGINEERING AND TECHNOLOGY

Address of Applicant :HINDUSTHAN COLLEGE OF ENGINEERING AND TECHNOLOGY, VALLEY CAMPUS, POLLACHI HIGHWAY, COIMBATORE, TAMILNADU, INDIA 641032. -----

Name of Applicant : NA

Address of Applicant : NA

(72)Name of Inventor :

1)MR.R.PARTHASARATHI

Address of Applicant :ASSISTANT PROFESSOR/CIVIL, HINDUSTHAN COLLEGE OF ENGINEERING AND TECHNOLOGY, VALLEY CAMPUS, POLLACHI HIGHWAY, COIMBATORE, TAMILNADU, INDIA 641032. -----

2)MR.R.SAKTHIVEL

Address of Applicant :ASSISTANT PROFESSOR/CIVIL, HINDUSTHAN COLLEGE OF ENGINEERING AND TECHNOLOGY, VALLEY CAMPUS, POLLACHI HIGHWAY, COIMBATORE, TAMILNADU, INDIA 641032. -----

3)MS.R.PRIYADHARSHINI

Address of Applicant :ASSISTANT PROFESSOR/CIVIL, HINDUSTHAN COLLEGE OF ENGINEERING AND TECHNOLOGY, VALLEY CAMPUS, POLLACHI HIGHWAY, COIMBATORE, TAMILNADU, INDIA 641032. -----

4)MR.M.DINESHKUMAR

Address of Applicant :ASSISTANT PROFESSOR/CIVIL, HINDUSTHAN COLLEGE OF ENGINEERING AND TECHNOLOGY, VALLEY CAMPUS, POLLACHI HIGHWAY, COIMBATORE, TAMILNADU, INDIA 641032. -----

(57) Abstract :

Annexure-3 In general, prestressed concrete bridge beams are optimized In their cross-section dimensions to limit the dead weight of the structure. The slender web makes it even more difficult to place the. large amount of rebar's required for shear strength, confinement of concrete and anchorage zone reinforcement. Thus the anchorage .zone reinforcement becomes quite congested, which lends to difficulty in consolidating the concrete properly. Hence, the quality of concrete degrades at the end zones, again making it susceptible to cracking.' Moreover, it is also labor-intensive to produce and place the large amount of steel reinforcement in the end zone.

No. of Pages : 5 No. of Claims : 5

(54) Title of the invention : REUSE OF NON-BIODEGRADABLE SOLID WASTE AS A PARTIAL REPLACEMENT OF FINE AGGREGATE IN CONCRETE BLOCKS

(51) International classification :C04B0028020000, C04B0018160000, G01N0033380000, C04B0018220000, B09B0003000000
 (86) International Application No :NA
 Filing Date :NA
 (87) International Publication No : NA
 (61) Patent of Addition to Application Number :NA
 Filing Date :NA
 (62) Divisional to Application Number :NA
 Filing Date :NA

(71)Name of Applicant :**1)HINDUSTHAN COLLEGE OF ENGINEERING AND TECHNOLOGY**

Address of Applicant :HINDUSTHAN COLLEGE OF ENGINEERING AND TECHNOLOGY, VALLEY CAMPUS, POLLACHI HIGHWAY, COIMBATORE, TAMIL NADU, INDIA - 641032. -----

Name of Applicant : NA**Address of Applicant : NA****(72)Name of Inventor :****1)Dr. K. AKIL**

Address of Applicant :PROFESSOR & HEAD/CIVIL, HINDUSTHAN COLLEGE OF ENGINEERING AND TECHNOLOGY, VALLEY CAMPUS, POLLACHI HIGHWAY, COIMBATORE, TAMIL NADU, INDIA - 641032. -----

2)Mr. SAKTHIVEL R

Address of Applicant :ASSISTANT PROFESSOR/CIVIL, HINDUSTHAN COLLEGE OF ENGINEERING AND TECHNOLOGY, VALLEY CAMPUS, POLLACHI HIGHWAY, COIMBATORE, TAMIL NADU, INDIA - 641032. -----

3)Ms. SAKTHI SHREE R

Address of Applicant :HINDUSTHAN COLLEGE OF ENGINEERING AND TECHNOLOGY, VALLEY CAMPUS, POLLACHI HIGHWAY, COIMBATORE, TAMIL NADU, INDIA - 641032. -----

4)Mr. BHRUGUMALLA MANOJ

Address of Applicant :HINDUSTHAN COLLEGE OF ENGINEERING AND TECHNOLOGY, VALLEY CAMPUS, POLLACHI HIGHWAY, COIMBATORE, TAMIL NADU, INDIA - 641032. -----

5)Ms. GOTTUPALLI RAMYA

Address of Applicant :HINDUSTHAN COLLEGE OF ENGINEERING AND TECHNOLOGY, VALLEY CAMPUS, POLLACHI HIGHWAY, COIMBATORE, TAMIL NADU, INDIA - 641032. -----

(57) Abstract :

The disposal of non-biodegradable solid waste is a major problem in developing countries. The non-biodegradable solids (PET, PP, PVC, etc.) which cause considerable environmental impacts are to be recycled and reused. Various researches have been done to reuse the solid waste in various forms. This study includes the reuse of non-biodegradable solid waste as a partial replacement of Fine Aggregate in the manufacturing of Solid Concrete Blocks. The solid waste was crushed to a diameter less than 4.75mm and used as a partial replacement of fine aggregate (m-sand) in different proportions as 5%, 10%, 15%, 20%, and 25% in M15 grade concrete. Conventional mix with and without 10% Alccofine-1203 mineral was tested. Conplast SP430 of 1.5% by weight of cement was added as water reducing admixture. In the mix with Alccofine, plastic granules in the proportions mentioned above were added and concrete blocks were cast. The properties of solid waste (Mainly PVC) used as fine aggregates i.e., particle size distribution, specific gravity, etc., and the properties of concrete i.e., workability, compressive strength and flexural strength were determined.

No. of Pages : 5 No. of Claims : 1

(12) PATENT APPLICATION PUBLICATION

(19) INDIA

(22) Date of filing of Application :11/04/2023

(21) Application No.202341026664 A

(43) Publication Date : 05/05/2023

(54) Title of the invention : EXPERIMENTAL INVESTIGATION OF FLY ASH BRICKS BY USING GRANITE SAW DUST

(51) International classification :A01G 242300, B23D 590000, B27G 030000, C04B 180800, C04B 331320
(86) International Application No :NA
Filing Date :NA
(87) International Publication No : NA
(61) Patent of Addition to Application Number :NA
Filing Date :NA
(62) Divisional to Application Number :NA
Filing Date :NA

(71)Name of Applicant :

1)HINDUSTHAN COLLEGE OF ENGINEERING AND TECHNOLOGY

Address of Applicant :HINDUSTHAN COLLEGE OF ENGINEERING AND TECHNOLOGY, VALLEY CAMPUS, POLLACHI HIGHWAY, COIMBATORE, TAMILNADU, INDIA 641032. -----

Name of Applicant : NA

Address of Applicant : NA

(72)Name of Inventor :

1)DR. K. AKIL

Address of Applicant :PROFESSOR & HEAD -CIVIL, HINDUSTHAN COLLEGE OF ENGINEERING AND TECHNOLOGY, VALLEY CAMPUS, POLLACHI HIGHWAY, COIMBATORE, TAMILNADU, INDIA 641032. -----

2)MR. M. DINESH KUMAR

Address of Applicant :ASSISTANT PROFESSOR -CIVIL HINDUSTHAN COLLEGE OF ENGINEERING AND TECHNOLOGY, VALLEY CAMPUS, POLLACHI HIGHWAY, COIMBATORE, TAMILNADU, INDIA 641032. -----

3)MR. A. ARUN

Address of Applicant :HINDUSTHAN COLLEGE OF ENGINEERING AND TECHNOLOGY, VALLEY CAMPUS, POLLACHI HIGHWAY, COIMBATORE, TAMILNADU, INDIA 641032. -----

4)MR. M. N. MOHAMED ABUBACKER SIDDIQUE

Address of Applicant :HINDUSTHAN COLLEGE OF ENGINEERING AND TECHNOLOGY, VALLEY CAMPUS, POLLACHI HIGHWAY, COIMBATORE, TAMILNADU, INDIA 641032. -----

5)MR. P. S. MOHAMED AIMAN

Address of Applicant :HINDUSTHAN COLLEGE OF ENGINEERING AND TECHNOLOGY, VALLEY CAMPUS, POLLACHI HIGHWAY, COIMBATORE, TAMILNADU, INDIA 641032. -----

6)MR. A. MOHAMED GANI

Address of Applicant :HINDUSTHAN COLLEGE OF ENGINEERING AND TECHNOLOGY, VALLEY CAMPUS, POLLACHI HIGHWAY, COIMBATORE, TAMILNADU, INDIA 641032. -----

(57) Abstract :

ANNEXURE-III The backbone of India's infrastructure development is the construction industry. Indian businesses produce a variety of byproducts that contribute to pollution. It significantly contributes to the nation's healthier environment. Different percentages of fly ash, granite dust, and lime are used in different fly ash brick combinations: Large amounts of fly ash and granite dust are produced in India by thermal power stations and the granite industry. Since industrial waste is inherently toxic, its disposal is a big challenge. Recycling such wastes and using them as construction materials is a reasonable approach to the pollution problem. Economy and energy conservation are given a lot of attention. The purpose of this research is to assess and contrast the strength of the blocks utilizing various flyash and granite sawing powder waste percentages. Different mix ratios were used in the inquiry, and laboratory tests like the compression test and water absorption test were used. When comparing the features of strength, the results revealed that blocks' water absorption values were good and that compression strength increased gradually.

No. of Pages : 5 No. of Claims : 1

(54) Title of the invention : EXPERIMENTAL STUDY ON PAVER BLOCK USING STEEL FLAKES

(51) International classification :A01K 670200, C25D 035600, E01C 194800, F16C 336200, H04N 191760

(86) International Application No :NA

Filing Date :NA

(87) International Publication No : NA

(61) Patent of Addition to Application Number :NA

Filing Date :NA

(62) Divisional to Application Number :NA

Filing Date :NA

(71)Name of Applicant :

1)HINDUSTHAN COLLEGE OF ENGINEERING AND TECHNOLOGY

Address of Applicant :HINDUSTHAN COLLEGE OF ENGINEERING AND TECHNOLOGY, VALLEY CAMPUS, POLLACHI HIGHWAY, COIMBATORE, TAMILNADU, INDIA 641032. -----

Name of Applicant : NA**Address of Applicant : NA**

(72)Name of Inventor :

1)DR. K. AKIL

Address of Applicant :PROFESSOR & HEAD -CIVIL, HINDUSTHAN COLLEGE OF ENGINEERING AND TECHNOLOGY, VALLEY CAMPUS, POLLACHI HIGHWAY, COIMBATORE, TAMILNADU, INDIA 641032. -----

2)MR. M. DINESH KUMAR

Address of Applicant :ASSISTANT PROFESSOR -CIVIL, HINDUSTHAN COLLEGE OF ENGINEERING AND TECHNOLOGY, VALLEY CAMPUS, POLLACHI HIGHWAY, COIMBATORE, TAMILNADU, INDIA 641032. -----

3)MR. D. MADHAV

Address of Applicant :HINDUSTHAN COLLEGE OF ENGINEERING AND TECHNOLOGY, VALLEY CAMPUS, POLLACHI HIGHWAY, COIMBATORE, TAMILNADU, INDIA 641032. -----

4)MR. E. MUKESHKUMAR

Address of Applicant :HINDUSTHAN COLLEGE OF ENGINEERING AND TECHNOLOGY, VALLEY CAMPUS, POLLACHI HIGHWAY, COIMBATORE, TAMILNADU, INDIA 641032. -----

5)MR. G. NAVEEN

Address of Applicant :HINDUSTHAN COLLEGE OF ENGINEERING AND TECHNOLOGY, VALLEY CAMPUS, POLLACHI HIGHWAY, COIMBATORE, TAMILNADU, INDIA 641032. -----

6)MR. P. NITHISKANNA

Address of Applicant :HINDUSTHAN COLLEGE OF ENGINEERING AND TECHNOLOGY, VALLEY CAMPUS, POLLACHI HIGHWAY, COIMBATORE, TAMILNADU, INDIA 641032. -----

(57) Abstract :

ANNEXURE-III The blocks make up the wearing surface and a significant portion of the pavement's load-spreading structure in interlocking concrete block pavement. The wearing surface is constructed of small paving units embedded and connected in sand as opposed to continuous paving, which is how it varies from other traditional forms of pavement. The substructure underneath the bedding sand resembles a flexible pavement. As an alternative to concrete and asphalt pavements, the interlocking concrete block pavement (ICBP) has quickly gained favour in many international nations. However, due to a lack of established indigenous design and construction knowledge, the obvious benefits of ICBP have not yet been completely realized in India. There are no existing IRC or IS codes for its specification and design. The building ingredients for the blocks included Portland cement, steel Hakes, ash. and fine aggregate. The producer used the necessary amount of water along with a 1:2:3 ratio of the materials. Research on interlocking pavers using 5%. 10%. 15%, and 20% by weight of cement with steel flakes. Compressive strength tests were performed after 7, 14, and 28 days. For testing, a sample of the building blocks and materials were gathered. Paving block compressive strength must be increased in order to produce stronger blocks. To evaluate the behavior of concrete blocks with respect to their shape, thickness, laying pattern, etc., a straightforward laboratory size test setup can be used.

No. of Pages : 5 No. of Claims : 1