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NEWS LETTER

DEPARTMENT OF CIVIL ENGINEERING

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CIVIL ENGINEERING

VISION

- To impart latest knowledge and skills so as to kindle innovation and creativity among students

MISSION

- To provide quality Education by preparing a strong willed, socially committed and Dynamic Engineers for the Future.
- To enrich their knowledge in the areas of academic, research and industry by moulding professionals in the field of Civil Engineering to build a sustainable world.
- To impart quality education and mould technically sound, ethically responsible professionals in the field of Civil Engineering.
- To prepare the students with a broad skill set of creativity, critical thinking and effective communication skills to meet the desired needs of the society.
- To develop state of the art infrastructure and research for effective teaching learning process.
- To strengthen soft skills especially for rural students through co-curricular and extracurricular activities.

Faculty Achievments

Dr. A. Ananthi / Professor / HOD, **Mr. B. Jose Ravindra Raj/** Assistant Professor and **Ms. Rivetha** / Assistant Professor have published an article **" Experimental Study of Cement Concrete by using Nylon Fiber" in International Journal of Research in Engineering and Advanced Technology (IJREAT).**

IJREAT International Journal of Research in Engineering & Advanced Technology, Volume 13, Issue 2, April-May 2025
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EXPERIMENTAL STUDY OF CEMENT CONCRETE BY USING NYLON FIBRE

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Abstract

Concrete is very important construction material in construction. The quality of concrete explains the strength of building. In this research the strength of concrete is enhanced by adding of nylon fiber in the range of 2%, 4% and 6% Nylon is a very resilient fiber, synthetic, fibrous material that is known for its high tensile strength, abrasion resistance and chemical stability. The Compressive strength and Split Tensile strength have been evaluated in M 30 grade concrete and the results compared with conventional concrete. While increasing the percentage of nylon fiber the mechanical properties like compressive strength and split tensile strength increased.

Keywords: nylon fiber, compressive strength, split tensile strength.

having a length of 50mm and a fiber content of 5%, by mass of cement are added in the concrete mixture for the production of GFRC and NFRC which results decreasing compressive strength and increasing split tensile strength (11). The result of polyethylene reinforced concrete with the percentage of 40 gives more tensile and flexural strength when compared with Nylon fiber mixed concrete. But Nylon containing concrete has higher flexural strength (5). R-Nylon fibers more effective in improving the mechanical qualities compared with recycled nylon fibers (3).When increasing glass fiber specific wear rate decreases and it is lowest achieved at 30 % of glass fiber(1).Optimum friction and wear performance was obtained when the Nylon fiber volume fraction was 35% (6). IRC is having high mechanical characteristic when compare with conventional concrete (12).

1. Introduction

Concrete is stronger in compressive strength but weaker in tensile strength. The Glass Fiber and Nylon Fiber

2. Experimental Work

The various characteristics of materials have been found. Fig 1 shows the nylon fiber mixed in a concrete.

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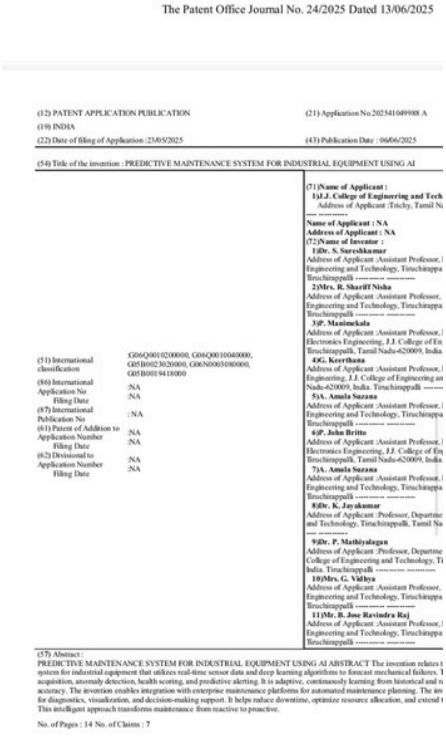
Published by: PIONEER RESEARCH & DEVELOPMENT GROUP

Mr. B. Jose Ravindra Raj/ Assistant Professor has published a Patent for the title of **"Predictive Maintenance System for Industrial Equipment Using AI" on 06.06.2025.**



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(54) Title of the invention : PREDICTIVE MAINTENANCE SYSTEM FOR INDUSTRIAL EQUIPMENT USING AI

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(57) Abstract :
PREDICTIVE MAINTENANCE SYSTEM FOR INDUSTRIAL EQUIPMENT USING AI ABSTRACT The invention relates to a system for industrial equipment that utilizes real-time sensor data and deep learning algorithms to forecast mechanical failures. It acquisition, anomaly detection, health scoring, and predictive alerting. It is adaptive, continuously learning from historical and accuracy. The invention enables integration with enterprise maintenance platforms for automated maintenance planning. The for diagnostics, visualization, and decision-making support. It helps reduce downtime, optimize resource allocation, and extend This intelligent approach transforms maintenance from reactive to proactive.

No. of Pages : 14 No. of Claims : 7

ATRIA INSTITUTE OF TECHNOLOGY

Department of Civil Engineering

CERTIFICATE of PARTICIPATION

This is to certify that Mr/Ms. B. Jose Ravindra Raj of J.J. College of Engineering and Technology, Trichy has Participated in the One-Day Online Workshop on "Special Concrete Mix Design and Advancements in Concrete Testing" organized on 30th May 2025 by the Department of Civil Engineering, Atria Institute of Technology, Bengaluru, in collaboration with Carbon Craft.

Dr Karthick Srinivas M, Dr Vijayasarathy R, Dr Surendra H J, Dr Rajesha S

Dr.P.Senthilkumar / Associate Professor and Mr. B. Jose Ravindra Raj/ Assistant Professor have participated in one day online workshop "**Special Concrete Mix Design and Advancements in Concrete Testing**" Organised on 30th May 2025 Atria Institute of Technology, Bengaluru.

Faculty Achievments

Dr. A. Ananthi / Professor / HoD, Mr. B. Jose Ravindra Raj/AP, Mrs.V.Bakyalakshmi/ AP/ and J.Vaishyaa/ AP have participated five days FDP on "**Emerging Technologies in Civil Engineering- 2K25**" Organised by the Kongunadu College of Engineering and Technology from 09.06.2025 to 13.06.2025.