Patent Search

Invention Title	DEVELOPMENT OF PUNTURE RESISTANCE TYRE USING WASTE RUBBER AND REINFOCED FILLERS
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Inventor

Name	Address	Country	N
P. Harsha kota vardhini devi	undergraduate student, Vishnu Institute of Technology, Bhimavaram, Andhra Pradesh-534202	India	In
V.V.S. sarma	Assistant Professor, Vishnu Institute of Technology, Bhimavaram, Andhra Pradesh-534202	India	In
Pathan Fayaz	Assistant Professor, Vishnu Institute of Technology, Bhimavaram, Andhra Pradesh-534202	India	In
S.K.Alisha	Assistant Professor, Vishnu Institute of Technology, Bhimavaram, Andhra Pradesh-534202	India	In
K.Saikumar	Assistant Professor, Vishnu Institute of Technology, Bhimavaram, Andhra Pradesh-534202	India	In
P. Lakshman kumar	Undergraduate student, Vishnu Institute of Technology, Bhimavaram, Andhra Pradesh-534202	India	In
V. Madhu	Undergraduate Student, Vishnu Institute of Technology, Bhimavaram, Andhra Pradesh-534202	India	In
M.Gnaneswar	Undergraduate Student, Vishnu Institute of Technology, Bhimavaram, Andhra Pradesh-534202	India	In
p.devika	Undergraduate Student, Vishnu Institute of Technology, Bhimavaram, Andhra Pradesh-534202	India	In

Applicant

Name	Address	Country	Natio
vishnu institute of technology	Kovvada Rd, Vishnupur, Kovvada, Andhra Pradesh 534202	India	India

Abstract:

The present invention relates to the development of a puncture-resistant tyre incorporating a protective under-tread barrier sheet made from waste and recycled ma
Conventional pneumatic tyres are prone to punctures caused by sharp objects, leading to air leakage, safety hazards, and reduced service life. Existing solutions such
based or run-flat tyres are expensive, complex, and less suitable for cost-sensitive markets. To overcome these limitations, the invention proposes a sustainable barri
positioned between the tread and carcass layers, prepared using reclaimed butyl rubber, crumb rubber, rice husk ash, and recycled polymer fibres. This novel compo
enhances toughness, cut resistance, and air retention, while being compatible with standard tyre manufacturing processes. The approach reduces dependency on vir
materials, minimizes waste disposal, and lowers production costs. By improving durability, safety, and affordability, the invention provides an eco-friendly solution su
widespread adoption in two-wheeler and automobile tyres.

Complete Specification

Description:Conventional pneumatic tyres are highly prone to punctures, causing safety risks, inconvenience, and frequent repairs. Existing solutions like sealant-ba flat tyres are costly, complex, and less effective in long-term use. To overcome these limitations, the present invention introduces a low-cost, sustainable under-trea barrier sheet made from reclaimed rubber, crumb rubber, rice husk ash, and recycled polymer fibres. This innovative approach improves puncture resistance while waste materials, ensuring affordability, durability, and eco-friendliness for widespread adoption. , Claims:1. A puncture-resistant tyre comprising an under-tread bar prepared from reclaimed rubber, crumb rubber, rice husk ash, and recycled polymer fibres.
2. The barrier sheet of claim 1 is positioned between the tread and carcass layers of the tyre to resist penetration of sharp objects.
3.The composition of claim 1 provides enhanced cut resistance, tear strength, and reduced air leakage during puncture events.
4.The tyre of claim 1 is compatible with conventional tyre manufacturing without significant modifications.
5. The invention of claim 1 promotes sustainability by utilizing industrial and post-consumer waste materials for value-added applications.

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