

पेटेंट कार्यालय  
शासकीय जर्नल

**OFFICIAL JOURNAL  
OF  
THE PATENT OFFICE**

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निर्गमन सं. 26/2022  
ISSUE NO. 26/2022

शुक्रवार  
**FRIDAY**

दिनांक: 01/07/2022  
DATE: 01/07/2022

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पेटेंट कार्यालय का एक प्रकाशन  
PUBLICATION OF THE PATENT OFFICE

(54) Title of the invention : A METHODOLOGY FOR TESTING OF WASTE MATERIAL FOR USING IT AS ROAD PAVEMENT IN PLACE OF BITUMEN AND AGGREGATE

<p>(51) International classification :C08L0095000000, B29B0017000000, C10B0053070000, C10G0001000000, C08L0101000000</p> <p>(86) International Application No :NA Filing Date :NA</p> <p>(87) International Publication No : NA</p> <p>(61) Patent of Addition to Application Number :NA Filing Date :NA</p> <p>(62) Divisional to Application Number :NA Filing Date :NA</p>	<p>(71)Name of Applicant :</p> <p><b>1)Mr. Rajbahadur</b> Address of Applicant :Assistant Professor, Department of Civil Engineering, IFTM University, Moradabad, ----- ---</p> <p><b>2)Mr. Mahavir Singh Rawat</b> <b>3)Mr. Neeraj Kumar</b> <b>4)Dr. Vaibhav Trivedi</b> <b>5)Dr. Nelu Trivedi</b> <b>6)Dr. Smita Kaloni</b> <b>7)Dr. Bhishm Singh Khati</b></p> <p>Name of Applicant : NA Address of Applicant : NA</p> <p>(72)Name of Inventor :</p> <p><b>1)Mr. Rajbahadur</b> Address of Applicant :Assistant Professor, Department of Civil Engineering, IFTM University, Moradabad, ----- <b>2)Mr. Mahavir Singh Rawat</b> Address of Applicant :Assistant Professor, Department of Civil Engineering, IFTM University, ----- <b>3)Mr. Neeraj Kumar</b> Address of Applicant :Assistant Professor, Department of Civil Engineering, IFTM University, ----- <b>4)Dr. Vaibhav Trivedi</b> Address of Applicant :Professor, Department of Mechanical Engineering, IFTM University ----- <b>5)Dr. Nelu Trivedi</b> Address of Applicant :Professor, Department of Electronic and Communication Engineering, IFTM University, ----- - <b>6)Dr. Smita Kaloni</b> Address of Applicant :Assistant Professor, Department of Civil Engineering, NIT Srinagar, Uttarakhand, ----- <b>7)Dr. Bhishm Singh Khati</b> Address of Applicant :Assistant Professor, Department of Civil Engineering, Govind Ballabh Pant Institute of Engineering and Technology, -----</p>
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(57) Abstract :

In consideration of frequent submergence problems, high summer temperature and poor pavement construction practice and above all environmental hazards due to waste plastic, the use of waste plastic in road construction may bring economic benefits in the many ways. After conducting laboratory tests on bitumen binder and mixtures with different polymer content and after analyzing the data and comparing the results, the following conclusions are drawn: (1) The result shows that with increase of waste plastic in bitumen increases the properties of aggregate and bitumen. (2) The optimum use of plastic can be 12 % of bitumen based on 10 Marshal Stability test. (3) The modified bitumen shows good result when compared to standard results. (4) For all modified binders prepared, the penetration values decrease as waste plastic ratio increases whilst, softening point values increase as waste plastic ratio increases. (5) The coating of aggregates with waste plastic reduces the absorption of moisture. (6) By using waste commodity plastics in binder modification carries the advantage of a cheap, technologically effective means of enhancing conventional binder performance and offers an alternative way to manage plastic waste. (7) This has added more value in minimizing the disposal of plastic waste is the eco-friendly technique.

No. of Pages : 22 No. of Claims : 4