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<p>(51) International classification :B33Y0010000000, B33Y0070000000, B29C0064118000, B29C0064106000, B29C0064209000</p> <p>(86) International Application No :PCT// Filing Date :01/01/1900</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 : <b>1)Dr. Indradeep Kumar</b> Address of Applicant :Assistant Professor, Department of Aeronautical Engineering, Institute of Aeronautical Engineering, Dundigal, Hyderabad, Telangana, India- 500043 ----- <b>2)Manu Kumar Thakur</b> <b>3)Mr.K.Gopalakrishnan</b> <b>4)Dr. S. Krishnakumar</b> <b>5)Dr. V Gopal</b> <b>6)Dr. Siva Bhaskara Rao Devireddy</b> <b>7)B. Vijaya Ramnath</b> Name of Applicant : NA Address of Applicant : NA (72)Name of Inventor : <b>1)Dr. Indradeep Kumar</b> Address of Applicant :Assistant Professor, Department of Aeronautical Engineering, Institute of Aeronautical Engineering, Dundigal, Hyderabad, Telangana, India- 500043 ----- <b>2)Manu Kumar Thakur</b> Address of Applicant :Institute of Aeronautical Engineering, Dundigal, Hyderabad, Telangana. India 500043 ----- <b>3)Mr.K.Gopalakrishnan</b> Address of Applicant :Assistant Professor, Department of Safety and Fire Engineering, Excel Engineering College, NH-544, Salem Main Road, Sankari West, Pallakkapalayam, Komarapalayam, Namakkal-637303, Tamilnadu ----- <b>4)Dr. S. Krishnakumar</b> Address of Applicant :Assistant Professor, Department of Mechanical Engineering, Gnanamani College of Technology, NH-7, A. K. Samuthiram, Pachal, Namakkal-637018, Tamilnadu ----- <b>5)Dr. V Gopal</b> Address of Applicant :Assistant Professor, Department of Mechanical Engineering, KCG College of Technology, OMR, Karapakkam, Chennai-119, Tamilnadu ----- <b>6)Dr. Siva Bhaskara Rao Devireddy</b> Address of Applicant :Associate Professor, Department of Mechanical Engineering, St. Ann's College of Engineering and Technology, Andhra Pradesh 523187 ----- <b>7)B. Vijaya Ramnath</b> Address of Applicant :Professor, Department of Mechanical Engineering, Sri Sai Ram Engineering College, Sai Leo Nagar, West Tambaram, Chennai - 600044 -----</p>
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(57) Abstract :

The invention pertains to a composite filament optimized for 3D printing, combining a polymer matrix with natural fibers, such as jute, hemp, flax, and sisal. These fibers are uniformly dispersed within the matrix, ensuring consistent material properties and print quality. The integration of natural fibers enhances the mechanical strength of the printed objects while introducing biodegradability, positioning this filament as a sustainable choice in additive manufacturing. The invention also covers methods of 3D printing with the said filament and the resulting eco-friendly printed objects. Accompanied Drawing [FIGS. 1-2]

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