

(12) PATENT APPLICATION PUBLICATION

(21) Application No.202321049576 A

(19) INDIA

(22) Date of filing of Application :23/07/2023

(43) Publication Date : 29/09/2023

(54) Title of the invention : FILAMENT AND PELLETS/GRANULES INTEGRATED CO-EXTRUDER FOR ADDITIVE MANUFACTURING

(51) International classification :B33Y0010000000, B33Y0030000000, B22F0010200000, B33Y0050020000, B33Y0070000000

(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)Dr. Mohammad Taufik**

Address of Applicant :Asst. Professor, Dept. of Mechanical Engineering, Maulana Azad National Institute of Technology, Bhopal - 462003, M.P., India Bhopal -----

**2)Mr. Krishnanand**

Name of Applicant : NA

Address of Applicant : NA

(72)Name of Inventor :

**1)Dr. Mohammad Taufik**

Address of Applicant :Asst. Professor, Dept. of Mechanical Engineering, Maulana Azad National Institute of Technology, Bhopal - 462003, M.P., India Bhopal -----

**2)Mr. Krishnanand**

Address of Applicant :Ph.D. Scholar, Dept. of Mechanical Engineering, Maulana Azad National Institute of Technology, Bhopal - 462003, M.P., India Bhopal -----

(57) Abstract :

A filament and pellets/granules integrated co-extruder for additive manufacturing capable of accepting feed materials in the form of wire (filament) as well as pellets/granules and additively manufacture the objects using the single nozzle, that is capable of printing the parts with a variety of thermoplastic materials including flexible ones. The co-extruder can print a part with different materials and hence mechanical, electrical, optical, physical properties of the printed part can be tailored. Pellets and/or filament with different properties can be used at different locations of the part.

No. of Pages : 43 No. of Claims : 10