



ADITYA COLLEGE OF ENGINEERING & TECHNOLOGY

Permanently Affiliated to JNTUK, Kakinada, Approved by AICTE, New Delhi

Recognized by UGC Under Section (2f) and 12(B) of UGC Act 1956

Aditya Nagar, ADB Road, Surampalem, 533437

Department of Mechanical Engineering

Project Title:	DESIGN AND FABRICATION OF WIRE EXTRUSION MACHINE	
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Abstract	PO's Mapping	PSO's Mapping
Plastic Extrusion is a compressive deformation process in which plastic granules are squeezed through an orifice or die opening in order to obtain a reduction in diameter and increase in length of the metal block. The resultant product will have the desired cross-section. Plastic Extrusion involves forming of axisymmetric parts. Dies of circular on non-circular cross-section are used for extrusion. The main objective of this project is to RECYCLE the waste plastics in to use full objects by wire extrusion process. In this project we are converting plastic granules in to plastic wires with the help nozzle by melting the plastic at various zones till the wire is obtained. The main advantage of this project is the equipment setup is less cost when compared to other extrusion processes available in market. As the screw is completely modified, which is cheaper than the plastic extrusion screws available in market. Due to its low installation cost it can be easily installed in the college laboratories for conducting practical experiments to enrich students practical knowledge about plastic processing in industries. This equipment can also be used in small scale industries to produce various	PO1, PO2, PO3, PO7, PO8, PO9	PSO2

PO1: Engineering Knowledge	PO5: Modern Tool usage	PO9: Individual & Team Work
PO2: Problem Analysis	PO6: Engineer & Society	PO10: Communication Skills
PO3: Design & Development of solutions	PO7: Environment & Sustainability	PO11: Project Management & Finance
PO4: Investigations on complex problems	PO8: Ethics	PO12: Life Long Learning
PSO1: Mechanical Engineers must be able to analyze, design and evaluate mechanical components and systems using cutting-edge software tools as required by the industries from time to time.	PSO2: The ability to work in manufacturing and other sectors' operations and maintenance plants	PSO3: As part of a team or individually, plan and manage activities in micro, small, medium and large enterprises

Relevance to PO's and PSO's

PO1	Applied the subject knowledge in calculation for design and systems
PO2	Studied and analysed existing machines
PO3	Structure of the frame is designed and implemented.
PO7	Wire extrusion machine is fabricated depending in the environment sustainability
PO8	Design specifications are followed with ethics
PO9	Fabrication of the machine is done by the team collaboration
PSO2	Maintenance of the machine is done for several heating temperatures.

