metallurgy techniques, such as reduction of macro-segregation, reduction of porosity, low forming efforts and possibility of near-net shape forming etc[2]. In the semi-solid extrusion, because the material of the semi-solid state flows out only through a die exit, the flow and deformation of material is constrained. The flow and deformation of the semi-solid alloy studied in the investigation at changing initial liquid fraction, angle of die and reduction in area [3]. A computer simulation or a computer model is a computer program that attempts to simulate an abstract model of a particular system. Computer simulations have become an useful part of mathematical modeling of many natural systems in physics (Computational Physics), chemistry and biology, human systems in economics, psychology, and social science and in the process of engineering new technology, to gain insight into the operation of those systems. Traditionally, the formal modeling of systems has been via a mathematical model, which attempts to find analytical solutions to problems, which enables the prediction of the behavior of the system from a set of parameters and initial conditions. Computer simulations build on, and are an useful adjunct to purely mathematical models in science, technology and entertainment. Finite element analysis (FEA) is a computer simula-

tion technique used in engineering analysis. It uses a numerical technique called the finite element method (FEM). There are many finite element software packages, both free and proprietary [8,9].

The present work is devoted to study the effect of the extrusion process parameters on the impact energy of A355 and A356 alloy reinforced with different weight percentages of silicon carbide particles. This study made by simulating this process using computer software based on the finite element, after validated all software by comparing the predicted results from this software with the experimental results. The validation process done by using simulation model prepared by tin-lead alloy reinforced with silicon carbide particles.

Experimental Work

In this section, experimental processes have been explained to validate the finite element software (Impact dynamic program version 0.7.1). SiC particles with different percents of volume fractions (10,15and 20) percent is used as reinforcing particles for the production of particle reinforced Pb-Sn alloy matrix composites. Particle was mixed by stirrer in the liquid alloy, and then poured into dies to solidify composite specimens. The specimens were extruded at temperature ranging from 247 to 308 0C. All extruded specimens had