PREFACE

Proper utilization of available resources in day to day activities plays vital role in the all round development of the country in general and individual users in particular. Of the many valuable resources available aluminium ore is one of the most important and vastly available metals in earth’s crust and proper usage of these results in improved economic as well as social status of the country and the concerned people. Aluminium is being used in various important applications such as air craft industry, automotive industry etc due to its high strength to weight ratio and good corrosion resistance. To achieve best results possible in utilization of particular metal, knowledge of the metal under various working as well as manufacturing conditions are utmost important. Hence for my research work I have chosen one of the most widely used aluminium alloy (AA 7075) for the study. As this is an heat treatable alloy and upon heat treatment there seems to be an improvement in some of the properties as suggested in the literature, I have considered an heat treatment procedure known as Retrogression and Re-ageing for my work, which is particularly used in heat treatable aluminium alloys for improved properties. Hence a sincere attempt has been made to study some of the important properties of AA7075 alloy upon heat treatment and the procedure of heat treatment followed is retrogression and re-ageing as already mentioned above. For obtaining improved properties different researchers have considered different parameters, where as in my study I, have considered some of the parameters such as solutionization temperature, ageing temperature, ageing time, retrogression temperature and retrogression time to decide the better condition of heat treatment of the selected lot for improved property over as-cast and other conditions.