

Acknowledgements

I would like to express my sincere gratitude to my 'guru', Professor T. H. C. Childs for his valuable guidance, support and encouragement during my intellectual journey. I learn many things from you, Prof.

Special appreciation is due to Dr. M. Shiomi, Osaka University, for his support and useful discussions in the early stage of my research. I truly value his input.

I am grateful to Mr. A. Marsden, Keyworth Institute, for his excellent assistance in preparing specimens in the SLS machine SinterStation-2000.

I thank the staffs of the Manufacturing, Strength of Materials and Measurement Laboratories for their assistance in building K-Rig, the specimens and measurement of the specimens size. Among them, I would like to deeply acknowledge Mr. Phillip Wood, Mr. Abbas Ismail, Mr. Stan Cail, Mr. Tony Wiese and Mr. Alan G. Heald. Special thanks are to my friend, Jun Eto, for his contribution in making the K-Rig more 'user friendly'.

I also thank the staff of the IRC-School of Chemistry. Among them are Mr. N. Tyres for measuring specific heat using DSC, Dr. P.Khunkamchoo and Dr.N.J.Ward for training me in using the Rosand rheometer. Also, Mr. J.P.Harrington (School of Material) for his guidance in preparation and capturing micro-structural images using Scanning Electron Microscope (SEM).

Special thanks are due to the Inter University Centre for Engineering Science Gadjah Mada University for my main scholarship. Also, thanks are due to The Jacob Wallenberg Foundation (Royal Swedish Academy of Sciences) for their funding through Professor Childs during my hard financial crisis.

Finally, I wish to thank my wife, Neila and my lovely kids, Aiken and Nevi for their endless support, understanding and motivation have made while I was finishing the research and writing this thesis.

Alva Edy Tontowi
Leeds, April 2000