

Acknowledgements

At the very outset, I would like to express my profound gratitude and sincere thanks to my esteemed supervisor Dr. Dilip Datta, Professor, Department of Mechanical Engineering, Tezpur University, for his invaluable supervision and guidance, enlightening me all throughout my doctoral research with his indelible dedication and consistent encouragement, valuable suggestion, guidance and precious time.

I also express my gratitude towards all the faculty members of the department for their untiring support and co-operation during the whole duration of my Ph.D. work. In addition I would also like to offer my sincere thanks to the institute authority, especially the personnel of the Mechanical Engineering Department, for providing me the access to the laboratory and research facilities.

I would like to sincerely thank the Department of Science and Technology-Scientific and Engineering Research Board (DST-SERB), Government of India, for providing the funding for this research through SERB project no.: SB/FTP/ETA-88/2013. The funds received through this project were utilized in buying equipment required for this research and conduct testing of the composites. I would also like to thank the Central Institute of Plastic Engineering Technology (CIPET), Guwahati and the Department of Chemical Science, Tezpur University (specially Professor S. K. Dolui, Professor N. Karak and Mr. Nipu Dutta) for assisting me with the fabrication and testing of some of my samples.

My heartfelt gratitude to my beloved parents, my wife, my daughter, and my jethu-jethai for putting up with my occasional eccentricities, solving my dilemmas, toiling hard to fulfill my wishes and for just being there when I needed them. I sincerely thank all my relatives and friends for being there when I needed them. They have always backed me up with my decisions and would be much happier than me, the day when I get my doctoral degree.

Last, but not the least, I thank the Almighty for giving me the strength to turn thoughts into actions, actions into hard work, hard work into a research and research into a thesis; inspite of all the hurdles. I feel blessed today.

Satadru Kashyap

Dedicated
to
my family

