The studies presented in this thesis relate to material development in the area of polymer blends with special reference to formation of elastomer-plastomer polyblend networks via cocrosslinking or sequential crosslinking resulting in the formation of integrated network structures or what may be termed as interpenetrating networks. The binary (elastomer-plastomer) network blends selected include (1) Nitrile rubber (NBR) – Poly(vinyl chloride) (PVC), (2) Polybutadiene rubber (PBR) – Polystyrene (PS), and (3) Polychloroprene rubber (CR) – Polystyrene (PS).

The author expresses her heartfelt gratitude and great indebtedness to her honourable teacher and supervisor Prof. P. Ghosh, M.Sc.(Tech.), Ph.D., F.P.R.I., F.I.E., former Head of the Department of Plastics and Rubber Technology, University of Calcutta for his keen interest, intensive care, valuable guidance and constant encouragement during the course of the present work.

The author is also thankful to the Head, Department of Plastics and Rubber Technology, University of Calcutta for kindly permitting her to carry out the research work in the department and extending to her all the laboratory and library facilities.
Financial assistance in the form of research fellowship from the 'Council of Scientific and Industrial Research', India is highly acknowledged.

The author is thankful to the faculty members, staff and other colleagues in the department for their active cooperation. She acknowledges the help and cooperation given to her by Ms. D. Biswas, Mr. A.K. Sengupta, Mr. S. Sadhukhan, Mr. P. Chakraborty and Mr. A.K. Sen.

The author is really happy to record her obligations to Mr. L.K. Sanghi and Dr. A.S. Bhattacharya of Fortgloster Industries Ltd. (Cable Division), Bauria, Howrah; Mr. B. Dutta and Mr. A. Pal of Bengal Waterproof Ltd., Panihati, West Bengal; Dr. S.M. Chatterjee of College of Textile Technology, Serampur, Dr. S. Kundu of 'Jute Technological Research Laboratory, Calcutta, and Dr. D. Sur of Institute of Jute Technology for providing her with some processing and testing facilities.

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May, 1990.