Extrusion of Polymers, Theory and Practice

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by Chan I. Chung, 2nd Edition

This book focuses on the fundamentals and design of single-screw extruders, providing the reader with the necessary tools for basic equipment design. The first three chapters provide basic knowledge for single-screw extruders, twin-screw extruders, and polymer sci- ence. These chapters set the stage for Chapters 4 and 5 for theories on single-screw extrusion, screw design, scale-up, and high perfor- mance screw designs. Prof. Chan Chung was one of the original innovators in barrier screw designs and the co-inventor of the very successful Energy Transfer (ET) high performance screw. Three new chapters were included with the second addition: i) Viscoelastic Ef- fects of Melt Flow written by Joseph Dooley, ii) Die Designs, and iii) a chapter on a Special Single-Screw Extruder with Channels on the Barrel. Dooley's viscoelastic effects chapter provides experi- mental and numerical details for layer rearrangement of multi-layer structures due to normal forces. The chapter on dies provides details for many commercially available dies and their operation. Multilayer feedblocks and coextrusion are covered. The book is a valuable asset to designers and engineers working in the field of single-screw screw extrusion and dies.

Proceeds from the sale of this book are donated to the SPE Extrusion Division

Thank you, Prof. Chung!

- Mark A. Spalding, The Dow Chemical Company