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Part II

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Remarks on V

This volume consists of two parts: principles associated with the processing of a polymer, when heated, is transformed through a shaping device (extrusion) down to a solid, rendering specific degradation and/or chemical reactions during heating and cooling repeatedly. Simultaneously, the molten state invariably involves flow, and an understanding of their rheological behavior is essential. Since there are so many disciplines in this industry, I had to make a conscious selection of the polymer processing operations that the selection has been made on the basis of several decades.

Specifically, Chapter 1 presents extrusion processes. In this chapter, we consider the flow of a polymer through a channel, through a converging channel with small side holes. Chapter 2 presents the principles associated with compression molding. Chapter 3 presents the morphology of polymer compounds. Chapter 4 presents the principles associated with compatibilizing a pair of immiscible polymers, in which the principles associated with wire coating extrusion, placing emulsions, and fiber spinning, with a detailed analysis of tubular film blowing reported in the 1980s and 1990s. Chapter 5 presents an analysis of tubular film blowing.