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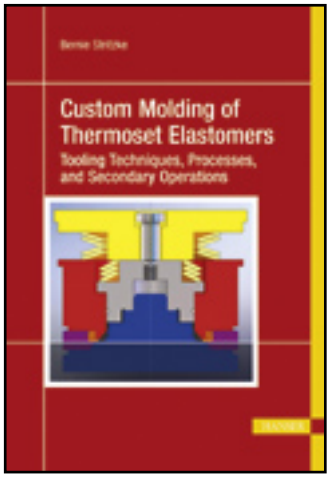

Preface

Bernie Stritzke

Custom Molding of Thermoset Elastomers

A Comprehensive Approach to Materials, Mold Design, and Processing

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Preface

This book is intended for the custom molder of thermoset elastomers, who already has a working knowledge of most molding methods. It is not intended to be a book of basics or fundamentals, but rather a comprehensive guide to understanding thermoset elastomer molding by analyzing the manufacturing process from the original part specification through the production molding phase. This book was written with the custom molder in mind, and does not cover manufacturing processes to produce tires, dippings, extrusions, or thermoplastic elastomers. This book should be used to optimize/improve existing processes, develop new cost-effective processes, troubleshoot processes, and assist in thermoset elastomer product design. Although recommended, this book does not need to be read in order. Certain chapters may be skipped and should not influence the understanding of others.

Discussion concentrates on thermoset millable elastomers and LSR (liquid silicone rubber). Emphasis is placed on compression, transfer, and injection molding (including LSR). Hybrids of each molding method, including insulated delivery systems, are discussed. This book describes in detail how flashless transfer, DASM compression, valve-gated cold runner injection, and other molding methods work and what applications are best suited for each method. Thermo-Set Elastomers are referred to as TSE throughout this book.

Many books have been written about thermoset elastomer processing, but chiefly from a chemist's perspective. This book covers basic information pertaining to thermoset elastomer chemistry, but only to the extent needed to effectively understand its interaction during the molding process.

Often TSE molding is put in the same category as plastic injection molding. Emphasis in this book is placed on unique differences in TSE molding as it compares to plastic injection molding.

This book shall be used as a general guide. Each TSE molder has their own unique methods and equipment, and therefore this book stakes no claim into the validity of its contents to work in every environment. This book describes processes, equipment, or tooling that may be covered under various patents. It is the responsibility of the reader to research these claims.

The advice and opinions expressed in this book are believed to be true and accurate at the date of printing. Neither the author, editors, nor publisher accept any legal responsibility for any errors or omissions that may have been made.