

Film Extrusion Manual

PROCESS, MATERIALS, PROPERTIES

**SECOND EDITION
EDITOR**

Thomas I. Butler

CONTRIBUTING EDITORS

George E. Ealer

Scott B. Marks

Gary D. Oliver

John Perdikoulis

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Preface

Film Extrusion Manual is the result of four years of intensive team effort to update the 1992 publication. The undertaking of this project is so large that it had to be approached a step at a time. The starting point of having the first manual was very helpful to form a basis to start out on this new project over now. I would like to thank my coeditor on the first book, Earl Veazey, for his leadership and vision. There were several ideals incorporated to improve on the original material, and add new technology that has been introduced in the intervening years. The world economic situation during this time was challenging to say the least. The many professionals that are necessary in an undertaking of this size were in the mist of significant changes within their companies, which required their attention, limiting the time available for this project. We offer our gratitude to our employers that permitted the authors and editors the time required to assemble this information. I must admit that there were times when I was not sure it was going to get completed. But things have a way of getting done, and I think that this book will be every bit as successful as the first.

This comprehensive publication on the technology and science of polymer film extrusion should be an excellent stand-alone training resource for any professional entering into this industry. It is hoped that the material in this book may be used to learn the basics of applied extrusion theory, and provide troubleshooting guidelines with solutions to many common problems encountered in fabrication of thermoplastic films.

The sources of the material covered in *Film Extrusion Manual* was selected from a combination of sources such as authors of papers presented at the annual conferences, short courses, and subject matter experts across the industry. We hope that we have included some of the answers you are looking for, and that you find new ideals of how you can improve your company.

I would like to thank the many professional engineers, scientists, and technical experts that have made the plastic films business what it is today. Many of these pioneers over the last ten years have retired or moved on to other challenging opportunities. I would like to dedicate this book to all the creative and innovative people over the years that have made the PL&C, now the PLACE Division of TAPPI, the place to be for film technology.

The *Film Extrusion Manual* has been such an enjoyable project to work on, because of the people in the Film Committee. I thank you for your support.

THOMAS I. BUTLER
EDITOR
FILM EXTRUSION MANUAL

TAPPI Film Extrusion Manual Editors

We very indebted to the editors who spent hours preparing each chapter for publishing. Editors of the *Film Extrusion Manual* include the following:

Thomas I. Butler	The Dow Chemical Company
Andy Christie	OPTEX Process Solution, LLC
George E. Ealer	Polyfect Corp.
Scott B. Marks	E. I. du Pont de Nemours and Co.
John Perdikoulis	Compuplast
Paul German	ExxonMobil
David Timm	Charter Films
Gary Oliver	Cloeren Incorporated

We also appreciate the efforts of the TAPPI professional staff who have reworked the chapters and prepared them for final publication. It has been a pleasure to work with the many professionals in the plastic films industry who have volunteered their time and skills with what we believe is an excellent update of the first *Film Extrusion Manual*. We have tried to add new technology and organize the previous material into an effective format. It is our hope that this work will serve as a training resource for all levels of professional and operations personnel working in the plastics film industry including; plastic film manufacturing, converting, equipment suppliers, and polymer suppliers.

Again, our sincere appreciation to all involved in bringing the second *Film Extrusion Manual* to a reality. And I would also like to acknowledge all the professionals involved in the first *Film Extrusion Manual*, without whom this second version would have been a enormous task.

THOMAS I. BUTLER

TAPPI Film Extrusion Manual Principal Authors

We are enriched and indebted to the participating employers and the authors who spent countless hours researching and writing each chapter. The principal authors include the following:

Nicole Dowling	The Dow Chemical Company	Steven R. Tanny	E. I. Du Pont de Nemours and Co.
George Ealer	Polyfect	Jerry Johnson	ExxonMobil
Don Schwank	The Dow Chemical Company	Paul M. German	ExxonMobil
Cliff Weinpel	Foremost Machine Builders	Charles Hwo	Shell Chemical Co.
Donn Lounsbury	Consultant	Michael C. Chen	ExxonMobil
Ted Schnerckertz	NDC Infrared Engineering	Todd Stevens	Equistar Chemicals L. P.
Tim Womer	Timothy W. Womer R. D.	Brad Westbrook	Eastman Chemical Company
William W. Bode	Battenfeld Gloucester Engineering, Inc.	William J. Glick	E. I. Du Pont de Nemours and Co.
Andy Christie	OPTEX Process Solution, LLC	Mike Crist	BASF Corporation
John Perdikoulis	Compuplast Canada, Inc.	Mark Pucci	Soarus L. L. C.
Ron Roller	Equistar Chemicals L. P.	Steve Jenkins	The Dow Chemical Company
Harinder Tamber	Macro Engineering and Technology	Paul Lund	BP Chemicals International
Gary Oliver	Cloeren Incorporated	Jose M. Torradas	E. I. Du Pont de Nemours and Co.
Steve Post	Egan Davis Standard Corporation	Phil Wagner	The Dow Chemical Company
Doug Darrow	Cloeren Incorporated	Claude Lavallee	3M Canada
Thomas I. Butler	The Dow Chemical Company	Rick King	Ciba Specialty Chemicals Corp. USA
David A. Markgraf	Enercon Industries Corporation	Richard Marquis	Croda Universal Inc.
Duane Smith	Black Clawson	Scott Marks	E. I. Du Pont de Nemours and Co.
David Timm	Charter Films	Daniel Smith	JLS International, Inc.
Mike Holler	Paragon Films		
Mark Spalding	The Dow Chemical Company		

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