

Troubleshooting Guide for Blow Molding

Problem	Possible Causes	Possible Solutions
1. Parison not being blown	Defective blow timer, clogged blow lines, or too sharp pinch-offs	<ul style="list-style-type: none"> • Replace blow timer • Clean blow lines • Stone pinch-offs to create more pinch area • Reset cushion • Clean tooling
2. Parison curling	Mandrel and bushing not flush, bushing too cold, low container weight, or stock resin temperature too low	<ul style="list-style-type: none"> • Remachine tooling • Raise bushing temperature • Check heat controllers • Increase container weight • Increase stock resin temperature • Center mandrel in die • Check screw tip design
3. Drawdown, parison sag/stretch	Too high parison temperature, melt index of resin too high, or mold open time too high	<ul style="list-style-type: none"> • Decrease stock temperature • Increase extrusion pressure/rate • Decrease extrusion back pressure • Use lower melt index resin • Reduce mold open time • Decrease container weight
4. Parison tail sticking to parts	Parison too long	<ul style="list-style-type: none"> • Shorten parison length or increase pinch-off land area to cool compressed tail
5. Rough parison surface/uneven parison thickness	Extrusion speed too fast, cold parison, stock temperature too low, resin melt index too low, loose mandrel, or insufficient venting	<ul style="list-style-type: none"> • Adjust extrusion rate • Increase stock temperature • Use resin with higher melt index • Check mold alignment • Check tool design • Add venting by either sandblasting the mold surface channels or venting the interior of the mold
6. Black specks in containers	Resin hang-up in die, or material contamination	<ul style="list-style-type: none"> • Clean die surface and tooling • Check material for contamination
7. Bubbles/fish eyes	Blow air orifice too small or restricted, low stock temperature, mold temperature too low, tooling damage, or wet and contaminated resin	<ul style="list-style-type: none"> • Check the orifice for restrictions and size • Increase air pressure • Increase melt temperature • Increase mold temperature • Check tooling • Check resin for moisture • Check for contamination • Check for resin lines and/or streamers

Troubleshooting Guide For Injection Blow Moulding

**Donald V. Rosato, Marlene G. Rosato, D.
V. Rosato**



Troubleshooting Guide For Injection Blow Moulding:

Practical Guide To Injection Blow Molding Samuel L. Belcher, 2007-03-05 Taking a straight forward approach the Practical Guide to Injection Blow Molding explores the entire industry from conception design costing tooling and machinery to trouble shooting testing and daily production With information for both the novice investor and the plastic industry expert this concise text is reinforced with pictures charts and figures The author a highly knowledgeable industry insider and a member of The Plastics Hall of Fame discusses the history of the industry as well as its daily workings He instructs in product and tooling design as well as material and machine selection explaining advantages and disadvantages elaborating on efficiencies that can be realized

Plastics Engineering Handbook Of The Society Of The Plastics Industry Society of the Plastics Industry, 1991-08-31 Comprehensive guide to plastics processing methods equipment and materials Plastics Institute of America Plastics Engineering, Manufacturing & Data Handbook D.V. Rosato, Nick R. Schott, Marlene G. Rosato, 2001-11-30 This book provides a simplified practical and innovative approach to understanding the design and manufacture of plastic products in the World of Plastics The concise and comprehensive information defines and focuses on past current and future technical trends The handbook reviews over 20 000 different subjects and contains over 1 000 figures and more than 400 tables Various plastic materials and their behavior patterns are reviewed Examples are provided of different plastic products and relating to them critical factors that range from meeting performance requirements in different environments to reducing costs and targeting for zero defects This book provides the reader with useful pertinent information readily available as summarized in the Table of Contents List of References and the Index

Understanding Blow Molding Norman C. Lee, 2000-01-01 The focus of this book is with the process of blow molding of thermoplastic materials and to familiarize those who have not been exposed to this technology to the basic concepts Whether you are a technician designer engineer salesperson or a student in the plastics field this book is user friendly This book is not intended to be a complete or detailed account of all the areas in the field but it does point out many of the various aspects encountered on a daily basis

Handbook of Mould, Tool and Die Repair Welding Steve Thompson, 1999-10-15 This book covers an important and frequently overlooked area of welding the repair of moulds tools and dies Because two rather different trades overlap in this process welding and toolmaking the materials and techniques involved have tended to be obscured For many years toolmakers and tool users have had to rely on the small number of specialist welders who do understand exactly what welding repair involves and have the skills to carry it out Understanding the technical side of tool steels is frequently a problem for welders and understanding the practical side of welding can be a problem for machinists This book has been written so that specialists from both sides can get to grips with the techniques and procedures involved The Handbook of mould tool and die repair welding is designed to save companies time and money by Acting as a training aid so that repairs can be carried out in house Reducing the need to send work out and the costs involved Reducing the production time lost

when repairs are required Providing clear diagrams and a user friendly style to make the techniques easily understood It is an essential resource for Tool Room Managers and Foremen as well as maintenance and repair welding specialists Comprehensive tool metal welder s reference work Written for the shop floor by the shop floor Practical easy to understand techniques designed to save time and money **Injection Molding Handbook** Donald V. Rosato,D.V. Rosato,1995 This is an extensively revised and reorganized edition of the acknowledged standard work in the field of injection molding

Handbook of Plastic Processes Charles A. Harper,2006-08-28 An outstanding and thorough presentation of the complete field of plastics processing Handbook of Plastic Processes is the only comprehensive reference covering not just one but all major processes used to produce plastic products helping designers and manufacturers in selecting the best process for a given product while enabling users to better understand the performance characteristics of each process The authors all experts in their fields explain in clear concise and practical terms the advantages uses and limitations of each process as well as the most modern and up to date technologies available in their application Coverage includes chapters on Injection molding Compression and transfer molding Sheet extrusion Blow molding Calendering Foam processing Reinforced plastics processing Liquid resin processing Rotational molding Thermoforming Reaction injection molding Compounding mixing and blending Machining and mechanical fabrication Assembly finishing and decorating Each chapter details a particular process its variations the equipment used the range of materials utilized in the process and its advantages and limitations Because of its increasing impact on the industry the editor has also added a chapter on nanotechnology in plastics processing **Troubleshooting Injection Moulding** Vannessa Goodship,2004 Annotation Injection moulding is one of the most commonly used processing technologies for plastics materials Proper machine set up part and mould design and material selection can lead to high quality production This review outlines common factors to check when preparing to injection mould components so that costly mistakes can be avoided This review examines the different types of surface defects that can be identified in plastics parts and looks at ways of solving these problems Useful flow charts to illustrate possible ways forward are included Case studies and a large b257 of figures make this a very useful report **Plastics Processing Data Handbook** D.V. Rosato,2012-12-06 This comprehensive book provides guidelines for maximizing plastics processing efficiency in the manufacture of all types of products using all types of plastics A practical approach is employed to present fundamental yet comprehensive coverage of processing concepts The information and data presented by the many tables and figures interrelate the different variables that affect injection molding extrusion blow molding thermoforming compression molding reinforced plastics molding rotational molding reaction injection molding coining casting and other processes The text presents a great number of problems pertaining to different phases of processing Solutions are provided that will meet product performance requirements at the lowest cost Many of the processing variables and their behaviors in the different processes are the same as they all involve basic conditions of temperature time and pressure The book begins

with information applicable to all processes on topics such as melt softening flow and controls all processes fit into an overall scheme that requires the interaction and proper control of systems Individual processes are reviewed to show the effects of changing different variables to meet the goal of zero defects The content is arranged to provide a natural progression from simple to complex situations which range from control of a single manual machine to simulation of sophisticated computerized processes that interface with many different processing functions

SPI Plastics Engineering Handbook of the Society of the Plastics Industry, Inc. Society of the Plastics Industry, 1991-08-08 The Plastics Engineering Handbook provides a thorough description of all major plastics processing methods including theory and practice It offers a guide to materials selection product design and testing

Practical Guide to Injection Moulding Vanessa Goodship, 2004 This Practical Guide to Injection Moulding is based on course material used by ARBURG in training operators of injection moulding machines It comes from many years of experience in this field and has been edited by an expert injection moulder at Warwick University It will be of use to experts looking to fill gaps in their knowledge base and to those new to the industry The factors involved in injection moulding from material properties and selection to troubleshooting faults are all examined in this book It covers the equipment types in use and machine settings for different types of plastics Material flow is critical in moulding and there are sections covering rheology and viscosity High temperature can lead to poor quality mouldings due to material degradation and this is discussed There are an exceptional number of figures in this text with many photographs of machinery and mouldings to illustrate key points There are also numerous tables listing key properties and processing parameters Flow charts are included in the chapter on troubleshooting to indicate what can be changed to resolve common problems Injection moulding in the Western World is becoming increasingly competitive as the manufacturing base for many plastics materials has moved to the East Thus Western manufacturers have moved into more technically difficult products and mouldings to provide more added value and maintain market share Technology is becoming more critical together with innovation and quality control There is a chapter on advanced processing in injection moulding covering multi material and assisted moulding technologies This Guide will assist progress in developing good technical skills and appropriate processing techniques for the range of plastics and products in the marketplace

Basics of Troubleshooting in Plastics Processing Muralisrinivasan Natamai Subramanian, 2011-04-20 The Basics of Troubleshooting in Plastics Processing is a condensed practical guide that gives the reader a broad introduction to properties of thermoplastics plastics additives the major processes extrusion injection molding rotational molding blow molding and thermoforming as well as troubleshooting The main goal is to provide the plastics processor with an improved understanding of the basics by explaining the science behind the technology Machine details are minimized as the emphasis is on processing problems and the defects in an effort to focus on basic root causes to problems and how to solve them The book's framework is troubleshooting in plastics processing because of the importance it has to the eventual production of high quality end products Each chapter contains

both practical and detailed technical information This basic guide provides state of the art information on Processing problems and defects during manufacturing Plastics materials their properties and characterization The plastics processing techniques Plastics additives Troubleshooting of the 5 main plastics processes References for further reading **Plastic Blow Molding Handbook** N.C. Lee,1990-05-31 Over the years numerous handbooks and design guides on the subject of plastics have been published None of these dealt in any depth with the subject of this handbook blow molding The recent growth of blow molding as an economically feasible process has been rapid in many areas This growth coupled with the lack of technical publications relating to blow molding prompted the Board of Directors of the Blow Molding Division of the Society of Plastic Engineers to undertake the assimilation of available information and the editing of this milestone publication We believe that this Plastic Blow Molding Handbook will provide the reader with a greater understanding of the unique process characteristics of blow molding enable the reader to apply proven techniques in developing new products and applications for blow molding and will serve as a valuable reference for all who are interested in the plastics industry Our thanks are heartily extended to the various authors for their contributions to this pioneering effort in blow molding J H Moran Chairman Blow Molding Division Society of Plastic Engineers xi Preface The blow molding of plastic articles has in the past had an aura of the mystic around it As a result little comprehensive work on the subject has been published Advances in the technology of polymeric materials machine controls computer science and management techniques have made it necessary to correct the myths and magic *Concise Encyclopedia of Plastics* Donald V. Rosato,Marlene G. Rosato,D. V. Rosato,2000-08-31 Provides an overview of plastics as well as World of Plastic reviews **Plastics** A. Brent Strong,2000 An introduction to plastics for a wide range of students who need to either gain improve or refresh their knowledge of plastic materials and manufacturing The text discusses both materials and manufacturing processes in a logical presentation While providing a fundamental overview of a broad spectrum of topics the text s high level of detail makes it valuable as both an introductory text and later a professional reference manual This edition features more logical organization dividing the previous tooling and testing chapters into tooling sections that appear within each of the processing chapters and testing sections that appear within each of the plastics properties chapters It shifts coverage of design to follow the chapters on properties giving an immediate example of how properties can be used and should allow students to flow more efficiently and effectively through the texts contents without digressions and interruptions Engineering Index ,1969 *Plastics Materials and Processes* Seymour S. Schwartz,Sidney H. Goodman,1982 Applied Science & Technology Index ,1996 Industrial Equipment News ,1980 **Thomas Regional Industrial Buying Guide** ,2003

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