Wiley Series on Plastics Engineering and Technology
Richard F. Grossman, Series Editor

TOTAL QUALITY PROCESS CONTROL *for* INJECTION MOLDING

SECOND EDITION

M. Joseph Gordon Jr.

WILEY

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Second Edition

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Total Quality Process Control for Injection Molding, Second Edition / M. Joseph Gordon, Jr.

Preface

Total quality process control (TQPC) for injection molding is the process for the repeatable manufacture of a product that consistently meets the customer's requirements. Senior management is responsible for providing the assets, direction, and support to ensure TQPC is implemented, maintained, and practiced daily throughout all company business and manufacturing operations.

Quality begins with senior management implementing a policy for excellence and an attitude that it is achievable. An example of a successful company's quality policy is as follows:

> We, as employees of "COMPANY," are dedicated to the delivery of quality product and technical services contributing to the success of our customers throughout the world. We believe high ethical standards are essential to achievement of our individual and organizational goals.

How a company achieves this or its own specific quality policy and goals is through the use of proven quality management, operations, and methods (e.g., ISO 9001:2008, Total Quality Management, Six Sigma) and other proven quality methods. Process control, with statistical process control (SPC), is just one section of this national standard that requires the company to develop quality methodology to ensure a quality operation is built to provide continuous quality product and services to its customers in a repeatable process. Quality is not the standard; it is the *only* standard for successful business operations.

This book focuses all the personnel and resources of a company toward a plan to implement total quality process control procedures for the production of plastic parts.

The focus is on management's desire and direction to implement the program by providing the assets, guidance, and information to manufacture plastic parts "right the first time."

The quality process begins with sales and continues through the company's different departments, be they large or small, including finance, purchasing, design, tooling, manufacturing, assembly, decorating, and shipping. All personnel have a responsibility and effect on the success of their total quality process control program.

The book explores in detail the methods and procedures that have obtained solid positive results in satisfying their customers' quality part requirements. These techniques have reduced cost, improved product performance, and increased customer satisfaction and profitability for both themselves and their customers.

Each chapter explores in detail different ways to improve part design, processability, and total manufacturing and part quality. Also included are material and process control procedures with control charting in real time to monitor quality through the entire manufacturing system. By adherence to these methods, the tooling for part production and the manufacturing equipment will always be capable of producing product to meet the customer's quality requirements.

Problem analysis techniques and troubleshooting procedures are also presented to improve a company's process control system and solve manufacturing problems with a minimum of time and expense to maintain production schedules and delivery requirements.

Any company, large or small, cannot afford not to adapt all or at least a major portion of the total quality process control procedures to be discussed. Competition is always knocking on our customers' doors, and the only way to counter their threat is to provide a high-quality product within a realistic time schedule and at a fair market price.

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The updating of quality methods for today and beyond was necessary to keep the information current with industry standards.

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M. Joseph Gordon, Jr.

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