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Nota di contenuto	Front Cover; Plastics Engineered Product Design; Copyright Page; Contents; Preface, Acknowledgement; About the Authors; Chapter 1. Overview; Introduction; Materials of construction; Plastic behaviors; Fabricating processes; Variables; FALLO approach; Chapter 2. Design Optimization; Introduction; Engineering Optimization; Viscoelasticity; Viscosity; Rheology and mechanical properties; Static stress; Dynamic stress; Rapid loading; High performance; Conceptual design approach; Chapter 3. Design Parameter; Load determination; Design analysis process; Stress-strain behavior; Combined stresses CreepFatigue; Reinforcement performance; Chapter 4. Product Design; Introduction; Geometric shape; Plate; Beam; Rib; Column; Torsion; Sandwich; Gear; Bearing; Grommet; Gasket; Shape; Pipe; Spring; Hinge; Press fit; Snap fit; Tape; Packaging; Building; Transportation; Missile and Rocket; Electrical/Electronic; Medical; Recreation; Appliance; Furniture; Water filter; Lumber; Metal; Design limitation and constraint; Chapter 5. Computer-Aided Design; Technology overview; Computers and people; Geometric modeling; Design accuracy and efficiency; Input/output device; Software Finite element analysisSynthesizing design; CAD special use; CAD standard and translator; Data sharing; Engineered personal computer; CAD editing; CIM changing; Computer-based training; IBM advances

computer; Artificial intelligence; Plastic Toys-Smart computer; Computer devices via DNA; Design via internet; Chapter 6. Plastic Performance; Overview; Selecting plastic; Temperature; Flammability; Electrical/Electronic; Corrosion resistance; Chemical resistance; Friction; Tolerance; Recycled plastic; Engineering data information source; Training programs; Chapter 7. Design Reliability; Testing Quality controlStatistics; Testing, QC, Statistics, and People; Product failure; Meaning of data; Safety factor; Chapter 8. Summary; Overview; Ergonomic; Costing; Engineering and law interface; Plastic material; Design demand; Plastic success; Future; Appendix A. Abbreviations; Appendix B. Glossary; Appendix C. Tradenames; Bibliography; Index

Sommario/riassunto

A comprehensive book which collates the experience of two well-known US plastic engineers. Enables engineers to make informed decisions. Includes a unique chronology of the world of plastics. The use of plastics is increasing year on year, and new uses are being found for plastics in many industries. Designers using plastics need to understand the nature and properties of the materials which they are using so that the products perform to set standards. This book, written by two very experienced plastics engineers, provides copious information on the materials,