

SOLDERING HANDBOOK **FOR** **PRINTED CIRCUITS** **AND** **SURFACE MOUNTING**

Design, Materials, Processes, Equipment,
Trouble-Shooting, Quality, Economy,
and Line Management



HOWARD H. MANKO

Soldering Handbook

RUDOLF STRAUSS



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SMT Soldering Handbook RUDOLF STRAUSS, 1998-02-24 Surface Mount Technology has had a profound influence on the electronics industry and has led to the use of new materials techniques and manufacturing processes Since the first edition of this book was written electronic assemblies have continued to become still smaller and more complex while soldering still remains the dominant connecting technique This is a comprehensive guide to current methods of soldering components to their substrates written by one of the founding fathers of the technology It also covers component placement the post CFC technology of cleaning after soldering and the principles and methods of quality control and rework New sections deal with Ball Grid Array BGA technology lead free solders no clean fluxes and the current standard specifications for solders and fluxes Dr Rudolf Strauss has spent most of his working life with a leading manufacturer of solders and fluxes He was responsible for a number of innovations including the concept of wave soldering and for many years has been active as lecturer consultant and technical author His book explains the principles of soldering and surface mount technology in practical terms and plain language free from jargon It is addressed to the man or woman who has to do the job but it will also be of help in planning manufacturing strategy and in making purchasing decisions relating to consumables and equipment Written by founding father of SMT technology Standard specifications have been fully updated New chapter covering Ball Grid Array BGA technology

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cover the Manual Soldering competitions arranged by different Industry Association like IPC *Soldering Handbook* B. M. Allen, 1972 A practical manual for industry and the laboratory Title Page Soldering Handbook for Printed Circuits and Surface Mounting Howard H. Manko, 1986-11-30 The printed circuit industry has achieved maturity and universal acceptance No known interconnection technology threatens to render it obsolete in the foreseeable future It offers two unique advantages that are important for any assembly technology quality reliability and economy The mode of component attachment to printed circuit boards however is undergoing a radical change Technical and economic pressures are forcing the industry to convert some or all of its assembly to surface mounting techniques We are moving away from the traditional large through the hole connection with its mechanical security It is being replaced by a small surface butt and or lap joint sometimes with no added mechanical support to the solder This change requires a complete reassessment of design production and inspection techniques A major portion of this book is devoted to the changes imposed by surface mounting This recent development is an extension of the established hybrid thick and thin film industry Yet when it is applied to conventional printed circuits there are major differences One must view the printed circuit board as a planar surface designed to provide interconnections between electronic devices The electronic industry is using them for mass production techniques to join discrete integrated and special components leaded and leadless This book applies to all board variations including single sided double sided multi layer and flexible circuits **Electronic Materials Handbook** , 1989-11-01 Volume 1 Packaging is an authoritative reference source of practical information for the design or process engineer who must make informed day to day decisions about the materials and processes of microelectronic packaging Its 117 articles offer the collective knowledge wisdom and judgement of 407 microelectronics packaging experts authors co authors and reviewers representing 192 companies universities laboratories and other organizations This is the inaugural volume of ASMAs all new Electronic Materials Handbook series designed to be the Metals Handbook of electronics technology In over 65 years of publishing the Metals Handbook ASM has developed a unique editorial method of compiling large technical reference books ASMAs access to leading materials technology experts enables to organize these books on an industry consensus basis Behind every article is an author who is a top expert in its specific subject area This multi author approach ensures the best most timely information throughout Individually selected panels of 5 and 6 peers review each article for technical accuracy generic point of view and completeness Volumes in the Electronic Materials Handbook series are multidisciplinary to reflect industry practice applied in integrating multiple technology disciplines necessary to any program in advanced electronics Volume 1 Packaging focusing on the middle level of the electronics technology size spectrum offers the greatest practical value to the largest and broadest group of users Future volumes in the series will address topics on larger integrated electronic assemblies and smaller semiconductor materials and devices size levels **Electronic Reliability Design Handbook** , 1984 **Tool and Manufacturing Engineers Handbook: Quality Control and**

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