

Handboo

DUST

TABLE OF CONTENTS

TABLE OF CONTENTS ACKNOWLEDGMENTS	vii ix
MATHEMATICS • NUMBERS, FRACTIONS, AND DECIMALS • ALGEBRA AND EQUATIONS • GEOMETRY • SOLUTION OF TRIANGLES • MATRICES • MANUFACTURING DATA ANALYSIS • ENGINEERING ECONOMICS	1
MECHANICS AND STRENGTH OF MATERIALS • MECHANICS • VELOCITY, ACCELERATION, WORK, AND ENERGY • STRENGTH OF MATERIALS • PROPERTIES OF BODIES • BEAMS • COLUMNS • PLATES, SHELLS, AND CYLINDERS • SHAFTS • SPRINGS • DISC SPRINGS • FLUID MECHANICS	147
PROPERTIES, TREATMENT, AND TESTING OF MATERIALS • THE ELEMENTS, HEAT, MASS, AND WEIGHT • PROPERTIES OF WOOD, CERAMICS, PLASTICS, METALS • STANDARD STEELS • TOOL STEELS • HARDENING, TEMPERING, AND ANNEALING • NONFERROUS ALLOYS • PLASTICS	369
DIMENSIONING, GAGING, AND MEASURING • DRAFTING PRACTICES • ALLOWANCES AND TOLERANCES FOR FITS • MEASURING, INSTRUMENTS, AND INSPECTION METHODS • SURFACE TEXTURE	608
TOOLING AND TOOLMAKING • CUTTING TOOLS • CEMENTED CARBIDES • FORMING TOOLS • MILLING CUTTERS • REAMERS • TWIST DRILLS AND COUNTERBORES • TAPS • STANDARD TAPERS • ARBORS, CHUCKS, AND SPINDLES • BROACHES AND BROACHING • FILES AND BURS • KNURLS AND KNURLING • TOOL WEAR AND SHARPENING	754
MACHINING OPERATIONS • CUTTING SPEEDS AND FEEDS • SPEED AND FEED TABLES • ESTIMATING SPEEDS AND MACHINING POWER • MICROMACHINING • MACHINING ECONOMETRICS • SCREW MACHINES, BAND SAWS, CUTTING FLUIDS • MACHINING NONFERROUS METALS AND NON-METALLIC MATERIALS • GRINDING FEEDS AND SPEEDS • GRINDING AND OTHER ABRASIVE PROCESSES • CNC NUMERICAL CONTROL PROGRAMMING	1004
MANUFACTURING PROCESSES • SHEET METAL WORKING AND PRESSES • ELECTRICAL DISCHARGE MACHINING • IRON AND STEEL CASTINGS • SOLDERING AND BRAZING • WELDING • LASERS • FINISHING OPERATIONS	1328

TABLE OF CONTENTS

FASTENERS	1517
• TORQUE AND TENSION IN FASTENERS • INCH THREADED	
FASTENERS • METRIC THREADED FASTENERS • HELICAL COIL	
SCREW THREAD INSERTS • BRITISH FASTENERS • MACHINE	
SCREWS AND NUTS • CAP AND SET SCREWS • SELF-THREADING	
SCREWS • T-SLOTS, BOLTS, AND NUTS • RIVETS AND RIVETED	
IOINTS • PINS AND STUDS • RETAINING RINGS • WING NUTS,	
WING SCREWS, AND THUMB SCREWS • NAILS, SPIKES, AND WOO	D
SCREWS	
SCREWS	
THREADS AND THREADING	1802
• SCREW THREAD SYSTEMS • UNIFIED SCREW THREADS	
CALCULATING THREAD DIMENSIONS • METRIC SCREW	
THREADS • ACME SCREW THREADS • BUTTRESS THREADS	
• WHITWORTH THREADS • PIPE AND HOSE THREADS • OTHER	
THREADS • MEASURING SCREW THREADS • TAPPING AND	
THREAD CUTTING • THREAD ROLLING • THREAD GRINDING	
• THREAD MILLING • SIMPLE, COMPOUND, DIFFERENTIAL, AND	
BLOCK INDEXING	
BLOCK INDEXING	
GEARS, SPLINES, AND CAMS	2122
• GEARS AND GEARING • HYPOID AND BEVEL GEARING • WORM	
GEARING • HELICAL GEARING • OTHER GEAR TYPES	
• CHECKING GEAR SIZES • GEAR MATERIALS • SPLINES AND	
SERRATIONS • CAMS AND CAM DESIGN	
SERRATIONS - CAMO AND CAM DESIGN	
MACHINE ELEMENTS	2310
• PLAIN BEARINGS • BALL, ROLLER, AND NEEDLE BEARINGS	
• LUBRICATION • COUPLINGS, CLUTCHES, BRAKES • KEYS AND	
KEYSEATS • FLEXIBLE BELTS AND SHEAVES • TRANSMISSION	
CHAINS • BALL AND ACME LEADSCREWS • ELECTRIC MOTORS	
• ADHESIVES AND SEALANTS • O-RINGS • ROLLED STEEL, WIRE,	
SHEET-METAL, WIRE ROPE • SHAFT ALIGNMENT	
MEASURING UNITS	2651
• SYMBOLS AND ABBREVIATIONS • MEASURING UNITS • U.S.	
SYSTEM AND METRIC SYSTEM CONVERSIONS	
INDEX	2701
NOTES	2789