

1. Record Nr.	UNINA9910814742203321
Autore	Gupta A (Ashok)
Titolo	Mineral processing design and operation : an introduction // by A. Gupta and D.S. Yan
Pubbl/distr/stampa	Amsterdam ; ; Boston, : Elsevier, 2006
ISBN	1-280-63094-9 9786610630943 1-4294-0887-1 0-08-045461-5
Edizione	[1st ed.]
Descrizione fisica	1 online resource (719 p.)
Altri autori (Persone)	YanD. S (Denis Stephen)
Disciplina	622.7
Soggetti	Ore-dressing Smelting
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di contenuto	Front cover; Title page; Copyright; Preface; Table of contents; Symbols and Units; Chapter 1. Mineral Sampling; INTRODUCTION; STATISTICAL TERMINOLOGY; MINERAL PARTICLES DIFFERING IN SIZE-GY'S METHOD; MINERAL PARTICLES OF DIFFERENT DENSITY; INCREMENTAL SAMPLING; CONTINUOUS SAMPLING OF STREAMS; SAMPLING ORES OF PRECIOUS METALS; SAMPLING NOMOGRAPHS; PROBLEMS; REFERENCES; Chapter 2. Particle Size Estimation and Distributions; INTRODUCTION; METHODS OF SIZE ESTIMATION; PARTICLE SIZE DISTRIBUTION; COMBINING SIZE DISTRIBUTIONS; PROBLEMS; REFERENCES; Chapter 3. Size Reduction and Energy Requirement INTRODUCTION DESIGN OF SIZE REDUCTION PROCESSES; ENERGY FOR SIZE REDUCTION-WORK INDEX; ESTIMATION OF WORK INDEX FOR CRUSHERS AND GRINDING MILLS; PROBLEMS; REFERENCES; Chapter 4. Jaw Crusher; INTRODUCTION; DESIGN OF JAW CRUSHERS; JAW CRUSHER OPERATION; JAW CRUSHER CAPACITY; CRITICAL OPERATING SPEED; POWER CONSUMPTION; PROBLEMS; REFERENCES; Chapter 5. Gyratory and Cone Crusher; INTRODUCTION; DESIGN OF GYRATORY CRUSHERS; GYRATORY CRUSHER OPERATION; GYRATORY CRUSHER CIRCUIT DESIGN; CAPACITY; POWER CONSUMPTION; PROBLEMS; REFERENCES;

Chapter 6. Roll Crushers; INTRODUCTION; DESIGN OF ROLL CRUSHERS
OPERATION OF ROLL CRUSHERS CAPACITY OF ROLL CRUSHERS; POWER
CONSUMPTION OF ROLL CRUSHERS; HIGH PRESSURE GRINDING ROLLS
(HPGR); OPERATION OF HPGR; CAPACITY OF HPGR; POWER
CONSUMPTION OF HPGR; PROBLEMS; REFERENCES; Chapter 7. Tubular
Ball Mills; INTRODUCTION; DESIGN OF TUBULAR MILLS; OPERATION OF
TUBULAR BALL MILLS; ESTIMATION OF MILL CAPACITY; MILL POWER
DRAW-MECHANICAL METHODS; PROBLEMS; REFERENCES; Chapter 8.
Tubular Rod Mills; INTRODUCTION; DESIGN OF ROD MILLS; OPERATION
OF ROD MILLS; ROD MILL CAPACITY; ROD MILL POWER DRAFT; MILL
DRIVE; PROBLEMS; REFERENCES
Chapter 9. Autogenous and Semi-Autogenous Mills INTRODUCTION;
DESIGN OF AG/SAG MILLS; OPERATION OF AG/SAG MILLS; AG/SAG MILL
POWER; CHOICE OF OPTIONS BETWEEN AG AND SAG MILLS; PROBLEMS;
REFERENCES; Chapter 10. Mathematical Modelling in Comminution;
INTRODUCTION; BASIS FOR MODELLING COMMINUTION SYSTEMS;
MATHEMATICAL MODELS OF COMMINUTION PROCESSES; MODELLING
CRUSHING AND GRINDING SYSTEMS; PROBLEMS; REFERENCES; Chapter
11. Screening; INTRODUCTION; BASIC DESIGN FEATURES IN SCREENS;
OPERATION OF STRAIGHT SCREENS; CAPACITY AND SCREEN SELECTION
OF STRAIGHT SCREENS; OPERATION OF CURVED SCREENS
MODELLING OF THE SCREENING PROCESS SCREENING AND CRUSHING
CIRCUITS; PROBLEMS; REFERENCES; Chapter 12. Classification;
INTRODUCTION; DESIGN FEATURES OF MECHANICAL CLASSIFIERS;
DESIGNING THE POOL AREA OF MECHANICAL CLASSIFIERS; DESIGN
FEATURES OF CENTRIFUGAL CLASSIFIERS; OPERATION OF MECHANICAL
CLASSIFIERS; CAPACITY OF MECHANICAL CLASSIFIERS; OPERATION OF
CENTRIFUGAL CLASSIFIERS; HYDROCYCLONE MODELS; HYDROCYCLONE
CAPACITY; HYDROCYCLONE CIRCUITS; PROBLEMS; REFERENCES;
Chapter 13. Solid - Liquid Separation; INTRODUCTION; DESIGN
FEATURES OF THICKENERS; THICKENER DESIGN-BATCH PROCESS
THICKENER DESIGN-CONTINUOUS THICKENERS

Sommario/riassunto

Mineral Processing Design and Operations is expected to be of use to the design engineers engaged in the design and operation of mineral processing plants and including those process engineers who are engaged in flow-sheets development. Provides an orthodox statistical approach that helps in the understanding of the designing of unit processes. The subject of mineral processing has been treated on the basis of unit processes that are subsequently developed and integrated to form a complete strategy for mineral beneficiation. Unit processes of crushing, grinding, solid-liquid separati
