1.	Record Nr.	UNINA9910971899703321
	Autore	Boateng Akwasi Acheampong <1951->
	Titolo	Rotary kilns : transport phenomena and transport processes / / Akwasi A. Boateng
	Pubbl/distr/stampa	Amsterdam ; ; Boston, : Elsevier/Butterworth-Heinemann, c2008
	ISBN	9786611145026 9780128037805 0128037806 9781281145024 1281145025 9780080557120 0080557120
	Edizione	[Second edition.]
	Descrizione fisica	1 online resource (368 p.)
	Disciplina	660/.28426
	Soggetti	Kilns, Rotary Transport theory
	Lingua di pubblicazione	Inglese
	Formato	Materiale a stampa
	Livello bibliografico	Monografia
	Note generali	Description based upon print version of record.
	Nota di bibliografia	Includes bibliographical references and index.
	Nota di contenuto	Cover; Table of Contents; Foreword; Preface; Chapter 1 The Rotary Kiln Evolution and Phenomenon; 1.1 The Rotary Kiln Evolution; 1.1.1 Comparison of the Rotary Kiln with Other Contactors; 1.2 Types of Rotary Kilns; 1.2.1 Wet Kilns; 1.2.2 Long Dry Kilns; 1.2.3 Short Dry Kilns; 1.2.4 Coolers and Dryers; 1.2.5 Indirect Fired Kilns; Chapter 2 Basic Description of Rotary Kiln Operation; 2.1 Bed Phenomenon; 2.2 Geometrical Features and Their Transport Effects; 2.3 Transverse Bed Motion; 2.4 Experimental Observations of Transverse Flow Behavior; 2.5 Axial Motion; 2.6 Dimensionless Residence Time Chapter 3 Freeboard Aerodynamic Phenomena3.1 Fluid Flow in Pipes: General Background; 3.2 Basic Equations of Multicomponent Reacting Flows; 3.3 Development of a Turbulent Jet; 3.4 Confined Jets; 3.5 Swirling Jets; 3.6 Precessing Jets; 3.7 The Particle-laden Jet; 3.8 Dust Entrainment; 3.9 Induced Draft Fan; Chapter 4 Granular Flows in Rotary Kilns; 4.1 Flow of Granular Materials (Granular Flows); 4.2 The Equations of Motion for Granular Flows; 4.3 Particulate Flow Behavior in

Sommario/riassunto	Rotary Kilns-rotating industrial drying ovens-are used for a wide variety of applications including processing raw minerals and feedstocks as well as heat-treating hazardous wastes. They are particularly critical in the manufacture of Portland cement. Their design and operation is critical to their efficient usage, which if done incorrectly can result in improperly treated materials and excessive, high fuel costs. This professional reference book will be the first comprehensive book in many years that treats all engineering aspects of rotary kilns, including a thorough grounding in the therm