1. Record Nr. UNINA9910556892103321 Autore Muller Anette Titolo Recycling of building materials : generation, processing, utilization // Anette Muller and Isabel Martins Wiesbaden, Germany: ,: Springer Vieweg, , [2022] Pubbl/distr/stampa ©2022 **ISBN** 3-658-34609-4 Descrizione fisica 1 online resource (377 pages) Disciplina 604.6 Soggetti Salvage (Waste, etc.) Building materials - Recycling **Building materials** Lingua di pubblicazione Inglese **Formato** Materiale a stampa Monografia Livello bibliografico Note generali Includes index. Nota di contenuto Intro -- Preface -- Contents -- About the authors -- List of Figures --List of Tables -- 1 Material Cycles -- 1.1 Examples from the Natural Environment -- 1.2 Developments and Drivers of Recycling -- 1.3 Typification of Material Cycles in the Construction Industry -- 1.4 Material Balance and Anthropogenic Building Material Stock --References -- 2 Material Flow Management -- 2.1 Basic Terms -- 2.2 Classification of Construction and Demolition Waste -- 2.3 Construction- Specific Key Figures -- 2.3.1 Quantities and Types of Waste Generated During the Construction and Renovation of Structures -- 2.3.2 Quantities and Types of Waste from Demolition and Dismantling -- 2.4 Waste Management Key Figures -- References -- 3 Regulations for the Handling of Construction and Demolition Waste --3.1 Legal Requirements -- 3.2 Environmental Regulations -- 3.3 Building Regulations -- References -- 4 Processing of Construction and Demolition Waste -- 4.1 Size Reduction -- 4.1.1 Basic Concepts --4.1.2 Performance of Crushers -- 4.1.3 Effects of Comminution -- 4.2 Screening -- 4.2.1 Basic Concepts -- 4.2.2 Types of Screening Machines -- 4.2.3 Selection of the Suitable Screening Machine -- 4.3

Sorting -- 4.3.1 Basic Concepts -- 4.3.2 Dry Sorting Methods -- 4.3.3 Wet Sorting Methods -- 4.3.4 Sorting Methods for Ferrous and Non-

Ferrous Metals -- References -- 5 Plants for the Treatment of

Construction and Demolition Waste -- 5.1 Overview of System Types -- 5.2 Building Rubble Treatment Plants in Germany -- 5.2.1 Stationary Systems -- 5.2.2 Mobile Systems -- References -- 6 Recycling of Reclaimed Asphalt -- 6.1 Basic Terms -- 6.2 Statistics on Consumption of Primary Material and Waste Generation -- 6.3 Properties of Reclaimed Asphalt -- 6.4 Recycling Technologies -- 6.4.1 Recycling in Place -- 6.4.2 Recycling in Plant.

6.4.3 Recycling of Materials Containing Tar Pitch -- References -- 7 Recycling of Concrete Rubble -- 7.1 Basic Terms -- 7.2 Developments. Produced Quantities and Existing Stock -- 7.3 Specific Properties of Recyclates and Recycled Concretes -- 7.3.1 Heterogeneity of Recycled Aggregates -- 7.3.2 Reaction Potential of Recycled Aggregates -- 7.3.3 Concretes from Recycled Aggregates as Composites -- 7.4 Properties of Recycled Aggregates of Concrete Rubble -- 7.5 Recovery -- 7.5.1 Utilization in Earthworks -- 7.5.2 Utilization in Road Construction --7.5.3 Utilization as Aggregate for the Production of Concrete --References -- 8 Recycling of Masonry Rubble -- 8.1 Basic Terms -- 8.2 Developments, Produced Quantities and Existing Stock -- 8.3 Features of Masonry Building Materials -- 8.3.1 Typology -- 8.3.2 Properties of Unmixed Components of Masonry Rubble -- 8.4 Properties of Recycled Building Materials from Masonry Rubble -- 8.5 Utilization of the Pure Components of Masonry Rubble -- 8.5.1 Pure Clay Brick Aggregates --8.5.2 Pure Aggregates of Calcium Silica Bricks -- 8.5.3 Pure Aggregates of Aerated Autoclaved Concrete -- 8.5.4 Pure Aggregates of Lightweight Concrete -- 8.6 Application of Mixed Masonry Rubble --References -- 9 Recycling of Other Types of Construction Waste -- 9.1 Track Ballast -- 9.1.1 Characteristics of Primary Material and Waste --9.1.2 Recycling Technologies and Products -- 9.2 Gypsum -- 9.2.1 Characteristics of Primary Material and Waste -- 9.2.2 Recycling Technologies and Products -- 9.2.3 Downcycling of Gypsum Waste --9.3 Fiber Cement -- 9.3.1 Characteristics of Primary Material and Waste -- 9.3.2 Recycling Technologies and Products -- 9.4 Mineral Wool --9.4.1 Characteristics of Primary Material and Waste -- 9.4.2 Recycling Technologies and Products -- 9.5 Glass -- 9.5.1 Characteristics of Primary Material and Waste.

9.5.2 Recycling Technologies and Products -- References -- 10 Advanced Recycling -- 10.1 Processing -- 10.1.1 Comminution -- 10.1.2 Sorting -- 10.1.3 Plant Concepts -- 10.2 Raw Material Recycling -- References -- Index.