

<<现代堆石坝技术进展>>

图书基本信息

书名：<<现代堆石坝技术进展>>

13位ISBN编号：9787508468679

10位ISBN编号：7508468678

出版时间：2009-10-01

出版时间：中国水利水电出版社

作者：贾金生

页数：913

版权说明：本站所提供下载的PDF图书仅提供预览和简介，请支持正版图书。

更多资源请访问：<http://www.tushu007.com>

<<现代堆石坝技术进展>>

内容概要

The development of modern rockfill dams started from late 1960s and early 1970s. Since then, rapid progress has been achieved in the construction of rockfill dams throughout the world. This is mainly due to its distinct advantages in economy and efficiency. At present, several super high CFRD and ECRD projects have been successfully constructed in the world, such as Shuibuya CFRD (233m) in China and Nurek ECRD (300 m) in Tajikistan. Zipingpu CFRD with height of 156m has demonstrated good performance in safety during the strong Wenchuan earthquake in 2008. Based on the previous progress achieved and the successful practices of the international milestone projects, great achievements will be made by further research works and engineering practices in the future. This volume presents the state-of-the-art of rockfill dam technologies by 2009 throughout the world. It could be a useful reference for engineers, professionals and students.

<<现代堆石坝技术进展>>

书籍目录

Table of Contents
 Preface
 Theme 1: Project Introduction, History, Case and Experience of Rockfill Dam
 Review and Suggestions on CFRD Construction
 Zhao Zengkai (China)
 Deformation Control of the 200 m High Hongjiadu Concrete Faced Rockfill Dam
 Yang Zeyan, Jiang Guocheng (China)
 Repair of CFRDs in the Dry and Underwater: Salt Springs and Turimiquire
 Sequera R, Perazzo P, Scuero A, Vaschetti G (Venezuela)
 Mazar CFRD Dam: Main Features on Design and Construction
 Marcelo G Costa, Fern Estrella, Manoel S Freitas Jr (Ecuador)
 Technical Progress of CFRD Constructed on Deep Alluvium
 Xu Zeping (China)
 Construction of Lianghekou Earth-Core Rockfill Dam on Yalong River
 Wu Shiyong, Shen Manbin, Xi Zhiyong (China)
 Design and Construction Techniques for a Safe Planning and Execution of High CFRDs
 Bayardo Materon (Brazil)
 A Case - Study of Cua - Dat CFRD in Vietnam
 Giang Pham Hong, Michel Hotakhanh (Vietnam)
 The Asphalt Core Embankment Dam: A Very Competitive Alternative
 Wang Weibiao, Kaare Hoeg (China)
 Nam Ngum 2 Hydroelectric Power Project Encountered Technical and Economical Challenges
 Pratoomkhuang Ngarmsirilertsgoon, Sako Lkiat Puangpatcharakul (Laos)
 Gibe III: A Zigzag Geomembrane Core for a 50 m High Rockfill Cofferdam in Ethiopia
 Pietrangeli G, Pietrangeli A, Scuero A, Vaschetti G (Italy)
 Rockfill Dam Engineering Practice in Huizhou Pumped Storage Power Station
 Lu Yajun, Zhang Peng (China)
 Construction and First Impounding of the Tokuyama Dam
 Hino Koji, Soda Hideki (Japan)
 Dam Safety & Water Resources Planning Project in Sri Lanka - Special Consideration on Rockfill Dams
 Sudahrma Elakanda, Madusha Chandrasekera (Sri Lanka)
 Theme 2: Design and Analysis
 Achievements and New Considerations on Re-constructing of Diversion Tunnel into Spillway Tunnel in High Earth and Rockfilled Dams
 Guo Jun, Gao Jizhang (China)
 Spillway Hydraulic Issues in Rebuilding Embankment Dams - Experiences from Vattenfall's Dam - Safety Program
 James Yang, MaLte Cederstrom (Sweden)
 Adaptability of Slab Joint Waterstop to Very High CFRD
 Hao Jutao, Lu Yihui, Jia Jinsheng, Du Zhenkun, Dou Tiesheng (China)
 Design of Concrete Face Slab for 182 m High NN2 CFRD
 Aphichat S, Pastsakorn K, Weerayot C, Rawee S (Thailand)
 Design and Verification Analysis on the Maopingxi Asphaltic Concrete Core Wall Embankment Dam of the Three Gorges Project
 Xu Tangjin, Yu Shengriang, Yan Shuanghong (China)
 Mesh Generation for 3-D Dynamic Analysis of Fill Dam
 Ik -Soo Ha, Byung - Hyun Oh, Wan - Ho Lee (Republic of Korea)
 Analysis on Engineering and Technical Characteristics of Shuangjiangkou Hydropower Project
 Chen Bangfu (China)
 Design Considerations of a High Rockfill Dam
 Nam Ngum 2 CFRD, Lao PDR
 Ruedi Straubaar, Eva van Gunsteren, Stephen Motl (Switzerland)
 Finite Element Analysis of a Super High Earth Core Rockfill Dam on Deep Overburden
 Pan Jiajun, Wang Mingyuan, Xu Han (China)
 The Desjararstifla Dam: Measures in the Foundation to Mitigate Adverse Effects of Faults & Lineaments
 Palmason R, Fj61a G Sigtryggdottir (Iceland)
 Study of Seepage Control Characteristics of Jinchuan Concrete Faced Rockfill Dam on Dadu River
 Rong Guan, Pan Shaohua (China)
 FEM Analysis of a Concrete Faced Rockfill Dam
 Gerd-Jan Schreppers, Giovanna Lilliu (Netherlands)
 A New Method for Estimating the Deformability Modulus of Plastic Concrete
 gotvand Dam Experience, Southwest Iran
 Heidarzadeh M, Sadr -Lahijani SM, Niroomand H (Iran)
 Numerical Analysis on Asphalt Concrete Core Rockfill Dam Using Elasto-Plastic Couple Constitutive Model
 Zhu Sheng, She Yapeng (China)
 Irrigation Dam - Stress and Strain: Numerical Predictions and Measurement Results
 Aler Martins Calcina, Jander de Faria Leitao, Reginaldo Araujo Machado (Brazil)

章节摘录

The material for the first 10 layers of the embankment is processed with conventional earth-work construction machinery. The excavated material brought from the borrow areas is transported to the processing yard, then spread with a bulldozer in layers generally 150 mm thick and sprinkled with water. Most of the larger lumps break down to small size in this processing of spreading. Finally tamping - foot roller or bulldozer is employed to roll over the fill material by several passes till the percentage of lumps is reduced to 12% to 13%. Material coarser than 10mm in size is categorized as lumps. The number of passes for various layers varies between 15 and 22. Water is sprayed over the processed layer and the material is then pushed by dozer blade into a stockpile. While pushing, the dozer blade inevitably excavate some material from ground which is drier. Water is added to the piled-up material and the material worked with the loader bucket. The water content of the material is brought to within zero to +3% of the optimum water content.

3.2.2 Processing by agricultural rotavator
The material for the last 12 layers of the embankment is processed with agricultural rotavator. The object of using the rotavator is to reduce the material processing effort. The excavated material is spread in 150 mm thick layers by the bulldozer blade. The material is then loosened by the dozer rippers and water is sprinkled over the surface. The processing is then performed by the rotavator, with more water being sprinkled if required. In every pass, the rotavator penetrates 20 to 30 mm into the layer while cutting and pulverizing the lumps. Generally 6 passes of the rotavator is required to achieve full penetration of 150 mm into the layer. When full penetration is achieved, the proportion of lumps in the material is 15% to 25% and the maximum size of the lumps is about 100 mm. The processing of the material is continued with further passes of the rotavator. The proportion of lumps is reduced to about 12% after 8 to 18 passes. The maximum size of the lumps is about 50 mm. The processed material is stockpiled by a loader, water is added to the stockpile as required to increase the water content of the processed material. Mixing of water is achieved by working the material with the front-end loader.

3.3 Construction of trial embankment
The processed fill material stockpile in the processing area is transported to the trial embankment by dumps. Since the grader has broken down at the early stage, bulldozer is deployed for spreading and leveling. In this case, the spreading thickness is not uniform and the compaction thickness varied from 100 to 190 mm. A self-propelled single-drum tamping-foot vibratory roller with a static weight of 10.2 tons was used for compaction. As the fill material is silt, vibration is not used for compaction. The tamping-foot roller operates at a speed of 4 km/hour to achieve a compacted dry density of 97% of the maximum standard Proctor dry density. Generally the compacted surface is hard and homogeneous after 6 passes of the roller, expects for a few wet spots during Stage 1 where the moisture is much above the optimum due to lack of suitable water-mixing equipment. This problem does not occur during Stage 2 because of the uniform mixing of water by the rotavator. Sometimes the compacted surface is undulating due to the uneven spreading and poor leveling of material by the bulldozer. The proportion of lumps in the compacted fill is found to be about 8% to 9% compared with the range of 12% to 13% before placement and compaction. This reduction in the lumps content occurs during haulage of the material from the processing area to the embankment, spreading of the material by the bulldozer and compaction by the tamping-foot roller.

<<现代堆石坝技术进展>>

版权说明

本站所提供下载的PDF图书仅提供预览和简介，请支持正版图书。

更多资源请访问:<http://www.tushu007.com>