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1.6 Approach to Anti Abrasive from Hydraulic Machinery
1.6.1 Approach Avenues on Anti-silt Erosion of Hydraulic Machinery; 1.6.2 Anti-abrasion Hydraulic Design of Pumps; 1.6.3 Prediction of Silt-Erosion Damage in Pump Design by Test; References; Chapter 2 Calculation of Hydraulic Abrasion; 2.1 Calculation of Hydraulic Abrasion Proposed by V.Ya. Karelin and A. I. Denisov; 2.2 Prediction Model of Hydraulic Abrasion; 2.2.1 Prediction Erosion Model Proposed by Finnie and Bitter; 2.2.2 Mechanistic Model Developed by The Erosion/Corrosion Research Center
2.2.3 Prediction Erosion Model Proposed by McLaury et al
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3.2.3 The $k - \epsilon$ Turbulence Model of Two-Phase Flow
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4.2 Effects of Silt-Laden Flow on Cavitation Performances and Geometric Parameters of Hydraulic Turbines
4.2.1 Effects of Silt-Laden Flow on Cavitation Performances of Hydraulic Turbines; 4.2.2 Model Experiments on Cavitation of Turbines in Silt-Laden Flow; 4.2.3 Selection of Geometric Parameters of Turbines Operating in Silt-Laden Flow; 4.3 Hydraulic Design of Slurry Pump; 4.3.1 Internal Flow Characters through Slurry Pumps; 4.3.2 Effects of Impeller Geometry on Performances of Slurry Pumps and Its Determination; 4.3.3 Vane Pattern; 4.3.4 Hydraulic Design of Centrifugal Slurry Pumps
4.3.5 Hydraulic Design of Slurry Pump Casing

This book gives a systematic exposition of abrasive erosion and corrosion of hydraulic machinery in both theory and engineering practice, and is the first comprehensive volume to cover this area in depth. All the important subjects are discussed including fundamentals, calculation, analysis and numerical simulation of liquid-solid flow design, erosion-resistant materials, interaction between cavitation and abrasive erosion, and corrosion of hydraulic machinery.

Contents:

- Fundamentals of Hydroabrasive Erosion Theory (V Y Karelin et al.)
- Calculation of Hydraulic