

# Risk Evaluation and Management of Modern Pipe-Rolling Manufacture

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## Abstract

Risk management is an integral part of sustainable functioning of modern manufacturing companies and plays a key role in ensuring their stability, efficiency and competitiveness, being an important strategic function. In the context of globalisation, technological change and economic instability, companies face a multitude of challenges that require effective mechanisms for assessing and minimising risks. Risk management is integrated into the strategic and operational management of enterprises, covering all aspects of its activities - from technological processes to financial results and environmental safety. The risk management process is cyclical in nature, including identification of threats, their analysis, monitoring and development of corrective measures. This study considers the key areas of risk in pipe rolling production, the main ones being: product compliance with customer requirements, ensuring stable quality and lead times, and the introduction of new technologies and equipment. The results of the study emphasise the importance of an integrated approach to risk management, including the development and implementation of modern risk monitoring and analysis systems, the use of modern technologies for forecasting and preventing operational failures, personnel training and professional development, strategic planning and business diversification. The implementation of an integrated approach will not only minimise potential threats, but also improve the efficiency of production processes, ensuring sustainable development of pipe rolling production under conditions of uncertainty.

## Keywords

Risk Management, Pipe-Rolling Production, Risk Map, Industrial Safety, Financial Risks, Technological Risks, Cybersecurity, Production Efficiency