

# FEASIBILITY OF PROTOTYPING THE JOMINY TEST DEVICE: CORROBORATING FOR STUDIES AND PRELIMINARY RESULTS OF THE HEATING AND DATA ACQUISITION SUBSYSTEMS

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## RESUMO

This work contributed to a detailed study on a better understanding of the Jominy test, adopted a proportion of study to create the Jominy test device, exhibited favorable conceptions for the development of a prototype of the device, covering the four aspects of the project, being they: test device, test body heating system, test automation and instrumentation using embedded electronics and financial analysis for the elaboration of this project in Brazil. It was possible to observe in the results that the system is efficient, simple and functional, it was possible to obtain the first test carried out in the controlled environment the temperature data in degrees centigrade, the recorded data were automatically launched in Microsoft Excel by the PLX DAQ software, making the acquisition of the data. In the matter of preparing the test device, the drawings are presented in the 3D modeling software, cost tables of the materials used for assembly in Brazil. In terms of the heating system, a heating system was adopted that uses electromagnetic induction, the cost of materials related to the heating system design was also presented. Another relevant factor that contributes to the research and improvement of the prototype is the municipality, located in the Paraíba Valley region, located in the state of São Paulo, consisting of a fertile and relevant scenario of regional, national, international and multinational statistics, thus concluding the effectiveness for the mainly metallurgical industries. The results obtained were satisfactory and consistent, when they were created for the Jominy test device with the ability to submit small pieces for testing and mainly essential in the didactic point of view for a higher education institution of engineering and technology.

**PALAVRAS-CHAVE:** Jominy Test, Data Acquisition, Heating, Tempering

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