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DESIGN AND DEVELOPMENT OF A COMPOSITE SOLID ROCKET PROPELLANT

**Abstract**

This paper introduces the work done during the study, design and development of a composite solid rocket propellant based on using pure aluminum as the fuel and potassium nitrate as the main oxidizer. the study involves the trials made in order to reach the final chemical structure of the propellant and the catalysts added, also all the manufacturing parameters and difficulties experienced during the development of this fuel were also mentioned.

A separate full section of ground static testing is added in this paper for different samples and their results and a full comparison is done with the theoretical studies.