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Studying of Heat Treatment Influence on Mechanical Behavior of AA6061-T6 by Desirability Function Analysis Approach

Abstract- *This paper presents optimization of warmth treatment parameters for the mechanical conduct on 6061 Aluminum alloy using desirability function analysis (DFA). Stability The experiments have been carried out using Taguchi's L9 toughness orthogonal array. The warmth treatment durability parameters certain quenching average, getting older dead heat stability or growing older heat are optimized through multi-response considerations particularly hardness yet put on obstruction .The gold standard parameters bear been determined by the decomplex desirability value near beyond desirability characteristic analysis, yet longevity enormous contribution of parameters be able keep determined by using evaluation on dissonance (ANOVA). The evaluation effects suggests so superior combination because of excessive hardness, excellent wear hindrance are The most useful heat cure prerequisites are (A2 B1 C1) i.e. growing old anger is toughness (180 oC), ageing day is permanency (2 hr.) or quenching mediocre stability (Water). The empiric consequences present that mechanical -overall performance be able be multiplied effectively through this approach.*

Keywords- *6061 Al alloy, ANOVA, Desirability Analysis (DFA).*

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