

Reliability-Based Life-Cycle Cost Model for Engineering Systems

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Abstract : The effect of reliability on life-cycle cost, including initial and maintenance cost of a system is studied. The failure probability of a component is used to calculate the average maintenance cost during the operation cycle of the component. The standard deviation of the life-cycle cost is also calculated as an error measure for the average life-cycle cost. As a numerical example, the model is used to study the average life cycle cost of an electric motor.

Keywords : initial cost, life-cycle cost, maintenance cost, reliability

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