



Practical Infrared Thermography for Lift System Maintenance—A CBM Approach to Promote Lift Energy Efficiency

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Abstract: Infrared thermography (IRT) has been one of the most-effective condition-based maintenance (CBM) methods in determining the condition of a component or a system. Using such method in addition to vibration monitoring, chemical monitoring, and other electrical techniques, a set of information can be obtained which is used in predicting the life span of the component or system being tested. CBM provides necessary engineering and procedural recommendations to ensure that the system will not prematurely breakdown. Such tool is very essential in the lift industry since IRT can help maintenance engineers determine the conditions of some of the lift system's components and perform necessary corrective and preventive actions to prevent a potential fault. Furthermore, it is also believed that hot spots found on components in the lift system reduce its efficiency due to energy losses that is why special attention from the maintenance engineer is necessary. Literature on such application is already widespread, but discussions related to lift system maintenance is still something that needs to be considered. With such consideration, we present in this paper components and systems from a generic lift system in which IRT is applicable. Particularly, optical and thermal images are shown and are discussed in brief. This paper is written with the objective of having a simple guide when conducting CBM on lift systems using IRT.

Key Words: predictive maintenance; preventive maintenance; condition monitoring; emergency efficiency