도료의 표면특성에 따른 원적외선 건조장치의 에너지 최적효율

Maximum Energy Efficiency of an Infrared Dryer Under Painting Characteristics of Automotive Paint

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Drying is a phenomenon where moisture or organic solvent is removed from the drying medium by using various types of energy including heat and electromagnetic waves. Dryers used to control moisture are machinery of importance in a variety of industries. Drying is classified according to heat transfer characteristics in terms of conduction, convection and radiation. In heat transfer, radiation is easier to control than conduction or convection drying and involves a relatively simple structure because radiation directly irradiates on the drying medium and does not require a heat transfer medium. In this article, we measured the surface temperature of drying materials and presented the painting characteristics of automotive paint using an infrared heating panel as preproduction. The optimum efficiency of an infrared dryer under painting characteristics has been investigated. Energy consumption, surface hardness and surface gloss has also been mentioned according to variation of surface temperature of materials and drying time.