Adjustment of Thickness of Surface Protection Film Applied by Ultrasonic Wave Spray Coating

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The products with LCD such as mobile phone require surface coating to protect the product from being scratched or polluted. As surface coating is top coating on product, coating thickness and transparency are important factor in coating process. In this study, variation of coating thickness depending on varying moving speed in ultrasonic wave spray system was evaluated. Ultrasonic nozzle power and air pressure were set 7.3W and 350 mmH2O respectively, and two different coating liquid flows, 1.19㎖/min and 1.93㎖ were applied for the test. Poly carbonate was used as the substrate. The substrate on which the coating liquid was sprayed was dried at 90℃ for 3 minutes and hardened using ultraviolet ray before measuring the thickness. As moving speed was increased to 3.6~22.2cm/min, the coating thickness was reduced to 28~3㎛ at flow 1.19 ㎖ and 51~14㎛ at flow 1.93ml/min. Deviation in coating thickness depending on location of substrate while moving speed was increased was reduced.