Temperature stability of the process of production of wax patterns for investment casting technology model

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In this paper, we deal with the topic of production of precise wax patterns for investment casting technology. We focus on the issue of scanning thermal image arrays when measured object (wax blade model) has a temperature very close to ambient temperature. It is shown on specific examples how to filter disruptive thermal reflections that enter thermal array scanning on almost perfectly reflexive body. Based on verification of this measurement using the touch probe thermometer, this paper deals with the thermal influence of wax models in various stages of production. The biggest influence on stability of wax models occurred on workplace that carries out bonding of wax models into trees, where they use heat source for bonding, which in a moment can affect the temperature of the wax model so that its temperature is above the critical 30°C. The possibility of shielding of radiant heat, which significantly affects the shape of the wax model is also pointed out in this paper.

Keywords: thermal camera, thermal fields, wax model, thermal reflections

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