Quantitative infrared thermography applied to blow moulding process : measurement of a heat transfer coefficient

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ABSTRACT

This paper deals with an application of blow moulding process applied to PET bottles forming. The most important stage of this process is the radiative heating step which is realised with infrared ovens using powerful halogen lamps. To validate a 3D thermal control volume software, called Plastirad, developed in our laboratory, temperatures maps were needed on the plastic preforms as well as convective heat transfer coefficient inside the oven. This measurement has been performed with two different methods : IR thermography and hot wire anemometry. These two methods have been investigated and results are compared to focus on the interest of IR thermography.

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