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Contribution For Arc Temperature Affected By Current Increment Ratio At Peak Current In Pulsed Arc RYOTA KANO, HIRONORI MITUBORI, TORU IWAO, Master Engineering in Electrical and Electronic Engineering, Tokyo City University — Tungsten Inert Gas (TIG) Welding is one of the high quality welding. However, parameters of the pulsed arc welding are many and complicated. if the welding parameters are not appropriate, the welding pool shape becomes wide and shallow.the convection of driving force contributes to the welding pool shape. However, in the case of changing current waveform as the pulse high frequency TIG welding, the arc temperature does not follow the change of the current. Other result of the calculation, in particular, the arc temperature at the reaching time of peak current is based on these considerations. Thus, the accurate measurement of the temperature at the time is required. Therefore, the objective of this research is the elucidation of contribution for arc temperature affected by current increment ratio at peak current in pulsed arc. It should obtain a detail knowledge of the welding model in pulsed arc. The temperature in the case of increment of the peak current from the base current is measured by using spectroscopy. As a result, when the arc current increases from 100 A to 150 A at 120 ms, the transient response of the temperature didn't occur during increasing current. Thus, during the current rise, it has been verified by measuring. Therefore, the contribution for arc temperature affected by current increment ratio at peak current in pulsed arc was elucidated in order to obtain more knowledge of welding model of pulsed arc.

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