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## Prediction and optimization of heat affected zone width for submerged arc welding process

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The control of heat affected zone (HAZ) width is very essential for getting required weld bead size and quality. Conditions must be found out that will ensure a predictable and reproducible weld bead that is essential for obtaining repeated, expected cost effective, high quality welded joint. An attempt has been made in the present work to find out relationship between process control factors i.e. arc voltage, wire feed rate, travel speed, stick-out, heat input and HAZ width. The prediction of HAZ width through analytical solution of heat conduction equation has also been made. The optimum setting of process control variables for minimum HAZ width has been found out through graphical technique.

### Biography

N K Singh has completed his PhD at the age of 38 from Jadavpur University Kolkata, India. He is presently Associate Professor (Workshop) and Sectional Head of the Central Workshop under the Department of Mechanical Engineering Indian School of Mines, Dhanbad India, a reputed academic institution in the fields of Engineering, Mining and Applied Sciences. He has published more than 30 papers in reputed national and international journals as well as national/international conference proceedings. He is member of various national professional societies.

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