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WELDING PARAMETERS, THICK PLATES, AND COLUMN STRENGTH

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ABSTRACT

As a part of an overall research program on experimental investigation of residual stresses in thick welded plates, sponsored jointly by the National Science Foundation and the Column Research Council, a particular attention was paid to the influence of varying the welding parameters on plates, each representing in fact a component plate of a built-up shape.

The welding parameters included were the speed of welding, the number of passes, the voltage of the welding current and the temperature of post or pre-heating. One plate was annealed after welding to compare the effects of this type of treatment.

After having observed the differences in magnitude and distribution of residual stresses, conclusions are drawn with respect to the effect of various welding parameters on the theoretical column strength of a simulated section 24 H 428 built-up with those welded plates.

This work described herein has been carried out at the Fritz Engineering Laboratory, Lehigh University, Bethlehem, U.S.A.

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