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Authors: X.D. Liu, Y.B. Xu, R.D.K. Misra, F. Peng, Y. Wang, Y.B. Du



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Mechanical Properties in Double Pulse Resistance Spot Welding of Q&P 980 Steel

X.D. Liu^a, Y.B. Xu^{a,*}, R.D.K. Misra^{b,*}, F. Peng^a, Y. Wang^a, Y.B. Du^c

^a State Key Laboratory of Rolling Technology and Automation, Northeastern University, Shenyang 110819, China

^bLaboratory for Excellence in Advanced Steel Research, Department of Metallurgical, Materials and Biomedical Engineering, University of Texas at El Paso, EL Paso, TX 79968, USA

^c Tang Steel Technology Center, Tangshan Iron and Steel Company, Hesteel Group, Tangshan

063016, China

*corresponding author. Tel no.: +86 024-83686642, Fax: +86 024-23906472

E-mail address: yunbo_xu@126.com (Y.B. Xu); dmisra@utep.edu (R.D.K. Misra)

<u>Abstract</u>

The weldment consisted of four zones: fusion zone, partially melted zone, heat affected zone and base metal. Liquation film, liquated grain boundaries, liquation crack and softening zone were observed in the partially melted zone. Compared to single pulse resistance spot welding (RSW), the double pulse welding with a higher secondary current led to an enhancement in tensile-shear strength and a desirable failure mode, while a medium level value improved cross-tensile strength and ductility ratio. The partially melted zone acted as a crack sensitive area due to P segregation, causing a distinct partial thickness-partial pullout failure in the tensile-shear tests and pullout Download English Version:

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