

The following are selected resources for fusion welding of superalloys.



PAPER TITLE	AUTHOR(S)	SOURCE	LINK
"Study of the Fusion Zone and Heat-Affected Zone Microstructures in Tungsten Inert Gas-Welded INCONEL 738LC Superalloy"	<i>O.A. Ojo, N.L. Richards, and M.C. Chaturvedi</i>	Metallurgical and Materials Transactions A, 37A, February 2006, p. 421-433	Acquire the Article
"Effect of δ -Phase on the Weldability and The Hot Ductility of Alloy 718"	<i>G. Sjöberg, T. Antonsson, S. Azadian, R. Warren, and H. Fredriksson</i>	Superalloys 718, 625, 706, and Various Derivatives (2005), TMS, 2005, p. 351	Acquire the Article
"Microstructural Investigations of Electron Beam Welded Alloy 718"	<i>M. Sundararaman, and P.J. Potdar</i>	Superalloys 718, 625, 706, and Various Derivatives (2005), TMS, 2005, p. 477	Acquire the Article
"HAZ Microfissuring in EB Welded Allvac 718 Plus™ Alloy"	<i>K.R. Vishwakarma, N.L. Richards, and M.C. Chaturvedi</i>	Superalloys 718, 625, 706, and Various Derivatives (2005), TMS, 2005, p. 637	Acquire the Article
"Mechanical Properties of 718 Inertia Weld and Its Comparison with EBW"	<i>P.V. Neminathan, and T. Mohandas</i>	Superalloys 718, 625, 706, and Various Derivatives (2005), TMS, 2005, p. 699	Acquire the Article
"Effect of Filler Alloys on Heat-Affected Zone Cracking in Preweld Heat Treated IN-738 LC Gas-Tungsten-Arc Welds"	<i>K. Banerjee, N. L. Richards, and M. C. Chaturvedi</i>	Metallurgical and Materials Transactions A, 36A, July 2005, p. 1881	Acquire the Article
"Analysis of Stray Grain Formation in Single-Crystal Nickel-Based Superalloy Welds"	<i>J. M. Vitek, S. S. Babu, J.-W. Park and S. A. David</i>	Superalloys 2004, Warrendale, PA: TMS, 2004, p. 459-470	Acquire the Article
"Welding of Single Crystal Superalloy CMSX-4: Experiments and Modeling"	<i>D. Dye, K.T. Conlon, P.D. Lee, R.B. Rogge, and R.C. Reed</i>	Superalloys 2004, Warrendale, PA: TMS, 2004, p. 485-492	Acquire the Article
"Weldability of Directionally Solidified TMS-75 and TMD-103 Superalloys"	<i>Y.L. Wang, X. Yu, N.L. Richards, and M.C. Chaturvedi</i>	Superalloys 2004, Warrendale, PA: TMS, 2004, p. 529-536	Acquire the Article
"Weldability and Mechanical Behavior of GTD-141"	<i>G. Feng, A. Peck, S.J. Balson, and T. Carniero</i>	Superalloys 2004, Warrendale, PA: TMS, 2004, p. 545-552	Acquire the Article
"Microstructure control during single crystal laser welding and deposition of Ni-base Superalloy"	<i>S Mokadem, C Bezençon, J-M Drezet, A Jacot, J-D Wagnière, W Kurz</i>	"Solidification Processes and Microstructures", eds. M Rappaz, C Beckermann, R Trivedi, TMS 2004, p.67-75	Acquire the Article
"Welding: Solidification and Microstructure"	<i>S. A. David, S. S. Babu and J. M. Vitek</i>	JOMe. TMS. June 2003	Read Full Article
"Nickel-Based Superalloy Welding Practices for Industrial Gas Turbine Applications"	<i>M.B. Henderson, D. Arrell, M. Heobel, R. Larsson, and G. Marchant</i>	International Conference on Microstructure and Performance of Joints in High-Temperature Alloys." Institute of Materials, Mining and Materials. London. 20 November 2002.	Read the Full Article
"Joining of Nickel-Base Superalloy Single Crystals"	<i>S.S. Babu, S.A. David, J.W. Park, and J.M. Vitek</i>	International Conference on Microstructure and Performance of Joints in High-Temperature Alloys." Institute of Materials, Mining and Materials. London. 20 November 2002.	Read the Full Article
"Joining of Nickel-Base Superalloy Single Crystals" (presentation)	<i>S.S. Babu, S.A. David, J.W. Park, and J.M. Vitek</i>	International Conference on Microstructure and Performance of Joints in High-Temperature Alloys." Institute of Materials, Mining and Materials. London. 20 November 2002.	View Presentation
"Power Beam Welding of Thick Section Nickel Base Superalloys"	<i>N. C. Sekhar and R. C. Reed</i>	Science and Technology of Welding & Joining, Vol. 7, Number 2, April 2002, pp. 77-87	Acquire the Article

"Microstructure and Mechanical Properties of Stress Relieved Electron Beam Welded Alloy 625"	<i>B.Z. Hyatt and C.M. Brown</i>	Superalloys 718, 625, 706, and Various Derivatives (2001), TMS, 2001, p. 645-656	Read the Full Article
"Modeling of the Mechanical Effects Induced by the Tungsten Inert-Gas Welding of the IN718 Superalloy"	<i>D. Dye, O. Hunziker, S. M. Roberts, R. C. Reed</i>	Metallurgical and Materials Transactions A, 32A, July 2001, p.1713-1725	Acquire the Article
"Nickel-base Superalloy Welding- Models for Residual Stress, Distortion and Weldability"	<i>S. M. Roberts, O. Hunziker, and D. Dye</i>	chapter in Recent Advances in Welding Simulation, Professional Engineering Publishers, September 2000.	Acquire Book
"Process Modelling of Electron Beam Welding of Aeroengine Components"	<i>R.C. Reed, H.J. Stone, D. Dye, S.M. Roberts and S.G. McKenzie</i>	Superalloys 2000, Warrendale, PA: TMS, 2000, p. 665-674	Read the Full Article
"The Influence of B, P and C on Heat Affected Zone Micro-Fissuring in INCONEL type Superalloy"	<i>S. Benhaddad, N.L. Richards, U. Prasad, H. Guo and M.C. Chaturvedi</i>	Superalloys 2000, Warrendale, PA: TMS, 2000, p. 703-711	Read the Full Article
"A Process Model for the Distortion Induced by the Electron-Beam Welding of a Nickel-Based Superalloy"	<i>H.J. STONE, S.M. ROBERTS, and R.C. REED</i>	Metallurgical and Materials Transactions A, 31A, September 2000, p.2261	Acquire the Article
"Characterization and Modeling of Microstructure Development in Nickel-base Superalloy Welds"	<i>S. S. Babu, S.A. David, M.K. Miller, and J.M. Vitek</i>	Joining of Advanced and Specialty Materials II. Cincinnati, OH . 01 November 1999	Read Full Article
"Characterization and Modeling of Microstructure Development in Nickel-base Superalloy Welds" (presentation)	<i>S. S. Babu, S.A. David, M.K. Miller, and J.M. Vitek</i>	Joining of Advanced and Specialty Materials II. Cincinnati, OH . 01 November 1999	View Presentation
"The Effect of B Segregation on Heat-Affected Zone Microfissuring in EB Welded Inconel 718"	<i>M. C. Chaturvedi, W. Chen, A. Saranchuk and N. L. Richards</i>	Superalloys 718, 625, 706, and Various Derivatives (1997), TMS, 1997, p. 743-751	Read the Full Article
"Effect of Microstructural Variations on the Tensile and Fracture Toughness Properties of Alloy 718 Welds"	<i>W. J. Mills</i>	Superalloys 718, 625, 706, and Various Derivatives (1994), TMS, 1994, p. 845-858	Read the Full Article
"An Investigation of Microstructure and HAZ Microfissuring of Cast Alloy 718"	<i>X. Huang, M. C. Chaturvedi and N. L. Richards</i>	Superalloys 718, 625, 706, and Various Derivatives (1994), TMS, 1994, p. 871-880	Read the Full Article
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"Weldability of a Nickel-Based Superalloy"	<i>J. Kalinowski</i>	NASA Aeronautics and Space Administration, Lewis Research Center. Cleveland, OH. Report E-9079. August 1994.	Read Report
"Laser Welding Techniques for Alloy 718"	<i>M. H. McCay, T. D. McCay, C. M. Sharp and N. B. Dahotre</i>	Superalloys 718, 625, 706, and Various Derivatives (1991), TMS, 1991, p. 719-734	Read the Full Report
"The Effect of Heat Input on Microstructure and Cracking in Alloy 625 Weld Overlays"	<i>I. L. W. Wilson, R. G. Gourley, R. M. Walkosak and G. J. Bruck</i>	Superalloys 718, 625, 706, and Various Derivatives (1991), TMS, 1991, p. 735-748	Read the Full Article
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"The Effect of Weld Heat-Affected Zone Hot Cracks on the Fatigue Crack Growth Behavior of As-Cast Alloy 718"	<i>E.L. Bradley III and R. G. Thompson</i>	Superalloy 718—Metallurgy and Applications (1989), TMS, 1989, p. 457-466	Read the Full Article
"High-Cycle Fatigue Effects of an Electron-Beam Cosmetic Pass or a Gas-Tungsten-Arc Weld Overlay on Microfissured Alloy 718"	<i>S.W. Holcomb and D.F. Atkins</i>	Superalloy 718—Metallurgy and Applications (1989), TMS, 1989, p. 467-478	Read the Full Article