



National Aeronautics and
Space Administration

John C. Stennis Space Center
Stennis Space Center, MS
39529-6000

SSTD-8070-0038-WELD Rev. Basic
September 2013

COMPLIANCE IS MANDATORY

John C. Stennis Space Center **ASME Procedure for Welding Nitronic 40** **Stainless Steel Alloy to 300 Series** **Austenitic Stainless Steel**

Original signed by

Scott Olive
NASA SSC Center Operations Directorate
Design & Construction Project Management
Division

9-23-13
Date

Bartt J. Hebert
NASA SSC Engineering & Test
Directorate

9-25-13
Date

Rich Harris
NASA SSC Center Operations Directorate
Operations & Maintenance Division

9-23-13
Date

Issued by

Issued CEF
Central Engineering Files

9-25-13
Date

This is an uncontrolled document when printed. Verify that the document is current before use.



Documents
Document Sharing Hub

Stennis Standard	SSTD-8070-0038-WELD Basic
	<i>Number</i> <i>Rev.</i>
	Effective Date: September 20, 2013
	Review Date: September 20, 2018
Page 2 of 14	
Responsible Office: NASA SSC Center Operations Directorate	
SUBJECT: ASME Procedure for Welding Nitronic 40 Stainless Steel Alloy to Austenitic Stainless Steel	

Document History Log

Change/ Revision	Change Date	Originator/ Phone	Description
Basic	09.20.2013	Doug Dike, Ext. 8-2803	Initial release, superseding SSC STD 34-050.

Stennis Standard	SSTD-8070-0038-WELD	Basic
	Number	Rev.
	Effective Date: September 20, 2013	
	Review Date: September 20, 2018	
	Page 3 of 14	
Responsible Office: NASA SSC Center Operations Directorate		
SUBJECT: ASME Procedure for Welding Nitronic 40 Stainless Steel Alloy to Austenitic Stainless Steel		

Table of Contents

1.0	PURPOSE	4
2.0	APPLICABILITY	4
3.0	REFERENCES.....	4
4.0	RESPONSIBILITIES	6
5.0	REQUIREMENTS AND PROCEDURES	6
6.0	RECORDS AND FORMS.....	7
7.0	ACRONYMS AND ABBREVIATIONS.....	7
	ATTACHMENTS	8

Stennis Standard	SSTD-8070-0038-WELD	Basic
	Number	Rev.
	Effective Date: September 20, 2013	
	Review Date: September 20, 2018	
	Page 4 of 14	
Responsible Office: NASA SSC Center Operations Directorate		
SUBJECT: ASME Procedure for Welding Nitronic 40 Stainless Steel Alloy to Austenitic Stainless Steel		

1.0 PURPOSE

This John C. Stennis Space Center (SSC) standard (SSTD) outlines the qualified Gas Tungsten Arc Welding (GTAW) procedure for use in welding Nitronic 40 Stainless Steel Alloy to 300 Series Austenitic Stainless Steel at SSC.

2.0 APPLICABILITY

This SSTD applies to all contractor and subcontractor personnel involved with the welding of Nitronic 40 to Austenitic Stainless Steel at SSC.

3.0 REFERENCES

All references are assumed to be the latest version unless otherwise indicated.

ASME Boiler and Pressure Vessel Codes, Section IX, *Welding and Brazing Qualifications*
 ASTM A167, *Standard Specification for Stainless and Heat-Resisting Chromium-Nickel Steel Plate, Sheet, and Strip*
 ASTM A182, *Standard Specification for Forged or Rolled Alloy and Stainless Steel Pipe Flanges, Forged Fittings, and Valves and Parts for High-Temperature Service*
 ASTM A213, *Standard Specification for Seamless Ferritic and Austenitic Alloy Steel Boiler, Superheater, and Heat Exchanger Tubes*
 ASTM A240, *Standard Specification for Chromium and Chromium Nickel Stainless Steel Plate, Sheet, and Strip for Pressure Vessels and General Applications*
 ASTM A249, *Standard Specification for Welded Austenitic Steel Boiler, Superheater, Heat Exchanger, and Condenser Tubes*
 ASTM A269, *Standard Specification for Seamless and Welded Austenitic Stainless Steel Tubing for General Service*
 ASTM A270, *Standard Specification for Seamless and Welded Austenitic Stainless Steel Sanitary Tubing*
 ASTM A276, *Standard Specification for Stainless Steel Bars and Shapes*
 ASTM A312, *Standard Specification for Seamless, Welded, and Heavily Cold Worked Austenitic Stainless Steel Pipes*
 ASTM A313, *Standard Specification for Stainless Steel Spring Wire*
 ASTM A314, *Standard Specification for Stainless Steel Billets and Bars for Forging*
 ASTM A320, *Standard Specification for Alloy Steel and Stainless Steel Bolting for Low Temperature Service*
 ASTM A336, *Standard Specification for Alloy Steel Forgings for Pressure and High Temperature Parts*
 ASTM A358, *Standard Specification for Electric Fusion Welded Austenitic Chromium Nickel Stainless Steel Pipe for High Temperature Service and General Applications*
 ASTM A368, *Standard Specification for Stainless Steel Wire Strand*

Stennis Standard	SSTD-8070-0038-WELD	Basic
	Number	Rev.
	Effective Date: September 20, 2013	
	Review Date: September 20, 2018	
	Page 5 of 14	
Responsible Office: NASA SSC Center Operations Directorate		
SUBJECT: ASME Procedure for Welding Nitronic 40 Stainless Steel Alloy to Austenitic Stainless Steel		

ASTM A376, *Standard Specification for Seamless Austenitic Steel Pipe for High Temperature Central Station Service*
 ASTM A403, *Standard Specification for Wrought Austenitic Stainless Steel Piping Fittings*
 ASTM A409, *Standard Specification for Welded Large Diameter Austenitic Steel Pipe for Corrosive or High Temperature Service*
 ASTM A473, *Standard Specification for Stainless Steel Forgings*
 ASTM A478, *Standard Specification for Chromium Nickel Stainless Steel Weaving and Knitting Wire*
 ASTM A479, *Standard Specification for Stainless Steel Bars and Shapes for Use in Boilers and Other Pressure Vessels*
 ASTM A492, *Standard Specification for Stainless Steel Rope Wire*
 ASTM A493, *Standard Specification for Stainless Steel Wire and Wire Rods for Cold Heading and Cold Forging*
 ASTM A511, *Standard Specification for Seamless Stainless Steel Mechanical Tubing*
 ASTM A554, *Standard Specification for Welded Stainless Steel Mechanical Tubing*
 ASTM A580, *Standard Specification for Stainless Steel Wire*
 ASTM A632, *Standard Specification for Seamless and Welded Austenitic Stainless Steel Tubing (Small Diameter) for General Service*
 ASTM A666, *Standard Specification for Annealed or Cold Worked Austenitic Stainless Steel Sheet, Strip, Plate, and Flat Bar*
 ASTM A688, *Standard Specification for Seamless and Welded Austenitic Stainless Steel Feedwater Heater Tubes*
 ASTM A793, *Standard Specification for Rolled Floor Plate, Stainless Steel*
 ASTM A813, *Standard Specification for Single or Double Welded Austenitic Stainless Steel Pipe*
 ASTM A814, *Standard Specification for Cold Worked Welded Austenitic Stainless Steel Pipe*
 ASTM A774, *Standard Specification for As Welded Wrought Austenitic Stainless Steel Fittings for General Corrosive Service at Low and Moderate Temperatures*
 ASTM A778, *Standard Specification for Welded, Unannealed Austenitic Stainless Steel Tubular Products*
 AWS Welding Handbook
 MIL-S-23196, *Steel Plate, Corrosion Resistant, Austenitic (UNS S30400, UNS S30403, S31600 S34700, and S34800)*
 SPR 1440.1, *SSC Records Management Program Requirements*
 SPR 8715.1, *Safety and Health Program Requirements*
 SSTD-8070-0013-WELD, *Classes of Welding Inspection*
 SSTD-8070-0014-WELD, *Qualifying Welders and Weld Procedures*
 SSTD-8070-0005-CONFIG, *SSC Preparation, Review, Approval, and Release of SSC Standards*