

GENERAL DYNAMICS

Ordnance and Tactical Systems

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ALTERNATIVE SPECIAL PROCESSES DOCUMENT LIST

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DOCUMENT CHANGE LOG				
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-	--	7/12/06	Initial issue	G. B. Coates
A	A10464-1	3/26/07	2.1 and Table I	G. B. Coates
B	A10464-2	8/22/07	2.1, 2.2, and Table I	G. B. Coates
C	A10464-3	1/9/09	2.1, 2.2, and Table I	T. Potvin D. Fitzgerald M. Blair. G. Cromack
D	A10464-4	6/25/10	2.1, Table I, and Footnote 1	T. Potvin D. Fitzgerald M. Blair. A. Zdziarski
E	A10464-5	12/21/10	2.2, Table I to add 304A816	T. Potvin M. Blair
F	A10464-6	3/16/12	Updated Table I to remove an obsolete section reference in the alternative for MIL-STD-1595.	T. Potvin J. Fletcher
G		8/28/12	Export warning legend removed	J. Fletcher
H	CN-07105	1/11/17	Remove reference to AMS 2755 in Table I	J. Arcovitch B. Batten C. Borchers T. Downs

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1. SCOPE

This specification establishes the criteria for using an alternative process than that specified in the drawing or specification.

2. APPLICABLE DOCUMENTS

2.1 Government documents

The following documents form a part of this specification to the extent specified herein. Unless a specific issue is specified, the latest revision shall apply. Documents referenced within the documents cited herein shall not be applicable to this specification unless the extent is specifically delineated in this specification.

SPECIFICATIONS:

Federal

QQ-P-35	Passivation Treatments for Corrosion-Resistant Steel
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Military

MIL-C-6021	Castings, Classification and Inspection of
MIL-H-6088	Heat Treatment of Aluminum Alloys
MIL-I-6866	Penetrant Inspection, Method of
MIL-I-6868	Magnetic Particle Inspection Process
MIL-H-6875	Heat Treatment of Steel Raw Materials
MIL-W-8604	Welding of Aluminum Alloys, Process for
MIL-W-8611	Welding, Metal Arc and Gas, Steels, and Corrosion and Heat Resistant Alloys, Process for
MIL-W-18326	Welding of Magnesium Alloys, Gas and Arc, Manual and Machine, Processes for
MIL-I-25135	Penetrant Inspection Materials
WS 33221	Nitriding, Liquid Salt Bath, Process Specification for

STANDARDS:

Military

MIL-STD-105	Sampling Procedures and Tables for Inspection by Attributes
MIL-STD-453	Radiographic Inspection
MIL-STD-1595	Aerospace Welder Performance Qualification
MIL-STD-1949	Magnetic Particle Inspection
MIL-STD-2219	Fusion Welding for Aerospace Applications
MIL-STD-6866	Liquid Penetrant Inspection

(Unless otherwise indicated, copies of the above specifications, standards, and handbooks are available from the Department of Defense Single Stock Point (DODSSP), Defense Automated Printing Service, 700 Robbins Avenue, Building 4/Section D, Philadelphia, PA 19111-5098.)

2.2 Non-Government documents

The following documents form a part of this specification to the extent specified herein. Unless a specific issue is specified, the latest revision shall apply. Documents referenced within the documents cited herein shall not be applicable to this specification unless the extent is specifically delineated in this specification.

SPECIFICATIONS:

General Dynamics Ordnance and Tactical Systems

A10339	Arc & Gas Fusion Welds, Process Specification for
A10437	Nitriding, Liquid Salt Bath, Process Specification for
304A816	Weldments – General Specification for

Society of Automotive Engineers (SAE)

AMS-H-6088	Heat Treatment of Aluminum Alloys
AMS-H-6875	Heat Treatment of Steel Raw Materials
AMS-QQ-P-35	Passivation Treatments for Corrosion-Resistant Steel

2.3 Order of precedence

In the event of conflict between the text of this specification and the references cited herein, the text of this specification takes precedence. Nothing in this specification; however, supersedes applicable laws and regulations unless a specific exemption has been obtained.

3. REQUIREMENTS

3.1 General

This specification provides for alternative special processes that are approved for use in lieu of those specified on General Dynamics Ordnance and Tactical Systems (GD-OTS) technical drawings and specifications.

3.1.1 Usage

The processes listed in the “Approved Alternative” column of Table 1 may be used in lieu of those listed in the “Required Document” column.

Table I. Alternative Special Process List			
Required Document	Document Title	Approved Alternative	Alternative Document Title
MIL-C-6021	Castings, Classification and Inspection of	SAE AMS 2175	Castings, Classification and Inspection of
MIL-H-6088, AMS-H-6088	Heat Treatment of Aluminum Alloys	AMS 2770	Heat Treatment of Wrought Aluminum Alloy Parts
		AMS 2771	Heat Treatment of Aluminum Alloy Castings
		AMS 2772	Heat Treatment of Aluminum Alloy Raw Materials
MIL-I-6866	Inspection, Penetrant Method of	ASTM E 1417	Liquid Penetrant Testing, Standard Practice for
MIL-I-6868	Inspection Process, Magnetic Particle	ASTM E 1444	Magnetic Particle Testing, Standard Practice for
MIL-H-6875, AMS-H-6875	Heat Treatment of Steel Raw Materials (When Applicable to Parts)	AMS 2759	Heat Treatment of Steel Parts

Table I. Alternative Special Process List			
Required Document	Document Title	Approved Alternative	Alternative Document Title
MIL-W-8604	Welding of Aluminum Alloys, Process for	AWS D17.1	Specification for Fusion Welding for Aerospace Applications
MIL-W-8611	Welding, Metal Arc and Gas, Steels, and Corrosion and Heat Resistant Alloys, Process for	AWS D17.1	Specification for Fusion Welding for Aerospace Applications
MIL-W-18326	Welding of Magnesium Alloys, Gas and Arc, Manual and Machine, Processes for	AWS D17.1	Specification for Fusion Welding for Aerospace Applications
MIL-I-25135	Inspection Materials, Penetrant	SAE AMS 2644	Inspection Material, Penetrant
MIL-STD-105	Sampling Procedures and Tables for Inspection by Attributes	ASQC Z1.4	Sampling Procedures and Tables for Inspection by Attributes
MIL-STD-453	Inspection, Radiographic	ASTM E 1742	Radiographic Examination, Standard Practice for
MIL-STD-1595 ¹	Aerospace Welder Performance Qualification	AWS D17.1	Aerospace Welder Performance Qualification
MIL-STD-1949	Inspection, Magnetic Particle	ASTM E 1444	Magnetic Particle Testing, Standard Practice for
MIL-STD-2219	Fusion Welding for Aerospace Applications	AWS D17.1	Specification for Fusion Welding for Aerospace Applications
MIL-STD-6866	Inspection, Liquid Penetrant	ASTM E 1417	Liquid Penetrant Testing, Standard Practice for
A10339, Class 1	Arc & Gas Fusion Welds, Process Specification for	AWS D17.1, Class A	Specification for Fusion Welding for Aerospace Applications

¹ Existing welder qualification is acceptable in accordance with MIL-STD-1595, until such time as requalification testing is required, and then AWS D17.1, is required.

Table I. Alternative Special Process List			
Required Document	Document Title	Approved Alternative	Alternative Document Title
A10339, Class 2	Arc & Gas Fusion Welds, Process Specification for	AWS D17.1, Class A	Specification for Fusion Welding for Aerospace Applications
A10339, Class 3	Arc & Gas Fusion Welds, Process Specification for	AWS D17.1, Class B	Specification for Fusion Welding for Aerospace Applications
A10339, Class 4	Arc & Gas Fusion Welds, Process Specification for	AWS D17.1, Class C	Specification for Fusion Welding for Aerospace Applications
A10437	Nitriding, Liquid Salt Bath, Process Specification for	AMS 2753	Liquid Salt Bath Ferritic Nitrocarburizing Non-Cyanide Bath
WS 33221	Nitriding, Liquid Salt Bath, Process Specification for	AMS 2753	Liquid Salt Bath Ferritic Nitrocarburizing Non-Cyanide Bath
QQ-P-35, AMS-QQ-P-35	Passivation Treatments for Corrosion-Resistant Steel	AMS 2700	Passivation of Corrosion Resistant Steels
304A816, Class I	Weldments – General Specification for	AWS D17.1, Class A	Specification for Fusion Welding for Aerospace Applications
304A816, Class II	Weldments – General Specification for	AWS D17.1, Class A	Specification for Fusion Welding for Aerospace Applications
304A816, Class III	Weldments – General Specification for	AWS D17.1, Class B	Specification for Fusion Welding for Aerospace Applications
304A816, Class IV	Weldments – General Specification for	AWS D17.1, Class C	Specification for Fusion Welding for Aerospace Applications

3.2 Revision identification

The margins of this document are marked with change bars to indicate where changes (additions, modifications, corrections, deletions) from the previous issue were made. This was done as a convenience only and General Dynamics Ordnance and Tactical Systems assumes no liability whatsoever for any inaccuracies in these notations. Evaluation of the requirements of this document should be based on the entire content irrespective of the marginal notation and relationship to the last previous issue. In the event of extensive revision to the document, symbols will not be used to identify changes.