

specified, the issues of documents not listed in the DODISS are the issues of the documents cited in the solicitation (see 6.2).

3.3.3 Type III. Type III withdrawn (see 6.9).

3.3.4 Type IV. Type IV withdrawn (see 6.9).

3.3.5 Type V. Type V withdrawn (see 6.9).

(49-54°C)

3.4 water rinse. Immediately after removal from the passivating solution the parts shall be thoroughly rinsed; final rinse is carried out in clean water (see 6.4).

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3.5 Chromate treatment. When specified and within one hour after the final water rinse (3.4), all ferritic and martensitic steel parts shall be immersed in an aqueous solution containing 4 to 6 percent by weight of sodium dichromate in accordance with O-S-595, at a temperature of 140° to 160°F (60 - 71°C) for a period of 30 minutes (see 6.1.1). This immersion shall be followed by a rinse in clean water (see 6.4). The parts shall then be thoroughly dried.

discoloration will be allowed (see 4.3 and 6.5).

3.7 Staining.

3.7.2 Salt spray or copper sulfate test. The salt spray test or the copper sulfate test may be specified in addition to or in lieu of either the water immersion test or the high humidity test. When the salt spray test is specified, the passivated surface shall be capable of withstanding salt spray exposure without evidence of rust or staining (see 4.4.2, 6.11).

3.7.2.1 Copper sulfate test. When testing austenitic 300 series chromium substitute for the salt spray test. The surface of the resultant passivated parts shall not exhibit copper deposits (see 4.4.1, 4.4.2, 4.4.2.2).

3.8 Workmanship. The passivated parts shall be free of iron contamination

3.9 Solution analysis. The processor shall maintain a record of the control procedures used on each of the processing solutions used in this process. Analyses shall be scheduled at intervals which will demonstrate optimum passivation performance. Frequency of analyses will be determined by the contractor's processing equipment (tank volume, the workload and the time differential between treatments). A chemical record shall be maintained on all control analyses performed, additions made or treatments administered to the processing solution. Upon request of the acquisition activity, such records, including reports of test results, shall be made available (see 4.5 and 6.2).

3.9.1 The contractor shall be responsible for the safe reutilization and disposal of all material generated by this process (see 4.7, 6.12 and 6.13).

4. QUALITY ASSURANCE PROVISIONS

in accordance with 3.7.1.1 shall be subjected to a high humidity test to determine conformance with 3.7.1.

4.4.1.1 Water immersion test. The water immersion test shall be conducted in accordance with Method 100 of MIL-STD-753.

4.4.1.2 High humidity test. The high humidity test shall be conducted as follows:

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4. Parts shall be cleaned by immersing them in acetone or methyl alcohol, then immersing them in clean water, and finally immersing them in acetone or methyl alcohol and drying in an inert atmosphere or desiccated container.

The cleaned and dried parts shall be subjected to 95 - 100 percent humidity at 100° - 115°F (38 - 46°C) in a suitable humidity cabinet for 24 - 26 hours.

4.4.2 Salt spray and copper sulfate tests. The salt spray test may be specified in addition to or in lieu of either the water immersion test or the high humidity test. When such a test is specified, samples shall be selected in accordance with 4.2.2.2 and shall conform to 3.7.2 and 3.7.2.1 (see 6.11).

solution.

4.5 Certificate of analysis. When specified (see 6.2), a certificate of the quantitative analysis (3.9) of the passivating solution shall be furnished the contracting officer.

4.6 Rejection and retest. Any lot failing to meet the requirements specified herein shall be rejected. A rejected lot may be resubmitted for inspection provided that the defective parts have been re-pretreated per 3.2, as necessary, re-passivated and re-tested. Re-passivated lots shall be subjected to tightened inspection in accordance with MIL-STD-105.

with ASTM A380, sections 8.2 and 8.7. Also see 6.12, 6.13 for additional information.

5. PREPARATION FOR DELIVERY

6. NOTES

(This section contains information of a general or explanatory nature that may be helpful, but is not mandatory.)

1.1 Included user. The passivation treatments provided by this specification are intended to improve the corrosion resistance of parts made from austenitic, ferritic and martensitic corrosion-resistant steels of the steels. High carbon, high chromium martensitic 440C grades which are selected for high hardness and resistance may be exempt from passivation treatments at the discretion of the procuring activity.

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TABLE II. Recommended pasivation requirements for different steel alloys.
(Continued)

Type of Alloy	Solution Types			
	II	VI	VII	VIII
Free Machine	S30323 (303Se)			
Free Machine	S30330 (303Cu)			
Free Machine	S30345 (303MA)			
Free Machine	S30360 (303Pb)			
Austenitic		S30403 (304L)	S30403 (304L)	
Austenitic		S30409 (304H)		S30409 (304H)
Austenitic		S30430 (XM-7)	S30430 (XM-7)	
Austenitic		S30451 (304N)	S30451 (304N)	
Austenitic		S30800 (308)	S30800 (308)	
Austenitic		S30908 (309S)	S30908 (309S)	
Austenitic		S30940 (309CL)	S30940 (309CL)	
Austenitic		S31000 (310)	S31000 (310)	
Austenitic		S31008 (310S)	S31008 (310S)	
Austenitic		S31400 (314)	S31400 (314)	
Austenitic		S31500 (315)	S31500 (315)	
Austenitic		S31600 (316)	S31600 (316)	
Austenitic		S31603 (316L)	S31603 (316L)	
Austenitic		S31609 (316H)		S31609 (316H)
Austenitic		S32109 (321H)		S31621 (321H)
Austenitic		S32900 (329)	S32900 (329)	
Austenitic		S34700 (347)	S34700 (347)	
Austenitic		S34709 (347H)		S34709 (347H)
Free Machine	S34720 (347S)			
Free Machine	S34723 (347Se)			
Precipn Hdng	S35000 (AM350)			S35000 (AM350)
Martensitic	S40300 (403)			S40300 (403)
Ferritic	S40500 (405)			S40500 (405)
Ferritic	S40900 (409)			S40900 (409)
Martensitic	S41000 (410)			S41000 (410)
Martensitic	S41400 (414)			S41400 (414)
Martensitic	S41623 (416Se)			
Martensitic	S42000 (420)			
Ferritic	S42900 (429)		S42900 (429)	S42900 (429)
Ferritic			S43000 (430)	
Free Machine	S43020 (430S)			
Free Machine	S43023 (430Se)			
Martensitic	S43100 (431)			S43100 (431)

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TABLE II. Recommended passivation requirements for different steel alloys.
(Continued)

Type of Alloy	Solution Types			
	II	VI	VII	VIII
Ferritic	S42400 (424)		S42400 (424)	
Ferritic	S43000 (430)		S43000 (430)	
Martensitic	S44002 (440A)			S44002 (440A)
Martensitic	S44003 (440B)			S44003 (440B)
Martensitic	S44004 (440C)			S44004 (440C)
Ferritic	S44200 (442)		S44200 (442)	
Ferritic			S44600 (446)	
Ferritic	S44625 (XM-27)		S44625 (XM-27)	

6.4 Clean water. Clean water is defined as water containing a maximum total solid content of 200 ppm. Rinsing can be accomplished by a combination of stagnant, countercurrent, and/or spray rinses prior to final rinse.

surface upon which water, when applied momentarily to the surface, will remain on that surface in an even, continuous film, and in addition is free of any foreign material or residual film deposits which would be detrimental to the quality of the part.

6.6 Test specimens. When using test specimens in lieu of parts, they can only effectively represent the parts if they have been exposed to the same processing steps, such as machining, grinding, heat treating, welding, etc, as the parts they are to represent.

6.7 Carburized surfaces. Stainless steel parts with carburized surfaces cannot be passivated because the carbon combines with the chromium forming chromium carbides on the surface.

6.8 Nitrided stainless steel. Nitrided stainless steel should not be passivated. Passivation is required it must be performed prior to this special treatment.

6.9 Cross reference of classification types. Revision B to QQ-P-35 references six types of treatment solutions for passivation of corrosion resistant steels. New treatment types will be numbered differently from the original in an effort to avoid confusion or compromise interchangeability. Accordingly two new treatment types have been added and four types have been withdrawn as indicated below.

- Type I - Withdrawn (see Table II, for guidance)
- Type II - Medium Temperature Nitric Acid Solution With Sodium Dichromate Additive.
- Type III - Withdrawn (see Table II, for guidance)
- Type IV - Withdrawn (see Table II, for guidance)
- Type V - Withdrawn (see Table II, for guidance)
- Type VI - Low Temperature Nitric Acid Solution.
- Type VII - Medium Temperature Nitric Acid Solution.
- Type VIII - Medium Temperature High Concentration Nitric Acid Solution

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