Approval

Approving Authority	*Name*	*Signature*	*Date*
Quality Assurance Manager	Steve Washington		09 13 17
Process Systems Manager	Michael Delgado		091317
V.P. Engineering	Steve Rusconi	SR	09 20 17
Operations Manager	Steve Hansen		09 20 17
President	Joseph Parisi		9/20/17

Revision History

Revision #	*Description of Change*	*Effective Date*	*DCR#*
0	Original Issue	09 20 17	17004

THIS DOCUMENT CONTAINS PROPRIETARY INFORMATION OF THERMA CORPORATION. ALL INFORMATION SHALL (A) BE RETAINED IN CONFIDENCE; (B) NOT BE REPRODUCED IN WHOLE OR IN PART; AND (C) NOT BE USED OR INCORPORATED IN ANY PRODUCT EXCEPT UNDER EXPRESSED WRITTEN AGREEMENT WITH THERMA CORPORATION.

1 Purpose

1.1 To establish guidelines/instruction procedures for the passivation of welded stainless steel surfaces.

2 Scope

2.1 Passivating Stainless Steel welded surfaces using the DYNAFLUX Heat Tint Removal (HTR) system.

2.2 Passivating Stainless Steel welded surfaces using the ASTROPAK UltraPass® Gel Passivation Kit system.

2.3 Passivating Stainless Steel welded surfaces using the 'immersion' treatment process.

2.4 Passivating Stainless Steel welded surfaces using the 'flow-thru' treatment process.

3 Responsibilities

3.1 Project Managers: Shall be responsible for the specification review, coordination and planning of the passivation work.

3.1.1 PM shall issue passivation process submittals to the client for approval, as required, prior to start of passivation processing.

3.2 Forepersons: Shall be responsible for the coordination and planning of the welding, related finishing work and delivery coordination as needed for passivation.

3.2.1

3.3 The following is the responsibility of the Quality Assurance Manager.

3.3.1 Ensure the passivation process has been submitted and accepted by the client as required.

3.3.2 Ensure that each weld area is passivated

4 Procedures

THIS DOCUMENT CONTAINS PROPRIETARY INFORMATION OF THERMA CORPORATION. ALL INFORMATION SHALL (A) BE RETAINED IN CONFIDENCE; (B) NOT BE REPRODUCED IN WHOLE OR IN PART; AND (C) NOT BE USED OR INCORPORATED IN ANY PRODUCT EXCEPT UNDER EXPRESSED WRITTEN AGREEMENT WITH THERMA CORPORATION.

4.1 Passivating Stainless Steel welded surfaces using the DYNAFLUX Heat Tint Removal (HTR) system.

4.1.1 Connect the HTR system power cord to 110-120VAC source.

4.1.2 Connect the ground clamp to the work piece.

4.1.3 Pick up and hold the applicator (spoon, brush).

4.1.4 Switch the unit to 'ON'.

4.1.4.1 If using the smaller brush option, set to 'Low Power'.

4.1.5 Saturate the applicator brush with HTR cleaning solution.

4.1.6 Apply to the discolored (heat tint) area of the work piece in gentle strokes.

4.1.7 Keep the brush/boot saturated with cleaning fluid to prevent arcing.

4.1.8 Wipe away residual solution with a water soaked cloth/wiper.

4.1.8.1 Make sure all areas are free of chemical residue.

4.1.9 Complete Therma SOP Form FN 5.054.1 Passivation Report and provide to the QC Manager for inclusion in Turnover package.

4.2 Passivating Stainless Steel welded surfaces using the ASTROPAK UltraPass® Passivation Kit system.

4.2.1 Examine the Gel Passivation Kit to ensure all contents are supplied as listed and the passivation procedure/report forms are included.

4.2.2 Follow ASTROPAK instructions/procedures for 'Hand Passivation'.

4.2.2.1 Clean weld or surface area with IPA or alkaline cleaner solution by wiping. Rinse with deionized water(DI).

4.2.2.2 Apply the passivation Gel to the surface with the applicator brush provided. Record the start time on the report form.

THIS DOCUMENT CONTAINS PROPRIETARY INFORMATION OF THERMA CORPORATION. ALL INFORMATION SHALL (A) BE RETAINED IN CONFIDENCE; (B) NOT BE REPRODUCED IN WHOLE OR IN PART; AND (C) NOT BE USED OR INCORPORATED IN ANY PRODUCT EXCEPT UNDER EXPRESSED WRITTEN AGREEMENT WITH THERMA CORPORATION.

4.2.2.2.1 Re-apply passivation gel every 15 minutes for a minimum of 90 minutes.

4.2.2.2.2 Record the end time on the report form.

4.2.2.3 Mix neutralization solution by adding the component below (1 part) to deionized(DI) water (10 parts).

4.2.2.3.1 Add Sodium Bicarbonate and record initials on the report form.

4.2.2.4 Wipe off passivation gel from surface with a dry wipe.

4.2.2.5 Apply neutralization solution to the passivation surface area until foaming or reaction ceases.

4.2.2.6 Rinse with appropriate volume of DI water, while making sure all waste water is completely drained.

4.2.2.7 Verify that waste solution meets disposal criteria prior to dumping by testing with pH testing strips provided.

4.2.2.8 Make sure all areas are free of chemical residue.

4.2.2.9 Make sure rinse water meets pH or conductivity criteria.

4.2.2.10 Complete Passivation Report Form and provide to the QC Manager for inclusion in Turnover package.

4.2.3 Passivating Stainless Steel welded surfaces using the 'immersion' treatment process.

4.2.3.1 Immersion process is typically performed at a sub-contracted shop for passivation/electro-polishing.

4.2.3.2 When materials are for a 'process contact' application in an ASME BPE system, passivation contractor shall furnish a Certificate of Passivation Compliance per the current ASME BPE Standard.

4.2.3.2.1 The QCM shall review the certificate for acceptance, then insert into the Turnover Package

THIS DOCUMENT CONTAINS PROPRIETARY INFORMATION OF THERMA CORPORATION. ALL INFORMATION SHALL (A) BE RETAINED IN CONFIDENCE; (B) NOT BE REPRODUCED IN WHOLE OR IN PART; AND (C) NOT BE USED OR INCORPORATED IN ANY PRODUCT EXCEPT UNDER EXPRESSED WRITTEN AGREEMENT WITH THERMA CORPORATION.

4.2.4 Passivating Stainless Steel welded surfaces using the 'flow-thru' treatment process.

4.2.4.1 The 'flow thru' passivation process is normally performed by a passivation sub-contractor either at their shop, or in Therma's shop, or at a field site.

4.2.4.2 Project Manager and Foreperson shall coordinate with sub-contractor to plan for waste water treatment and disposal, etc.

4.2.4.3 When materials are for a 'process contact' application in an ASME BPE system, passivation contractor shall furnish a Certificate of Passivation Compliance per the current ASME BPE Standard.

4.2.4.3.1 The QCM shall review the certificate for acceptance, then insert into the Turnover Package

5 Review and Approval

5.1 Therma QA department shall review each document for acceptance and inclusion in the Turnover package(TOP).

THIS DOCUMENT CONTAINS PROPRIETARY INFORMATION OF THERMA CORPORATION. ALL INFORMATION SHALL (A) BE RETAINED IN CONFIDENCE; (B) NOT BE REPRODUCED IN WHOLE OR IN PART; AND (C) NOT BE USED OR INCORPORATED IN ANY PRODUCT EXCEPT UNDER EXPRESSED WRITTEN AGREEMENT WITH THERMA CORPORATION.