CELCO 1003

STANDARD PROCEDURE FOR ELECTROPOLISHING AND HANDLING COMPONENTS FOR ULTRA HIGH PURITY APPLICATIONS

Rev. A

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Reviewed and approved for adequacy prior to issue by:

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Revision History

Revision A: Dated – October 29, 2008

Add approval signatures and dates.

1.0 SCOPE

1.1 This document establishes a standard procedure for handling components which are electro polished and packaged for Class 100 standards.

1.2 The material is assumed to be a type 316L stainless steel but other austenitic stainless steel shall be handled in the same manner.

2.0 PROCESS MATERIAL

2.1 ELECTROPOLISHING FLUID

2.1.1 The electrolyte used for electro polishing components a commercial grade fluid which is closely monitored required by the supplier to assure a consistent polished surface.

2.2 D. I. WATER

2.2.1 Resisitivity - 8-10 Meg Ohm

2.2.2 Filtration - .2 micron

2.3 NITROGEN

2.3.1 SOURCE - BOTTLED

2.3.2 PURITY - 99.998%

2.4 CLEAN WIPES - Commercial Lint Free

3.0 RECEIVING AND INSPECTION

3.1 Inspect incoming components flaws and determine if manufacture initiated or caused by shipping.

3.1.1 Notify customer of rejected parts.

3.2 Initiate work order with description of component, part number, quantity, E.P. requirement, inspection information, and other pertinent information.

3.3 Clean component to remove surface contaminants.

3.4 If heat scale or discoloration is evident, pickle the component in a nitric acid bath until the scale is dissolved.

4.0 ELECTROPOLISHING

4.1 The component is racked and electropolished to obtain the required final finish.

4.2 Rinsing Procedure

4.2.1 Drag out in potable water.

4.2.2 Pig rinse in nitric acid solution.

4.2.3 Second rinse in potable water.

4.2.4 Third rinse in potable water.

4.2.5 Component is removed from rack.

4.2.6 Final rinse in D.I. Water.

4.2.7 Place component in Class 100 clean station for cool down and drying.

5.0 PACKAGING

5.1 Standard Packaging

5.1.1 Component is placed in a poly bag and heat sealed to protect it from handling contamination.

5.1.2 Component is placed in a suitable shipping container, cushioned by packing material and sealed for shipping.

5.2 CLASS 100 PACKAGING

5.2.1 Component is retained under a Class 100 clean station laminar flow hood.

5.2.2 Component is rinsed in a cold D.I. Water bath.

5.2.3 Component is rinsed in a second bath of hot (150 dg. F) D.I. Water rinse.

5.2.4 Component is blown dry with Nitrogen Gas, filtered to .02 micron at room temperature.

5.2.5 If excess D.I. Water is present, a lint free wipe shall be used to absorb moisture.

5.2.6 The component is placed in a 2 mil poly bag, purged with Nitrogen Gas and heat sealed.

5.2.7 The bagged component is placed in an outer 6 mil poly bag and heat sealed.

5.2.8 A label is attached to the bag denoting the part number and Class 100 package information.

5.2.9 Component is placed in a suitable shipping container, cushioned by packing material and sealed for shipping.

6.0 SHIPPING

6.1 All orders are shipped by the most effective means and/or customer instructions.