

| | | |
|---|--|---------------------------------|
|  | QUALITY SYSTEM STANDARDS & PROCEDURES | OP-7.4-12 Revision C |
| Document Title: | Certification of Plating Processes (Outside Subcontractors) | |
| Document Owner Name: | FERNANDO ARREDONDO, MATERIALS MANAGER | |

1. PURPOSE

1.1. To define requirements for certification of plating processes used in the manufacture of Autossplice components.

2. SCOPE

2.1. This work instruction applies to all subcontractors providing plating services to Autossplice.

3. REFERENCED/APPLICABLE DOCUMENTS/FORMS

3.1. *EIA/IPC/J-STD-002 Solderability Tests for Component Leads, Terminations, Lugs, Terminals & Wires*

3.2. *AIAG PPAP Manual*

4. DEFINITIONS/ABBREVIATIONS

4.1. N/A

5. RESPONSIBILITIES

5.1. Subcontractors are responsible for providing the information detailed in this procedure in order to be certified as a supplier of plating services to Autossplice.

6. PROCEDURE

6.1. In order to be certified to provide plating services to Autossplice the following data shall be delivered prior to the start of production. This is a one-time requirement as long as no significant changes in the process (company move, introduction of new equipment, etc.) occur.

- Capability studies for plating thickness (both nickel and tin lead separately) consisting of a minimum of 125 readings. 25 subgroups of 5, Cpk value should be 1.33 minimum with a goal of 1.67 or better.
- Solderability tests on 10 parts in accordance with EIA/IPC/J-STD-002, Category 3, Tests "B" and "D" except that manual dipping may be substituted for the automatic requirement.
- A process flow chart identifying critical equipment by manufacturer and model #.
- A PFMEA identifying potential problem areas, risk factors and methods of control.
- A Process Control Plan identifying test and inspection points and methods of control.

Existing family documentation (except for Capability study and solderability data) may be substituted for exact Autossplice part data as long as the process mirrors that used for our parts.

| | | |
|---|--|---------------------------------|
| autosplice Innovative Interconnections™ | QUALITY SYSTEM STANDARDS & PROCEDURES | OP-7.4-12 Revision C |
| Document Title: | Certification of Plating Processes (Outside Subcontractors) | |
| Document Owner Name: | FERNANDO ARREDONDO, MATERIALS MANAGER | |

7. PROCESS FLOWCHART

7.1. N/A

8. RECORDS

| Identification # | Record Type | Created / Maintained by | Actual Location Stored | Access | Sorting Method | Retention Period |
|---------------------------------|-------------|-------------------------|------------------------|---------|----------------|---|
| Required Supplier Documentation | Digital | Materials Manager | Supplier Quality Files | General | By Supplier | As long as Supplier is active plus one year |

9. REVISION HISTORY

| Revision Level | Change Description (be fairly specific; provide section numbers when possible) | Change Originator's Full Name | Revision Date (in Month DD, YYYY format) |
|----------------|--|-------------------------------|--|
| A | Initial release | N/A | N/A |
| B | N/A | Jane Grant | 1/23/2004 |
| C | Purchasing function transferred to Mexico Offices. Materials Manager change. | Fernando Arredondo | 5/31/2012 |