

SMC	TITLE: LEAD FREE/RoHS MANUFACTURING/PROCESS CONTROLS		
	ELEMENT: 7.5.1 CONTROL OF PRODUCTION AND SERVICE PROVISION		
APPROVED DOCUMENT	WRITTEN BY: DWAYNE BERNITT	OWNER: GREG HOWARD	
	DOCUMENT CONTROL #WI 051001	REV: 1.0	Page 1 of 1

- 1. Scope.** This work instruction explains the internal processes required to properly identify and manufacture lead free/RoHS compliant assemblies. It is imperative that lead free materials are not mixed with leaded materials during the material receiving, manufacturing or rework and repair process for lead free assemblies. IPC-A-610D is the standard used to ensure the industry acceptability requirements are met.
- 2. Identification.** Supplies, parts and assemblies will have a "G" prefix to identify Lead Free. Individual labels placed on materials during the Incoming Receiving process will have a "G" prefix associated with the part number.
- 3. PWB Markings.** Customer specifications will define PWB markings such as labels to identify lead free assemblies, silkscreen markings or specific soldermask colors.
- 4. Work Instructions and Assembly Drawings.** Hard copy work instructions will be printed on light green paper. The additional identifier is the "G" prefix for the assembly identifier in the lower left corner on each page of work instructions. Assembly drawings will have the "G" prefix in the JOB NO. block in the lower right corner of the drawing.
- 5. PROMAN Move Tickets.** Move tickets will be printed on green adhesive tickets and the assembly number will have the "G" prefix. Move tickets will be placed on totes or racks of product as it moves throughout the manufacturing processes.
- 6. Screen Printer.** Stencils are identified as unique for each Lead Free assembly.
- 7. Reflow Process.** SAC 305 is the solder paste used for solder reflow. Typical peak temperatures are between 240 and 260 degrees C. The melting point is 217 C versus 183 C for Tin Lead.
- 8. Wave Soldering.** SN100C is the alloy. Refer to SMC Training Instruction # 051005 for specific wave solder operations.
- 9. Hand Soldering.** SN100C is the alloy. Specific hand solder areas are identified to prevent lead contamination. Solder irons and associated equipment are clearly identified with green handles or cases, rework and repair tables are painted with green markings and appropriate "Caution" signs are placed identifying the "Lead Free" areas.

Figure 2. Manufacturing and process control documents have been updated to conform to ISO requirements.



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Certificate of Compliance

SMC certifies the following assemblies were manufactured in compliance with the European Union Directive 2002/95/EC, "Restriction of Use of Hazardous Substances (RoHS)."

We certify:

1. Our supplier has confirmed the compliance status of the relevant products to us.
2. We have introduced new part numbers for all compliant components and assemblies to identify and segregate them in our stock management and manufacturing processes.
3. No Lead (Pb), Cadmium (Cd), Mercury (Hg), Hexavalent Chromium (Cr+6), Polybrominated Biphenyls, (PBB) or Polybrominated Diphenyl Ethers, (PBDE) is intentionally added to these devices. Any trace impurities of these substances contained in the parts are below the RoHS specified threshold levels:
 - a. Pb, Hg, Cr+6, PBB's, PBDE's < 1000 ppm
 - b. Cd < 100 ppm

Customer Part # _____ SMC Assembly # _____

Work Order # _____ PO # _____

Quantity _____ Customer _____

Company Official _____

Date _____

	TITLE: LEAD FREE/ROHS CERTIFICATE OF COMPLIANCE	WRITTEN BY: DWAYNE BERNITT
	ELEMENT: 7.1 INSPECTION AND TESTING	OWNER: QUALITY MANAGER
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Figure 3. After QA verifies compliance, a certificate of compliance is issued with the orders.