

Process Specification for the Staking and Conformal Coating of Printed Wiring Boards

Engineering Directorate

Avionic Systems Division



Revision G
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National Aeronautics and
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Lyndon B. Johnson Space Center
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Process Specification for the Staking and Conformal Coating of Printed Wiring Boards

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REVISIONS		
VERSION	CHANGES	DATE
Baseline		4/16/96
A	Add conformal coating and change specification to NAS 5300.4(3J-1)	7/7/97
B	Modified scope to delineate between onsite and offsite work. Changed structure to meet current PRC template	8/14/98
C	Changed applicable document from NAS 5300.4(3J-1) to NASA-STD 8739.1. Changed the document title and the body text to remove reference to electronic assemblies.	11/8/2000
D	Changed OPR from EM4 to EV5. Modified note to footer. Modified sections 6.0, 7.0, and 9.0.	7/28/2005
E	Updated Sec. 6.0 to document a calibration system per ANSI/NCSL Z540.1 requirement. CR-1791.	11/12/2015
F	Updated Sections 2.0, 4.0, 5.0, 6.0, 7.0, 8.0 and 9.0.	3/19/2020
G	Updated signature block and EV logo; Updated Reference section to include ANSI/NCSL Z540.1 as it is currently referenced in Section 6.	3/16/2026

Verify that this is the correct version before use

1.0 **SCOPE**

This process specification establishes engineering requirements for the staking and conformal coating of printed wiring boards in flight hardware manufactured by, or for JSC.

2.0 **APPLICABILITY**

This specification shall be applicable per NASA-STD-8739.6 whenever a staking and conformal coating procedure is invoked per section 3.0, "Usage".

Note 1: For hardware manufactured offsite from NASA JSC, the vendor shall use its own internal work instructions for implementing the process requirements as stated in the pertinent sections of NASA-STD-8739.6, latest approved revision.

Note 2: The remaining portions of this document are not applicable for hardware manufactured offsite from NASA JSC.

Note 3: This exclusion does not apply to the NASA JSC Support Contractors.

Note 4: All electronic assembly staking and conformal coating operations shall comply with sections relevant to the subject matter in NASA-STD 8739.6, latest approved revision.

3.0 **USAGE**

This process specification shall be called out on the engineering drawing as follows:

STAKE AND CONFORMAL COAT ASSEMBLY PER NASA/JSC PRC-7002

4.0 **REFERENCES**

NASA-STD-8739.6	"Implementation Requirements for NASA Workmanship Standards"
ANSI/NCSL Z540.1	"Calibration Laboratories and Measurement and Test Equipment – General Requirements"

5.0 **MATERIAL REQUIREMENTS**

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As specified in sections applicable to this subject matter in NASA-STD-8739.6, latest approved revision.

6.0 PROCESS REQUIREMENTS

Staking and conformal coating of Printed Wiring Boards shall be performed according to the requirements of NASA-STD-8739.6, latest approved revision. Calibrated tools shall be processed by a calibration system in accordance with ANSI/NCSL Z540.1.

7.0 PROCESS QUALIFICATION

For work performed within the Avionic Systems Division, written procedures shall be used and they shall consist of Detailed Process Instructions (DPIs) selected for use from the DPI-7002 series of work instructions. The DPI-7002 series of work instructions shall be validated on non-flight hardware. No untested DPI shall be used to manufacture flight hardware.

8.0 PROCESS VERIFICATION

Verification of staking and conformal coating application shall be accomplished according to the requirements of NASA-STD-8739.6, latest approved revision.

9.0 TRAINING AND CERTIFICATION OF PERSONNEL

All staking and conformal coating procedures shall be performed by personnel who have been trained and certified as directed by NASA-STD-8739.6, latest approved revision.

10.0 DEFINITIONS

None.