



National Aeronautics and  
Space Administration

**INCH-POUND**

MSFC-SPEC-684  
REVISION A  
EFFECTIVE DATE: August 1, 2007

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**George C. Marshall Space Flight Center**  
Marshall Space Flight Center, Alabama 35812

EI42

# SPECIFICATION FOR VACUUM BAKING OF ELECTRICAL CABLES FOR SPACE APPLICATIONS

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<b>Multiprogram/Project Common-Use Document</b> EI42		
<b>Title: Specification for Vacuum Baking of Electrical Cables for Space Applications</b>	<b>Document No.: MSFC-SPEC-684</b>	<b>Revision: A</b>
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### DOCUMENT HISTORY LOG

<b>Status (Baseline/ Revision/ Canceled)</b>	<b>Document Revision</b>	<b>Effective Date</b>	<b>Description</b>
Baseline	-	01/22/81	Initial release
Revision	A	08/01/07	Revised document throughout so that all requirements state "shall" to satisfy CAITS action #04-DA01-0387

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## 1. SCOPE

- 1.1 This specification covers the requirements for vacuum baking to control outgassing of electrical cables for use in Space payloads. It is intended for use only with cables comprised of components and materials complying with the vacuum stability requirements of JSC-SP-R 0022.

CAUTION: Only those cables with specified temperatures equivalent to or greater than that in paragraph 3.1 of this specification should be subjected to the vacuum bake.

## 2. APPLICABLE DOCUMENTS

- 2.1 The following documents form a part of this specification to the extent specified herein. Unless otherwise indicated, the issue in effect on the date of application shall apply.

### LYNDON B. JOHNSON SPACE CENTER

SP-R-0022                      General Specification, Vacuum Stability Requirement of Polymeric Material for Spacecraft Application.

## 3. REQUIREMENTS

- 3.1 Vacuum Bake- The cables shall be subjected to a vacuum bake cycle consisting of:

Temperature: 212°F ± 20°F

Vacuum: 5 × 10<sup>-4</sup> Torr or better

Time: 48 hours minimum; not to exceed 100 hours

- 3.1 Identification- Cables which have been exposed to the vacuum bake as specified in 3.1 shall be documented in the data package.
- 3.2 Sealed Containers- The cables shall be kept in their sealed containers (bags) at all times except while undergoing vacuum bake and inspection. The protective connector plastic caps shall be kept in place except during vacuum bake.
- 3.3 Handling- When removed from their sealed containers, the cables should be kept in a clean area and only handled with lint free gloves.

## 4. VERIFICATION

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4.1 Inspection- Visual inspections shall be performed before and after the vacuum bake.

5. PACKAGING

5.1 The cables shall be in sealed bags and individually packaged during transporting/shipping.

6. NOTES