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National Aeronautics and
Space Administration

MSFC-STD-383
REVISION E
EFFECTIVE DATE: OCTOBER 27, 2004

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

EI 42

**MULTIPROGRAM/PROJECT COMMON-USE
DOCUMENT**

**STANDARD
FOR
RUBBER STAMPING OF
ELECTRICAL EQUIPMENT AND
COMPONENTS**

(Approved for Public Release; Distribution is Unlimited)

Multiprogram/Project Common-Use Document or Program/Project Name EI 42		
Title: STANDARD FOR RUBBER STAMPING OF ELECTRICAL EQUIPMENT AND COMPONENTS	Document No.: MSFC-STD-383	Revision: E
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DOCUMENT HISTORY LOG

Status (Baseline/ Revision/ Canceled)	Document Revision	Effective Date	Description
REVISION	D	4/17/01	GENERAL REVISION-REWRITTEN AND FORMATTED PER MWI 7120.4 REVISED APPENDIX A TO REFLECT CURRENT SPECIFICATIONS.
REVISION	E	TBD	GENERAL REVISION-REWRITTEN AND FORMATTED PER MWI 7120.4.

CHECK THE MASTER LIST. VERIFY THAT THIS IS THE CORRECT VERSION BEFORE USE

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1. PURPOSE

1.1. This standard establishes the criteria for rubber stamping of electrical equipment and components.

2. APPLICABLE DOCUMENTS

2.1. SPECIFICATIONS

Federal

A-A-51693 Alcohol, Dehydrated, USP

A-A-56032 Ink, Marking, Epoxy Base

2.2. STANDARDS

American National Standard

ANSI/IEEE STD 200 Reference Designations for Electrical and Electronics Parts and Equipments

MIL-STD-810 Environmental Test Methods and Engineering Guidelines

2.3. HANDBOOKS

MSFC DOCUMENTS

MSFC-HDBK-527 Material Selection Guide for MSFC Spacelab Payloads
MPG-8715.1 Marshall Safety, Health, and Environmental (SHE) Program

3. GENERAL REQUIREMENTS

3.1 Character Location - When space permits, the characters shall be applied to insure optimum discernability.

3.2 Cleaning Agent - The surface to be stamped shall be cleaned with alcohol conforming to Specification A-A-51693.

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3.3 Workmanship - The finished marking shall be free from ragged edges, imperfect or misaligned characters, closed characters, smears, and excess ink.

4. DETAILED REQUIREMENTS

4.1 Character Style - The character style shall be Gothic style capitals. Roman numerals and lower case shall be limited to special applications.

4.2 Character Size - The characters shall be .125 (nominal) inches high, unless otherwise specified. When space is limited, smaller type is acceptable, provided legibility is not affected.

4.3 Character Spacing - All letters in words or groups of characters shall be evenly spaced and neatly aligned. For a single word or similar group of characters, the spacing between straight characters shall range between 1/12 minimum and 1/4 maximum of the character height.

4.4 Character Line Width - The character line width shall be between 1/6 to 1/8 of the character height, except for .500-inch characters which range between 1/10 to 1/12 of the character height.

4.5 Tolerance - The tolerances for two place decimal dimensions shall be plus or minus .03 inch and for three place decimal dimensions shall be plus or minus .010 inch.

4.6 Word Spacing - The spacing between words shall range between 5/8 to 3/4 of the letter height, depending upon the characters being separated.

4.7 Ink

4.7.1 For ground support equipment, unless otherwise specified, the ink shall be an approved epoxy-based paste per A-A-56032 Type I or II. Standard color is black. Appendix A Type I is an approved material.

4.7.2 For flight equipment, unless otherwise specified, the ink shall be an approved epoxy-based paste per A-A-56032 Type II. For black, Appendix A, Type II ink is an approved material. For white, Appendix A, Type III ink is an approved material.

4.7.3 For flight equipment, the ink specified in 4.7.2 shall be overcoated with an approved material to prevent outgassing of the ink. If specified ink meets outgassing requirements of the program, overcoating is allowed to be omitted by statement on using documentation. Appendix A, Type IV epoxy is an approved material.

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4.8 Color - The color of the characters shall provide adequate contrast with the surface color of the part and have uniform density. Applicable drawing shall specify color if other than black.

4.9 Dimensions - For the purpose of this standard, the marking location and letter size or spacing dimensions shall be shown in decimal inches on the applicable drawing. (Dimensions shall apply from outside to outside of the character, not the centerline.)

4.9.1 Location of Reference Designation markings – Reference designations shall be placed to indicate the approximate physical location of the parts represented, yet shall be readily visible without disturbing other parts. This requirement is primarily intended to preclude the loss of physical location identification when a part or assembly has been removed for maintenance purposes. All reference designation marking shall be consistent with the requirements of Standard ANSI Y32.16-1975 (IEEE STD 200-1975).

5 STAMPING NOTE EXAMPLE

“RUBBER STAMP PER MSFC-STD-383, FLIGHT” on documentation results in .125 high characters of UGLZ 8000 Black Epoxy Ink overcoated with Armstrong C-1 epoxy.

6 CANCELLATION

MSFC-STD-383C dated August 10, 1987

MSFC-STD-383D dated April 17, 2001

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APPENDIX A
APPROVED INKS AND THEIR SOURCES

TYPE I INK (for GSE)

REQUIREMENTS:

- 1 Materials - The black epoxy marking ink shall meet the fungus resistance requirements of Specification MIL-STD-810 method 508.
- 2 Color - The color shall be black.
- 3 Product Identification - The vendor part number shall be clearly marked on the epoxy marking ink container.
- 4 Workmanship - The epoxy marking ink shall be the equivalent of Part Number M-O-N Black, Series M ink manufactured by Enthone, Oak Lawn, Illinois.
- 5 Ordering Data - The procuring activity shall specify the container size on the purchase order.

Vendor Part Number: M-O-N Black, Series M, Black Ink-A, Catalyst

Vendor Address:

Enthone
9809 Industrial Drive
Oak Lawn, Illinois 60455-2306

Vendor CAGE Code

5F863

- 6 Other materials allowed are listed in MSFC-HDBK-527 and approved by MSFC.

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TYPE II INK (for flight equipment) BLACK

REQUIREMENTS:

- 1 Materials - The black epoxy marking ink shall meet the fungus resistance requirements of Specification MIL-STD-810 method 508.
- 2 Color - The color shall be black.
- 3 Product Identification - The vendor part number shall be clearly marked on the epoxy marking ink container.
- 4 Workmanship - The epoxy marking ink shall be the equivalent of Part Number UGLZ-8000 Black and the vendor specified catalyst, Union Ink Company.
- 5 Ordering Data - The procuring activity shall specify the container size on the purchase order.

Vendor Part Number: UGLZ-8000 Black Ink with vendor recommended catalyst

Vendor Address:

Union Ink Company, Inc
453 Broad Avenue
Ridgefield, NJ 07657-2329

Vendor CAGE Code:

29642

- 6 Notes – UGLZ-8000 does not adhere to Electroless Nickel finishes. M-O-N/CAT 20/A Black Ink from Enthone, CAGE code 5F863 shall be designated on documentation.
- 7 Other materials allowed are listed in MSFC-HDBK-527 and approved by MSFC.

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TYPE III INK (for flight equipment) White

REQUIREMENTS:

- 1 Materials - The white epoxy marking ink shall meet the fungus resistance requirements of Specification MIL-STD-810 method 508.
- 2 Color - The color shall be white.
- 3 Product Identification - The vendor part number shall be clearly marked on the epoxy marking ink container.
- 4 Workmanship - The epoxy marking ink shall be the equivalent of Part Number UGLZ-1000 White and the vendor specified catalyst, Union Ink Company.
- 5 Ordering Data - The procuring activity shall specify the container size on the purchase order.

Vendor Part Number: UGLZ-1000 White Ink with vendor recommended catalyst

Vendor Address:

Union Ink Company, Inc
453 Broad Avenue
Ridgefield, NJ 07657-2329

Vendor CAGE Code:

29642

- 6 Other materials allowed are listed in MSFC-HDBK-527 and approved by MSFC.

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TYPE IV OVERCOAT (for flight)

REQUIREMENTS:

- 1 Materials - The epoxy overcoat shall meet the fungus resistance requirements of Specification MIL-STD-810 method 508.
- 2 Color - The color shall be natural.
- 3 Product Identification - The vendor part number shall be clearly marked on the epoxy container.
- 4 Workmanship - The epoxy overcoat shall be the equivalent of Part Number C-1 and Activator A, Armstrong Products Company, Inc.
- 5 Ordering Data - The procuring activity shall specify the container size on the purchase order.

Vendor Part Number: Resin, C-1 with Activator A

Vendor Address:

Armstrong Products Company
Div of Polymer Industries, Inc
P. O. Box 657
407 Argonne Rd.
Warsaw, In 46580-3811

Vendor CAGE Code:

98911

- 6 Other materials allowed are listed in MSFC-HDBK-527 and approved by MSFC. If ink meets program specifications without overcoating, the overcoating can be omitted by stating "omit overcoating" on the documentation.

FILE NO. MSFC-STD-383

202 -

DR060PRO

PACKAGE NO. 10443R

DOCUMENTATION RELEASE LIST
GEORGE C. MARSHALL SPACE FLIGHT CENTERMSFC CODE IDENT 14981/339B2
ISSUE DATE FEB 22 2007

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C H	DOCUMENT NUMBER	DRL DRL DSH REV	TITLE	CCBD NO.	PCN	PC	EFFECTIVITY
*	MSFC-STD-383	202 -	STANDARD FOR RUBBER STAMPING OF ELECTRICAL EQUIPMENT AND COMPONENTS	000-00-0000	0000000	ZA	NONE

CHG NO.	CHG REV	CHG NOTICE	RESPONSIBLE ENGINEER	RESPONSIBLE ORGANIZATION	ACTION DATE	DESCRIPTION	
	C	DCN000	JOE BURSON	EB14	03/02/94	REVISION 'C' RELEASED 12/01/87.	
*	1	C	DCN000	EUGENA GOGGANS	EO03	02/22/07	DOCUMENT RELEASED THRU PDS. NO LONGER TRACKED IN ICMS.

CHECKER

N/A
02/15/07

(FINAL)

PACKAGE NO: 10443R

PROGRAM/PROJECT: MULTI

LAST UPDATED: 02/22/07

NOMENCLATURE: MSFC-STD- GOING TO NONE EFFECTIVITY

ECR NO:	PCN:	CCBD NO:	DATE PREPARED:
EO03-0000	0000000	000-00-0000 SB3-00-0000	02/22/07

DWG SIZE	DRAWING NUMBER	DWG REV	EPL/DRL/DDS NUMBER	DWG REV	EPL DSH	EPL REV	EO DASH NUMBER	EO REV	PART NUMBER
			MSFC-HDBK-1453		202	-			
			MSFC-HDBK-1674		202	-			
			MSFC-HDBK-2221		203	-			
			MSFC-HDBK-505		202	-			
			MSFC-HDBK-670		202	-			
			MSFC-MNL-1951		209	-			
			MSFC-PROC-1301		202	-			
			MSFC-PROC-1721		202	-			
			MSFC-PROC-1831		202	-			
			MSFC-PROC-1832		202	-			
			MSFC-PROC-404		202	-			
			MSFC-PROC-547		202	-			
			MSFC-QPL-1918		204	-			
			MSFC-RQMT-1282		202	-			
			MSFC-SPEC-1198		202	-			
			MSFC-SPEC-1238		202	-			
			MSFC-SPEC-1443		202	-			
			MSFC-SPEC-164		202	-			
			MSFC-SPEC-1870		202	-			
			MSFC-SPEC-1918		203	-			
			MSFC-SPEC-1919		206	-			
			MSFC-SPEC-2083		202	-			
			MSFC-SPEC-2223		202	-			
			MSFC-SPEC-2489		206	-			
			MSFC-SPEC-2490		205	-			
			MSFC-SPEC-2491		203	-			
			MSFC-SPEC-2492		203	-			
			MSFC-SPEC-2497		211	-			
			MSFC-SPEC-250		202	-			
			MSFC-SPEC-445		202	-			
			MSFC-SPEC-504		202	-			
			MSFC-SPEC-521		202	-			
			MSFC-SPEC-548		202	-			
			MSFC-SPEC-560		202	-			
			MSFC-SPEC-626		202	-			
			MSFC-SPEC-684		202	-			
			MSFC-SPEC-708		202	-			
			MSFC-SPEC-766		202	-			
			MSFC-STD-1249		202	-			
			MSFC-STD-1800		202	-			
			MSFC-STD-246		202	-			
			MSFC-STD-2594		203	-			

DOCUMENTATION PACKAGE/ROUTING REPORT

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PACKAGE NO: 10443R

DWG SIZE	DRAWING NUMBER	DWG REV	EPL/DRL/DDS NUMBER	DWG REV	EPL DSH	EPL REV	EO DASH NUMBER	EO REV	PART NUMBER
			MSFC-STD-2903		202	-			
			MSFC-STD-2904		202	-			
			MSFC-STD-2905		202	-			
			MSFC-STD-2906		202	-			
			MSFC-STD-2907		202	-			
			MSFC-STD-366		202	-			
			MSFC-STD-383		202	-			
			MSFC-STD-486		202	-			
			MSFC-STD-506		203	-			
			MSFC-STD-531		202	-			
			MSFC-STD-557		202	-			
			MSFC-STD-561		203	-			
			MSFC-STD-781		202	-			

SUBMITTED BY ENGINEERING AREA:	BASIC	CHANGE	PARTIAL	COMPLETE	CLOSES	ACTION
EO03		X		X		EO03

PREPARED BY:
EUGENA GOGGANS
12/19/06

SUBMITTED BY:

CONCURRENCE:

TRANSMITTAL DATES

TO RELEASE DESK 02/22/07 10:00
TO MSFC DOC REP 02/22/07 00:00

REMARKS:

2007 FEB 22 AM 11:22

No. 0202 P. 2

MSFC DOCUMENTATION REPOSITORY - DOCUMENT INPUT RECORD					
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V. ORIGINATING ORGANIZATION APPROVAL					
40. CRG CODE: EM2	41. PHONE NUMBER: 544-3720	42. NAME: JEFF D. BROWN	43. SIGNATURE/DATE: <i>Jeff D. Brown</i> / 12-14-04		
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44. RECEIVED BY: <i>Kim Miller</i>		45. DATE RECEIVED: 12/30/04	46. WORK ORDER: 03-00135-5		

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