

# **MIL-HDBK-5**

## **100<sup>th</sup> Coordination Meeting**



# **Handout**

April 2-5, 2001  
Dayton, Ohio

## Meeting Times and Locations

### Monday, 2 April

10:15am - 12:00pm	Airframer Steering Group	Armstrong
1:15pm - 4:30pm	Industry Steering Group	Kitty Hawk
3:15pm - 4:30pm	Government Steering Group	Armstrong
4:30pm - 6:00pm	Joint Industry/Government Steering Groups	Kitty Hawk

### Tuesday, 3 April

8:30am - 11:00am	Statistics Working Group	Lindbergh
11:00am - 12:00pm	Guidelines Task Group	Lindbergh
1:15pm - 2:30pm		
3:00pm - 5:30pm	Tour of Wright Patterson Air Force Museum	

### Wednesday, 4 April

8:30am - 10:00am	Joint Fastener Industry Working Group and Fastener Task Group	Kitty Hawk
8:30am - 12:00pm	Materials Task Group	Lindbergh
1:15pm - 3:00pm		
10:15am - 12:00pm	Fastener Industry Working Group	Kitty Hawk
1:15pm - 3:00pm		
10:15am - 12:00pm	Fastener Task Group	Armstrong
1:15pm - 3:00pm		
3:15pm - 4:30pm	Joint Fastener Industry Working Group and Fastener Task Group	Kitty Hawk
3:15pm - 5:30pm	Titanium Castings Working Group	Lindbergh

### Thursday, 5 April

8:30am - 12:00pm	MIL-HDBK-5 General Coordination Group Meeting	Lindbergh/Earhart
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## List of Enclosures

<b>Additions to Agenda</b> .....	7
<b>Agenda</b> for the 100 <sup>th</sup> MIL-HDBK-5 Coordination Meeting.....	9

### Statistics Working Group Items

<b>No Item No.</b> Calculation Corrections to the Test for Pearsonality and Pearson Probability Plot.....	15
<b>No Item No.</b> Regression for Skewed Data .....	

### Guidelines Task Group Items

<b>Item 00-14.</b> Summary of Recommended Testing Standards within MIL-HDBK-5.....	
<b>Item 00-15.</b> Summary of Heat, Lot, and Sample Size Requirements within MIL-HDBK-5 .....	

### Materials Task Group Items

<b>Item 99-11.</b> A- and B-Basis Design Mechanical Properties for Ti-6Al-4V Castings .....	
<b>Item 00-5.</b> Review of Converted Effect of Temperature Curves in MIL-HDBK-5 .....	
<b>Item 00-10.</b> Reference for Weldability of Aluminum in Section 3.1.3.4.....	
<b>No Item No.</b> A- and B-Basis Tensile Properties for SP-700 Titanium Plates .....	
<u><b>No Item No.</b> A- and B-Basis Properties for HAYNES® HR-120® Alloy Sheet, Strip, and Plate .....</u>	
<b>No Item No.</b> Special Presentation: Development and Implementation of Drop-in-Replacement Alloys for 7075-T6.....	

### General Coordination Committee Items

<b>No Item No.</b> MIL-HDBK-5 Historical Information.....	
<b>No Item No.</b> AMS Coordination .....	
<b>No Item No.</b> Cancellation of Government Specifications and Subsequent Replacement Specifications AMS Coordination.....	

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## **100<sup>th</sup> MIL-HDBK-5 COORDINATION MEETING**

DATE: April 5, 2001  
PLACE: Dayton, Ohio  
TIME: 8:30 a.m.

- I. Introduction of Attendees
- II. Chairman's Remarks
- III. Approval of 99<sup>th</sup> Meeting Minutes
- IV. General Discussion Items
  - A. Historical Review of MIL-HDBK-5 Coordination
  - B. 100<sup>th</sup> Meeting Recognitions
  - C. ISG Status Report
- V. Chapter 1 General Items and Special Presentations
- VI. Summary Review of MIL-HDBK-5 Agenda Items
- VII. MIL-HDBK-5 Wrap Up Discussions
  - A. Selection of Next Meeting Location & Time
  - B. Closing Comments

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**Additional Agenda Items  
for the  
100<sup>th</sup> MIL-HDBK-5 Coordination Meeting  
to be held in  
Dayton, Ohio**

**April 3-5, 2001**

**CHAPTER 1. GENERAL**

- Item 00-5. **Review of Converted Effect of Temperature Curves in MIL-HDBK-5 (MTG).** R. Rice, Battelle, will review this brief handout item.
- No Item No. **MIL-HDBK-5 Historical Information (GCC).** R. Rice will review this informational handout item.

**CHAPTER 3. ALUMINUM ALLOYS**

- No Item No. **Special Presentation on Development and Implementation of Drop-in-Replacement Alloys for 7075-T6.** (MTG) I. Gheorghe, Universal Alloy Corporation, will give a presentation on this topic; abstract enclosed.

**CHAPTER 4. MAGNESIUM ALLOYS**

- No Item No. **Special Presentation on MA2-1pch Magnesium Alloy Plate.** (MTG) V. Leibov, Aviation Register, will give a presentation on this material.

**CHAPTER 6. HEAT RESISTANT ALLOYS**

**No Item No. A- and B-Basis Properties for HAYNES® HR-120® Alloy Sheet, Strip, and Plate.** (MTG) J. Jackson, Battelle, will review this handout item.

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(Note: The attachments previously mailed with the agenda are not included in this handout)

**Agenda**  
**100<sup>th</sup> MIL-HDBK-5 Coordination Meeting**  
**Dayton, OH**  
**April 3-5, 2001**

**CHAPTER 1. GENERAL**

- No Item No.      **AMS Coordination. (GCC)** J. Jackson, Battelle, to provide handout on relevant AMS material specifications that have been approved or initiated since the 99<sup>th</sup> coordination meeting.
- No Item No.      **Meetings of Potential Interest to MIL-HDBK-5 Coordination Members. (GCC)** R. Rice, Battelle, will review the list of meetings.
- No Item No.      **Cancellation of Government Specifications and Subsequent Replacement Specifications. (GCC)** J. Jackson will review a handout on the most recent information available from AIA and DSC websites.
- No Item No.      **Collection of Additional Fatigue, Fatigue Crack Growth, and Fracture Toughness Data. (GCC)** R. Rice will present a status report.
- No Item No.      **PMP Handbook Overview. (GCC)** J. Jackson will provide a status report.
- No Item No.      **Tour of Air Force Museum. (GCC)** A tour of the United States Air Force Museum is scheduled for Tuesday afternoon. See overall schedule of meetings for estimated timing.
- No Item No.      **Special Presentation on Laser Shock Processing (GCC)** D. Lahrman, LSP Technologies, will give a technical presentation on Thursday morning of Air Force applications of laser shock processing. Presentation abstract included with agenda.
- No Item No.      **Special Presentation on Development and Application of Titanium SP700 (GCC)** J. Ferrero, RMI Titanium Company, and K.N. Minakawa, NKK America, Inc. will give a technical presentation on Thursday morning. Presentation abstract included with agenda.
- No Item No.      **Special Presentation on the Cambridge Engineering Selector (MTG)** N. Wittridge, Granta Design Limited, will give a technical presentation on Wednesday morning of the CES system and potential applications of MIL-HDBK-5 data within the system.
- No Item No.      **Industrial Steering Group. (GCC)** R. Rice will give a status report on current ISG-supported activities.

- No Item No. **Guidelines Task Group. (GTG)** R. Rice will lead discussion of the current Chapter 9 items in the Guidelines Task Group meeting, which will begin at 10:15 AM on Tuesday, April 3<sup>rd</sup>. A summary of the planned GTG discussion items is included as an attachment to the agenda.
- No Item No. **Materials Task Group. (MTG)** J. Jackson will lead discussion of the new and continued materials items for Chapters 2 through 7 in the Materials Task Group meeting, which will be held on Wednesday, April 4, beginning at 8:30 AM. A summary of the planned MTG discussion items and data proposals is included as an attachment to the agenda.
- No Item No. **Statistics Working Group. (SWG)** S. Rust and H.C. Tsai, both of Battelle, will lead a discussion of the new and continued statistics items at the Statistics Working Group meeting, which will be held on Tuesday, April 3, beginning at 8:30 AM. A summary of the planned SWG discussion items is included as an attachment to the agenda.

## CHAPTER 2. STEEL ALLOYS

- Item 98-10 **A- and B-Basis Properties for AerMet 100 (280 ksi). (MTG)** J. Jackson will present this agenda item reviewing the results of A- and B-basis analyses on AerMet 100 (280 ksi strength level).
- Item 00-2 **Update Air Melted Low Alloy Steel Tables to Include Specific Thickness Ranges and Elongation Values with Each Column of Data. (MTG)** R. Rice will review this agenda item.

## CHAPTER 3. ALUMINUM ALLOYS

- Item 95-28 **Review of the Fracture Toughness Tables in Chapter 3. (MTG)** R. Rice will present a status report on fracture toughness data collection efforts.
- Item 98-2 **Design Properties for Russian Alloy 1163-T7 (2224A-T351). (MTG)** J. Jackson will present a status report.
- Item 98-14 **A- and B-Basis Tensile Properties for 7150-T7751 Aluminum Alloy Plate. (MTG)** J. Jackson will review the enclosed agenda item.
- Item 98-23 **Collection of Plane-Stress Fracture Toughness Data. (MTG)** R. Rice will present a status report.
- Item 00-5 **Review of Converted Effect of Temperature Curves in MIL-HDBK-5. (MTG)** R. Rice will review the enclosed agenda item.
- Item 00-6 **A and B-Basis Properties for 2297-T8R85 Plate. (MTG)** J. Jackson will review this agenda item.

- Item 00-9            **Including EXCO Ratings in MIL-HDBK-5. (MTG)** R. Rice will review a handout on this item.
- Item 00-10        **Reference for Weldability of Aluminum in Section 3.1.3.4. (MTG)** J. Jackson will review a handout.
- No Item No.      **A- and B-Basis Tensile Properties for 7249-T76511 Aluminum Alloy Wide Extrusions. (MTG)** J. Jackson to provide agenda item.
- No Item No.      **Beryllium-free D357-T6. (MTG)** J. Jackson to provide agenda item.
- No Item No.      **Correction to Correlative Information for Figure 3.7.8.1.8(b) Unnotched Fatigue Data for 7475-T61 and T761 Sheet, Thickness > 0.125 Inch, Longitudinal and Long-Transverse Directions. (MTG)** R. Rice to review this brief agenda item.
- No Item No.      **A- and B-Basis Properties for 7250-T7451 Aluminum Alloy Plate. (MTG)** J. Jackson to review this agenda item.
- No Item No.      **S-Basis Properties for 2026-T3511 Aluminum Alloy Extrusions. (MTG)** J. Jackson to review this agenda item.

#### CHAPTER 4. MAGNESIUM ALLOYS

~~No items anticipated.~~

No Item No.      **Special Presentation on MA2-1pch Magnesium Alloy Plate. (MTG)** V. Leibov, Aviation Register, will give a presentation on this material.

#### CHAPTER 5. TITANIUM ALLOYS

- Item 99-11        **A- and B-Basis Design Mechanical Properties for Ti-6-4 Castings. (MTG)** J. Jackson to review enclosed agenda item and handout.
- No Item No.      **A- and B-Basis Tensile Properties for SP-700 Titanium Plate. (MTG)** J. Jackson will review initial analysis results from the enclosed agenda item and handout on this proposed new material for inclusion in Chapter 5 of MIL-HDBK-5.

#### CHAPTER 6. HEAT RESISTANT ALLOYS

~~No items anticipated.~~

No Item No.      **A- and B-Basis Properties for HAYNES® HR-120® Alloy Sheet, Strip, and Plate. (MTG)** J. Jackson, Battelle, will review this handout item.

## CHAPTER 7. MISCELLANEOUS ALLOYS AND HYBRID MATERIALS

No items anticipated.

## CHAPTER 8. STRUCTURAL JOINTS

- Item 99-13      **Addition of Brazing Strength Design Factors. (FTG)** R. Goode, Lockheed Martin, will review the status of the revision of Section 8.2.3.
- Item 00-12      **Removal of Tables for Allfast parts AF3212, AF3213, AF3242, and AF3243 from MIL-HDBK-5H, CN1. (FTG)** T. Kilinski will review this agenda item.
- No Item No.      **Fastener Task Group. (FTG)** T. Kilinski, Battelle, will review the results of FTG discussions, which will take place on Wednesday, April 4<sup>th</sup>, at the main coordination meeting on Thursday morning.
- No Item No.      **Fastener Industry Working Group. (FIWG)** The Fastener Industry Working Group will meet jointly with the Fastener Task Group on Wednesday, April 4<sup>th</sup>, from 8:30 – 10:00am. The FIWG will then meet separate from the FTG for the remainder of the day, until they rejoin the FTG at 3:15pm for closing discussion on items of mutual interest to the FTG and FIWG. T. Kilinski will review the highlights of the FIWG working group meeting with the overall coordination group on Thursday morning.

## CHAPTER 9. GUIDELINES FOR THE PRESENTATION OF DATA

- Item 94-26      **Production Methods and Their Impact on Design Allowables. (SWG)** H.C. Tsai will review the enclosed agenda item.
- Item 98-3      **Procedure for Analyzing Lower Tail Censoring. (SWG)** H.C. Tsai will present a handout describing the status of this item and recommendations for future work.
- Item 98-7      **Complete Restructuring of Chapter 9 Guidelines to Improve Usability. (GTG)** R. Rice to present status report.
- Item 99-27      **Revised Analytical Techniques for Analysis of Fastened Joints. (FIWG)** T. Kilinski to present a guideline proposal.
- Item 00-13      **Rewrite of Section 9.4 Properties of Joints and Structures. (FTG)** T. Kilinski to present status report (final version of Section 9.4 to include revised analytical technique covered under Item 99-27).
- Item 00-14      **Summary of Recommended Testing Standards within MIL-HDBK-5. (GTG)** R. Rice to review handout item.
- Item 00-15      **Summary of Heat, Lot, and Sample Size Requirements within MIL-HDBK-5.**

(GTG) R. Rice to review handout item.

Item 00-17      **Clarification of the Bias of the Normal Method. (SWG)** H.C. Tsai will present agenda handout.

Item 00-19      **Evaluation of the Pros and Cons of Adding the Date of Last Revision to Tables and Figures in MIL-HDBK-5. (GTG)** R. Rice to present agenda item.

No Item No.      **Historical Review of MIL-HDBK-5 Round-off Procedures. (GTG)** J. Jackson to review agenda item.

No Item No.      **Regression for Skewed Data. (SWG)** H.C. Tsai will present a handout describing the status of this item and recommendations for future work.

No Item No.      **Proposal to Change Backoff Limit to Percentage of Standard Deviation in the Sequential Weibull and Sequential Pearson Procedures. (SWG)** H.C. Tsai will present agenda handout.

No Item No.      **Calculation Corrections to the Test for Pearsonality and Pearson Probability Plot. (SWG)** J. Jackson to discuss this brief agenda item.

No Item No      **Reevaluation of Statistical Procedures for Calculations of S-Basis Design Values. (SWG)** R. Rice and H.C. Tsai will review the enclosed brief agenda item.

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