



Announcing the 30th MMPDS Coordination Meeting

March 28-31, 2017 Drury Inn & Suites-Riverwalk, San Antonio, TX

Meeting Schedule

A detailed meeting schedule is attached and can also be found on the MMPDS website at www.mmpds.org.

Noteworthy:

- The Industrial Steering Group (ISG members and invited guests only) and Government Steering
 Group (GSG- members and invited guests only) will meet separately beginning at 8:00 am on
 Tuesday, March 28th. At 2:45 pm, the ASG and MATSSG group meetings will begin, concurrently. All
 meeting attendees are invited to attend ASG or MATSSG, as appropriate for your organization.
- Wednesday, March 29th, will begin with the Guidelines Task Group (GTG) meeting from 8:00 am to 3:00 pm. The ETWG meeting will take place at 3:15 finishing out the day. See the attached ETWG Agenda.
- Thursday, March 30th, multiple Task Group meetings will occur throughout the day.
- A lunch buffet is included with meeting fees on Tuesday, Wednesday, and Thursday.
- Friday, at 8:00 am, the General Coordination Committee (GCC) will take place. At 10:15 am, depending on need, the meeting will continue, OR, there will be a demo of the newest version of MIDAS. Meetings will conclude by noon.
- A sortable version of the Agenda Summary is available on both the member SharePoint site, or for non-members, it can be found at www.mmpds.org, under the tab for Meetings.

Registration

Meeting attendees will receive a discounted rate for advanced registration if the completed Registration Form, including method of payment, is returned to Battelle by March 3, 2017. Registration rates can be found on the attached Meeting Registration Form. Credit Cards will not be charged until after the meeting has ended.

Hotel Accommodations

The Drury Inn & Suites-Riverwalk

201 N. St. Mary's Street San Antonio, TX 78205 Telephone: 210-212-5200 www.druryhotels.com

The MMPDS Meeting Hotel Room Group Rate is \$121.00 USD. Cut-off date for reserving rooms is March 3, 2017 at 5 pm EST, assuming rooms are not sold out prior to that date. It is strongly recommended that you make your reservation as soon as possible as the number of available rooms is limited. Rates are offered for 3 days before and after the meeting as well, subject to availability.

To make your hotel reservation, follow this link:

https://www.druryhotels.com/Reservations.aspx?groupno=2284372

You can also call in your reservation at **1-800-325-0720**, reservation code 2284372 to get the \$ 121.00 USD rate.





The Group room rate includes the following:

FREE:

- 5:30 Kickback® Enjoy a variety of free snacks like salads, soups and more and cold beverages from 5:30 to 7 p.m.
- Free Long Distance One hour every room every night.
- o Wireless Internet Access High speed Internet in all rooms and the lobby.
- o Soda and Popcorn From 3:00 pm to 10:00 pm every night in the lobby

Covered Parking is \$16.00 per day, plus tax, and has a height limit of 6'6".

Individual reservations must be cancelled prior to 12:00pm on the confirmed date of arrival in order to avoid a fee equal to one night's room rate plus tax.

Check In Time: 3:00pm Check Out Time: 11:00am

A valid credit card and photo ID to be presented at check in. Arrangements may be made for baggage storage with the Hotel's front desk staff.

NOTE: Right next door to the Drury Inn and Suites is the Drury Plaza Hotel. Please make note that the meeting location is the Inn & Suites

Questions? Please email mundya@battelle.org. We look forward to seeing you in San Antonio.



Preliminary Schedule March 28-31, 2017, San Antonio, TX

Time	Tues	sday	Wednesday	Thur	sday	Friday
7:30-8:00	Continenta	I Breakfast	Continental Breakfast	Continenta	l Breakfast	Continental Breakfast
8:00-10:00	ISG (members only)	GSG (members only)	GTG	MTG	FTG	GCC (Include Report from Executive Board, Steering Groups, and Review of Items)
10:00-10:15	Bre	eak	Break	Bre	eak	Break
10:15-11:00 11:00-12:00	ISG (members only)	GSG (members only)	GTG	MTG	FTG	GCC continued or MIDAS demonstration as needed
12:00-1:00	Lunch (buffet included in fee)		Lunch (buffet included in fee)	Lunch (buffet included in fee)		
1:00-2:30 2:30-2:45	Joint ISG/GSG (members only)		GTG	MTG	MTG FTG	
2:45-3:00 3:00-3:15			Break	Bre	ak	
3:15-4:00 4:00-5:00	ASG	MATSSG	ETWG	PSG	WWG	
5:00-6:00	(ASG if needed)	Executive Board		FatWG		

Key:

ASG - Airframer Steering Group

ETWG - Emerging Technology Working Group

FatWG - Fatigue Working Group

FTG - Fastener Task Group

GCC - General Coordination Committee

GSG - Government Steering Group (members only)

GTG - Guidelines Task Group

ISG - Industry Steering Group (members only)

MATSSG- Materials and Test Services Steering Group

MTG - Material Task Group

PSG - Propulsion Steering Group

WWG - Welding Working Group



ETWG AGENDA - Preliminary

March 29, 2017, 3:15 - 5:15 PM

3:15 PM

- Introductions and Opening Statement
- Scope of ETWG
 - Forum for material characterization and properties generation activities for emerging materials (PIM/AM)
- Review of FAA AMNT activities:
 - o AM Roadmap
 - o Policy and Guidance (ACO and MIDO Checklist)
 - R&D Efforts

3:30 PM

- Review of SAE AM standards activities
 - Discussion of SAE specification format
- Discussion on Use of Equivalency Methods with PIM and AM:
 - o Propose limiting to T90 initially
 - A simplified version of equivalency procedures developed under Item 16-20 and 11-40 could be used with PIM and AM
 - Examples using currently available LAM and FSW data will be shown

4:00 PM

• Presentation: Norsk Titanium RPD™ Ti-6Al-4V Material

by Pedrum Sodouri, NORSK Titanium

4:30 PM

Agenda 07-17 - Development of Design Properties for Friction Stir Welds

4:45 PM

• Suggested Data Requirements for Potential Design Value Development

5:00 PM

• General discussion on path forward



AGENDA ITEM SUMMARY - Preliminary

(Sorted by Item Number)

issued. 1/2	Responsible						
Item	О.00р	Chpt	t Title	Туре	30th Meeting Description		
No				•			
03-14	MTG		1	Review of Currency of Existing Database on Legacy Alloys	Agenda	J. Rubadue will present this agenda showing a status of top alloys.	
04-21	FTG		8	Fastener Tables of Sunset Review Interest	On Hold	This item is on hold until current Sunset tables are reviewed.	
07-17	GTG	ETWG	9	Development of Design Properties for Friction Stir Welds	Agenda	R. Rice will present this item summarizing previous FSW effort	
08-23	FTG		8	Sunset Review of Table 8.1.3.2.2(c), NAS1921C	Agenda	M. Tefend will present this item pending k factor corrections in Item 15-17	
09-13	FTG		8	Sunset Review of Table 8.1.3.2.3(a), MS21140	Agenda	M. Tefend will present this item pending k factor corrections in Item 15-17	
09-16	GTG	WWG	8	Review of Section 8.2 Metallurgical Joints	Agenda	M. Tefend will present this item including R. Reinmuller's edits and corrections to tables.	
10-13	MTG	ASG	2	Wrought Steels S-Basis Summary	Status	ASG Members may pool some of their data. This item is a placeholder for request for data.	
10-14	MTG		3	Wrought Aluminum Alloys with S- Basis Minimums	Status	A summary of the needed data will be shown.	
10-15	MTG		3	Mechanical Properties for Aluminum Alloy Forgings	Status	Waiting for a complete data set from all companies.	
10-17	MTG		3	Re-evaluate Legacy Alloy Stress- Strain Curves in Chapter 3	Status	Low Ranking. No effort on this item.	
10-25	GTG-F	FTG	9	Fastener Installation Parameters for Joint Tension Allowables	Status	Waiting on data from Boeing.	
11-05	MTG		1	AMS Coordination	Status	J. Rubadue will give a status report. The spring AMS meeting follows the MMPDS meeting.	
11-15	MTG		2	Division of Low Alloy Steel Table 2.3.1.0(g2)	Agenda	J. Rubadue will present this item.	
11-38	FTG		8	Sunset Review of Flush Head, Mechanical Lock Spindle Blind Rivet Table 8.1.3.2.2(e) NAS 1921 M	Agenda	M. Tefend will present this item pending k factor corrections in Item 15-17	
11-43	FTG		8	Supporting Data and Basis Identification for Table 8.1.2(b)	Status	Testing is needed to support table. ISG is discussing how to fund testing.	
12-16	MTG	ASG/ MATSSG	2	Footnote for Steel When Test Specimen is Not From Full Thickness	Status	Related to GTG Item 15-40. Requested that material supplers need to show testing used to indicate effect of size on properties. Additional data needed for incorporation of footnotes on tables.	
12-17	MTG	MATSSG	6	Footnote for Non-Ferrous Alloys Test Specimen When Not From Full Thickness	On Hold	On hold until resolution of Item 12-16.	
12-44	MTG		5	Design Allowable Properties for Ti- 3Al-2.5V Tubing	Status	Waiting on baseline data.	
12-45	MTG		2	21-6-9 Tubing	Status	Data are needed. Consider closing.	



AGENDA ITEM SUMMARY - Preliminary

(Sorted by Item Number)

Issued: 1/2	Responsible Group						
No	Final	Initial	Chpt	Title	Туре	30th Meeting Description	
12-50		FTG	9	Evaluation of new Regression and Confidence Models for Lap Joint Tests	Agenda	M. Tefend will present this item.	
12-52	GTG-F	FTG	9	Fastener Minimum t/D Requirements	Agenda	M. Tefend will present this item.	
12-89	GTG	PSG	9	Target Materials for Propulsion Applications	Status	This item will be discussed in PSG.	
12-105	GTG-F	FTG	9	Modification to the Sunset Criteria Procedures	On Hold	This item is on hold pending sunset review.	
13-32	MTG	ASG/ MATSSG	3	Bearing Strength Reduction for Edgewise Orientation from Extruded Bar	Status	No action on this item. Continuing to accumulate data.	
13-34	MTG		5	Addition of AMS 4919 Ti-6-2-4-2 Plate Properties	Status	Waiting on data.	
13-35	MTG		6	Upgrade S-Basis to A- and B-Basis for 718 Bar Nickel-Base Alloys per AMS 5962	Agenda	J. Rubadue to present this item.	
13-43	MTG		3	Addition of ST Bearing Properties for 7085-T7451 Plate	Status	Waiting on data.	
13-48	MTG			Add Cross-Sectional Area or Circle Size Information to Extruded Alloy Tables	Agenda	J. Rubadue will present this item.	
13-50	GTG		9	ASTM Coordination	Status	R. Rice will give a status report	
14-13	GTG	MATSSG	9	Recommended Test Orientations and Test Plane for Round Product	Agenda	ASTM approved addition of orientations for round product. G. Bray, Arconic, will present this item.	
14-19	GTG		9	Inclusion of Kisi Fracture Toughness Data	On Hold	R. Rice will give a status report	
14-21	GTG	WWG	9	Update of Section 9.2.4.8 Fusion Welded Joints to Clarify Method and Basis	Status	M. Tefend will give a status report on this item.	
14-24	MTG		4 thru	Identification of Stress-Strain Curves Which Have Been Evaluated for 2- Shape Factor for Chapters 4-7	Status	Low Ranking. No effort on this item.	
14-28	FTG		8	Sunset Review of Table 8.1.4.2(i), LGPL2SC-V Pin, 3SLC-C Collar in Clad 7075-T6	Status	M. Tefend will give a status report on this item.	
14-29	FTG		8	Sunset Review of Table 8.1.4.2(j), LGPL2SC-V Pin, 3SLC-C Collar in Clad 2024-T3	Status	M. Tefend will give a status report on this item. This item may be dropped pending Lockheed's usage of this fastener.	
14-55	GTG		9	Investigation of Fitting Functions for Design Applications	On Hold	No effort on this item due to low ranking from ballot. Consider closing with no action.	
14-61	GTG	PSG	9	Update Creep Guidelines	Status	R. Rice will lead discussion on this item.	
14-62	GTG		9	Evaluate Inclusion of other Fracture Toughness Data (JIC, KJIC)	Agenda	R. Rice will present this item.	



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(Sorted by Item Number)

Issued: 1/2	Resp	onsible					
Item No		roup	Chpt	Title	Туре	30th Meeting Description	
	Final	Initial					
14-66	MTG		2	Addition of 15-5PH Sheet S-Basis per AMS 5862 for H1025 Condition	Status	Waiting on data.	
14-67	MTG		3	Addition of 3-6 Inch Range for 7075- T73X Bar and Rod per AMS 4124	Status	Waiting on data.	
15-12	GTG	MATSSG	9	Bearing Failure Modes	Agenda	H. Jesequel, UAC, will present this item based on ASTM E28.04 sub- committee ballot for addition of failure modes in ASTM E238.	
15-13	MTG	MATSSG	9	Clarification of Shear Orientation for Legacy Alloys	Handout	J. Rubadue will present this item.	
15-17	GTG	FTG	9	Revision of Acceptance Test for 50% Censored Normal Method	Agenda	R. Rice & M. Tefend will present this item to include k99 and k90 knock- down factors. This affects Chapter 8 calculations (Joint allowables) and Chapters 2 through 7 (static properties) for sample sizes less than 100 which are not normally distributed.	
15-19	GTG-F	FTG	9	Verification of Secondary Modulus Methods for Fasteners	Status	M. Tefend will give a status on this time.	
15-30	MTG		3	Precision Modulus as Function of Test Location on Heavy Gauge Plate	Agenda	J. Rubadue will present this item.	
15-33	GTG	ASG/ GSG	8	Update Design Reference for Section 8.3 Bearings	Agenda	J. Rubadue will present this item.	
15-34	GTG		9	Stress-Strain Curve Extension	Agenda	R.Rice will present this item based on F. Bron's presentation at the 29th meeting.	
15-36	GTG		9	Modification of Indirect Analysis Equation	Status	A status report will be given.	
15-37	GTG		9	Guidelines for Strain-Rate Sensitive Materials	Agenda	R. Rice will present this item.	
15-38	GTG		9	Reevaluation of Degrees of Freedom Calculation for Regression with Effect of Temperature	Agenda	R. Rice will present this agenda item.	
15-39	GTG	PSG	9	Austenitic Stainless Steel Fatigue Data	Status	Unable to determine pedigree of data. This item will be closed with no action. If data with a known pedigree becomes available, a new item will be opened.	
15-40	GTG	ASG/ MATSSG	9	Guidelines for When Specimens Are Not From Full Thickness	Agenda	J. Rubadue will present this item to add guidance to show if a material is sensitive to size and the size limitations.	
15-42	MTG		3	Casting Allowables for 15-5PH and 17-4PH steel	Status	Waiting on data.	
15-45	GTG	MATSSG	9	Requirement of Additional Information on Specimen Shapes for Forgings, Extrusions, and Castings	Status	The Extruder Working Group is continuing to evaluate possible primary variables.	
15-46	GTG	MATSSG	9	Cross-Sectional Information Requirement for Extrusions	Status	An Extruder Working Group led by V. Dangerfield will work to determine how to better define needed information for discussion at this meeting.	
15-49	GTG		9	Revision of B-basis Based on Reduction of A-basis	Agenda	R. Rice will present this item to include the recommended method from the 29th meeting agenda in Chapter 1 where it may be used if desired. See 29th minutes regarding decision to not revise B-basis values.	
15-51	GTG	ASG/ MATSSG/ GSG	9	Periodic Testing of Materials for Derived Properties	Agenda	R. Goode will summarize ASG discussions and expectations. These will be passed along to the AMS working group.	



AGENDA ITEM SUMMARY - Preliminary

(Sorted by Item Number)

15-53a MTG 15-53b MTG 16-02 GTG	rG rG	Initial	3 3	Mechanical Properties for 7099- T7451 Aluminum Alloy Plate Mechanical Properties for 7099-	Type Agenda	J. Rubadue will present this item.
15-53b MT0	rG ·G			T7451 Aluminum Alloy Plate Mechanical Properties for 7099-	Agenda	J. Rubadue will present this item.
	G		3			
16-02 GTG				T7651 Aluminum Alloy Plate	Agenda	J. Rubadue will present this item.
-	īG.		9	Updates to Strain Departure Methods for Stress-Strain Curve Analyses	Status	R. Rice will lead discussion on this item.
16-03 MTG			3	Modulus and Stress-Strain Curves for 2050-T852 Aluminum Alloy Die Forging	Agenda	J. Rubadue will present this item.
16-10 MTG	īG	ASG	3	Legacy Alloy 7075-T6 Indirect Properties Update	Status	This will be discussed in ISG and ASG.
16-12 FTC	G			Identifying Basis of Fastener Shear Strength on Remaining Tables	Agenda	M. Tenfend will present this item pending k factor corrections in Item 15-17.
16-13 FTC	G		8	Corrections to Table 8.1.3.2.2(c) NAS 1921C	Status	Pending sunset review
16-14 GTG	G	ASG	9	Shear and Bearing Test Orientations in Mechanical Property Tables	Agenda	S. Fantle, Boeing, will present this item to add a "de-coder" in Chapter 1 for use by stress analysts.
16-15 GTC	G.	ETWG	9	Emerging Materials	Status	ETWG will include updates on FAA and AMS activities. A presentation will be given on additive manufacturing activities at NORSK titanium. Friction stir welding will also be discussed.
16-16 GTG	rg F	ATWG	9	Fatigue in MMPDS	Agenda	R. Rice will present this item.
16-20 GTG	-G		9	Equivalency Testing Assuming Change in Process (From Item 11- 40)	Agenda	R. Rice will present this item.
16-22 MTG	īG		multi	ldentification of Forging Types for Tables with A- and B-basis	Status	J. Rubadue will give a status report.
16-23 MTG	rG	PSG	6	Re-evaluate Item 10-08 for Effect of Temperature Curve vs Specification Minimums	Agenda	This item is for effect of temperature curves for 718 alloy. Based on preliminary analysis in 29th meeting handout, it was considered urgent to relabel Figures 6.3.5.1.1(a) and (b) as for wrought product only. This was done in a new item assigned Item 16-35. R. Rice will present this item on further evaluation of the 718 curves. Additional time and temperature data are requested.
16-24 GTG	·G		9	Guidelines for Modulus When Average Value is Insufficient	Discussion	This item will be discussed. Consider how this affects the stress-strain curves and tangent modulus curves. Consider using COV as a trigger to determine when a range should be included in the property table.
16-25 MTG	r G		6	Extension of 718 Bar Gage Range for AMS 5662 and AMS 5663	Status	Agenda presented in 29th Meeting. Resolve questions on size/response to heat treat and note if lot release data was from excised samples.
16-27 MTG	r G		3	Expansion of 2195-T8 Design Allowable Properties	Agenda	J. Rubadue will present this item.
16-29 GTG	G.	ASG	1	Review of Section 1.4.7 Bearing Properties	Discussion	A response to comments on Section 1.4.7 were included in the 29th meeting minutes. Several of the comments require further discussion in ASG.
16-30 MTG	īG		2	AM-355 Stainless Steel in SCT850 Condition	Agenda	J. Rubadue will present this item.



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Item	Responsible Group					
No	Final	roup Initial	Chpt	Title	Туре	30th Meeting Description
16-32	MTG		3	Mechanical Properties for 7097- T7651 Aluminum Alloy Plate	Agenda	J. Rubadue will present this item.
16-34	GTG		9	Review Guideline on Stress-Strain Submittal for Number of Curves per Thickness Range	Discussion	R. Rice will lead in discussions on this item.
16-36	GTG-F	FTG	9	Use of T99 as A-Basis When Higher than Specification for Fastener Shear and Tension	Status	M. Tefend will present this item. An instance where the specification may be in error triggered the creation of this item.
16-37	FTG		1	Chapter 1 Guidelines on Fastener Design Allowable Usage	Status	M. Tefend will present this item.
16-38	MTG		3	Addition of 7140 Stress Corrosion Cracking Information	Agenda	J. Rubadue will present this item.
16-39	MTG		3	7010-T7451 Re-Analysis	Status	From Item 15-22. Waiting on additional data.
16-40	MTG		7	Estimated Values in Table 7.3.2.0(c) Copper Beryllium Strip	Agenda	J. Rubadue will present this item.
16-41	GTG		9	Update Examples in Section 9.8.1	Status	No effort on this item.
16-42	GТG	ASG	9	Guidelines for Analysis of Stress- Strain Curves with Shape Factor Variance	Discussion	This item will be discussed in ASG. Typically stress-strain curves are split based on tensile properties in the mechanical property tables (by thickness break). This discussion is to consider the differences in shape factor within those breaks.
17-01	MTG		3	Expand range for 2024-T351 AMS 4120 to 8.0 inches	Status	No effort on this item. The data needs to be reviewed for statistical basis considering the QQ specification and new specifications.
17-02	MTG		3	Revision of 7136 and 2029Alclad Stress-Strain Curves	Agenda	J. Rubadue will present this item.
17-03	MTG		2	Stabilization of AMS6520 for 250 Grade Maraging Steel Sheet and Plate	Agenda	J. Rubadue will present this agenda item.
17-04	MTG		3	Addition of 45 Degree Properties for 2055-T84 Aluminum Alloy Extrusions	Agenda	J. Rubadue will present this agenda item.
17-05	MTG		3	Stabilization of Specifications for 2424 Bare and Clad Aluminum Alloy Sheet	Agenda	J. Rubadue will present this agenda item.
17-06	MTG		3	Mechanical Properties for A206.0 Sand Castings	Handout	A data package has been received. J. Rubadue will present preliminary results.
17-07	MTG		3	Stress Corrosion Cracking Data for 7136 Aluminum Alloy Extrusions	Agenda	J. Rubadue will present this agenda item.
17-08	MTG		3	Addition of Compression and Compression Tangent Modulus Stress-Strain Curves for 2099-T86 Plate	Agenda	J. Rubadue will present this agenda item.
17-09	MTG		3	Fatigue Curves for 2099-T83 Extrusion	Status	Arconic submitted data for extrusion L (0.062 – 3.000 in. thick) and LT (0.512 – 3.000 in. thick)
17-10	MTG		4	Fatigue Curve for 2099-T81 Extrusion	Status	Arconic submitted data for extrusion L (0.512 – 1.122 in. thick)



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(Sorted by Item Number)

Item	m Responsib		Chpt	Title	Туре	30th Meeting Description
No	Final	Initial	Спрт	Time	туре	Som Meeting Description
17-11	мтс		5	Fatigue Curve for 2026-T3511 Extrusion	Status	Arconic submitted data for extrusion L (0.0625-1.390 inch thick).
17-12	MTG		6	Fatigue Curve for 2624-T351 Plate	Status	Arconic submitted data for plate L (0.500-1.500 inch thickness).
17-13	MTG		3	Update of Modulus for 2297-T87 Plate	Agenda	J. Rubadue will present this agenda item. Modulus testing was done per ASTM E111.
17-14	MTG		3	Physical Properties for 2099-T86 Aluminum Alloy	Agenda	J. Rubadue will present this agenda item.
17-15	MTG		3	Physical Properties for 2397-T87 Aluminum Alloy	Agenda	J. Rubadue will present this agenda item.
17-16	MTG		3	Physical Properties for 2026-T3511 Aluminum Alloy	Agenda	J. Rubadue will present this agenda item.
17-17	MTG		3	Stress-Strain Curves for 2026-T3511 Aluminum Alloy Extrusions	Agenda	J. Rubadue will present this agenda item to add tensile and compressive curves in the L and LT directions.
17-NIN	MTG		3	6061 Plate T6X up to 12 inches, expand range	Status	J. Rubadue will give a status report.
17-NIN	GTG	PSG	9	Isochronal Stress Strain Curves	Status	This item will be closed with no action. If there is interest a new item will be opened.
17-NIN	MTG		3	Inclusion of Properties for AMS 4221, 2124-T8151 Plate	Status	Data are requested.
17-NIN	GTG	ETWG		Norsk Titanium RPD™ Ti-6Al-4V Material.	Presentation	Pedrum Sodouri, Norsk Titanium, will give this presentation during ETWG.