

## Agenda – day 2

Time	Duration	Session	Session Lead
9:00 AM	00:30	Member update 4	KSPG
9:30 AM	01:00	Technical session 4 - Workflow	Dan Williams
<b>10:30 AM</b>	<b>00:20</b>	<b>Coffee break</b>	
10:50 AM	01:00	Technical Project session: Welding & Joining	Fatih Cetin
11:50 AM	00:30	Member update 5	JLR
<b>12:20 PM</b>	<b>01:00</b>	<b>Lunch</b>	
1:20 PM	01:00	Technical session 5 - Material selection/recommendation	Arthur Fairfull
2:20 PM	00:15	Technical projects / shared development	Dan Williams
2:35 PM	00:25	Consortium process review; next meeting	Dan Williams
<b>3:00 PM</b>		<b>Adjourn - opportunity to visit Motor Museum</b>	

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## Technical Project Session Welding & Joining Schema

Fatih Cetin



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MATERIAL INTELLIGENCE

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## Agenda

1. Brief recap – progress so far
2. Part 1: Test data considerations
3. Part 2: Simulation data considerations
4. Next steps

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## Recap

- Gathered input from members
- Initial schema design, focused on a simple structure for test, pedigree and simulation data for spot welds
- Online access set up via AutoMatIC sharepoint
- Schema update: addition of Self Piercing Rivets

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## Part 1: test data management

Considerations for this session:

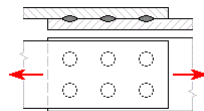
1. Is joint geometry pedigree the same thing as test type pedigree?
2. Is there an industry standard taxonomy for joint types?
3. Failure modes: what are they and what detail should be captured?
4. Test series and project data management?

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## Joint geometry vs Test type



e.g. single lap

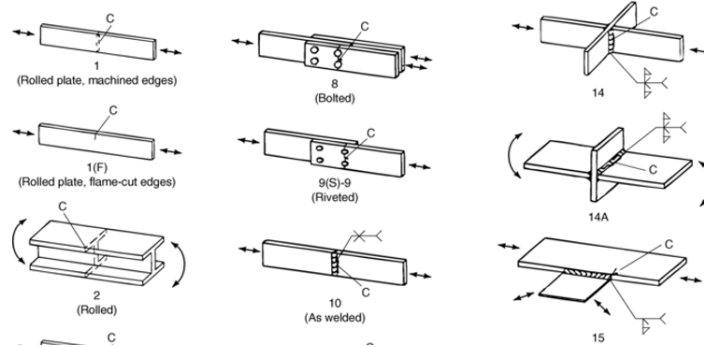
e.g. lap shear

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## Standard taxonomies for weld joints?



From: Volume 19, Fatigue And Fracture, Article: Factors Influencing Weldment Fatigue  
 ...F.V. Lawrence, S.D. [Dmitrakos](#), and W.H. Munse, Factors Influencing Weldment Fatigue, Fatigue and Fracture, Vol 19, ASM Handbook, ASM International, 1996, p 274-286.

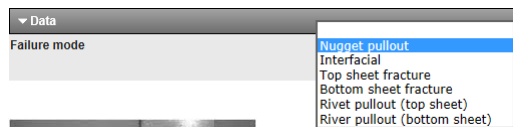
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## Failure modes

- Discrete attribute to capture failure mode



- Photo



- Anything else?

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## Test series and project data management



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## Part 1: simulation data management

Considerations for this session:

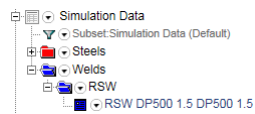
1. How do users find the record they need?
2. What format should simulation data take?

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## How does a user find a simulation data record?

- Suggested naming convention:
  - [Joint type] [Material 1] [Thickness 1] [Material 2] [Thickness 2] ...
  - E.g. RSW DP500 1.5mm DP500 1.5mm
- What is the best tree structure?



- Demo: searching for data

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## Simulation data

- What form should simulation data take?
  - Embedded material card?
  - Embedded material card plus numeric data for searching?
  - Numeric data + card exporter?
- Potential next step could be to target an end-to-end demonstration story, e.g.:
  1. Initiate test program
  2. Specify test pedigree
  3. Import test data
  4. Process test data into simulation data
  5. Find data and use in simulation

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