

Cargo AC – 25.855(c)

Guidance for Appendix F Part III
Testing

Participants

- Regulators
- Boeing
- Airbus
- C&D Zodiac
- Embraer
- Akro Fireguard

Across industry representation

AC Purpose

- Define simplifications to testing acceptable to SMEs across industry.
- Level set industry on what constitutes acceptable abstractions in testing
- Collect various guidance sources into a single document
 - Cargo AC Proposal Rev 13 Rev 3_21_12.ppt
 - C&D.pptx
 - Airbus Design Principles_1.ppt
 - Marker-1011-cargotask.pdf
 - AC25-17
 - TN88/33
 - Fire Test Handbook
- Publish Sonic Burner test method

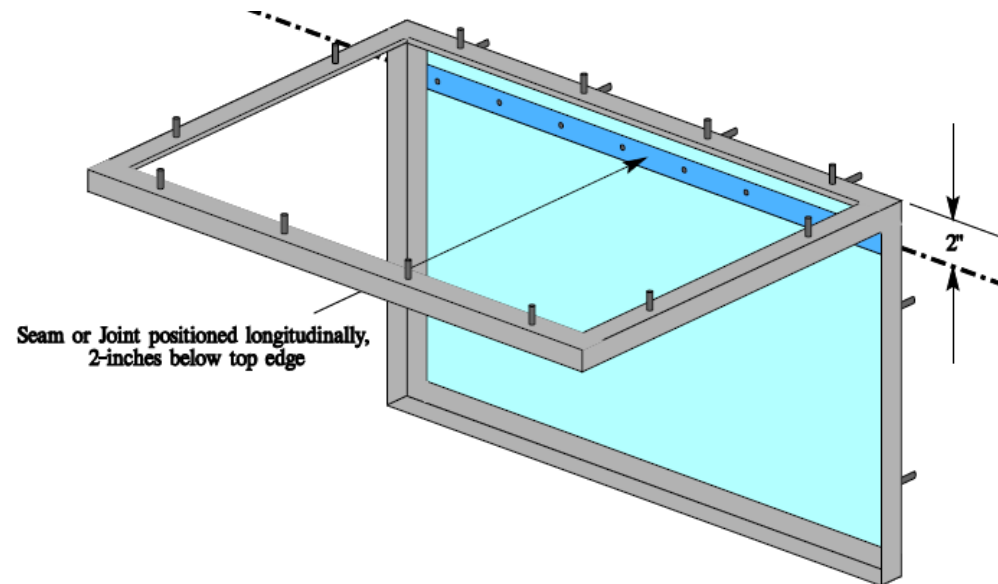
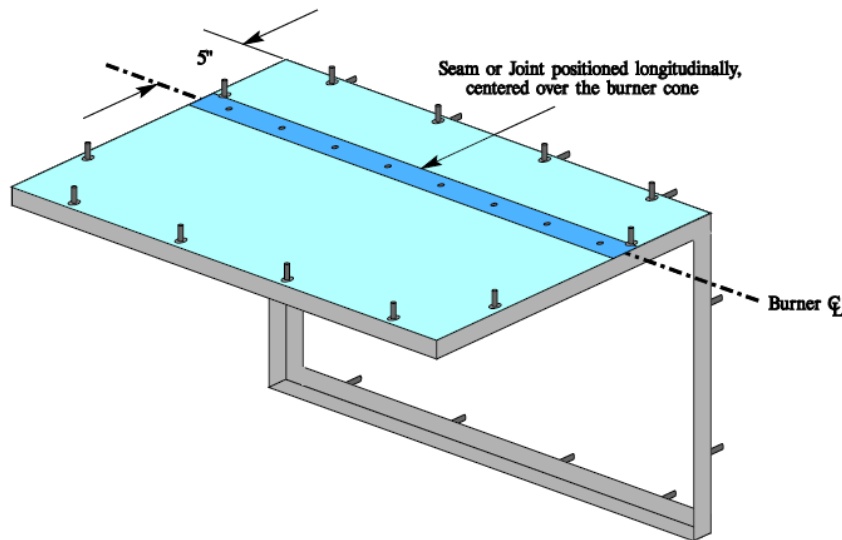
Simplified test guidance . All guidance in one document.

Goals

- Work open issues at this June working group.
- Final review of draft of AC in July
- Submit to FAA in 1st week of August.

AC Topics

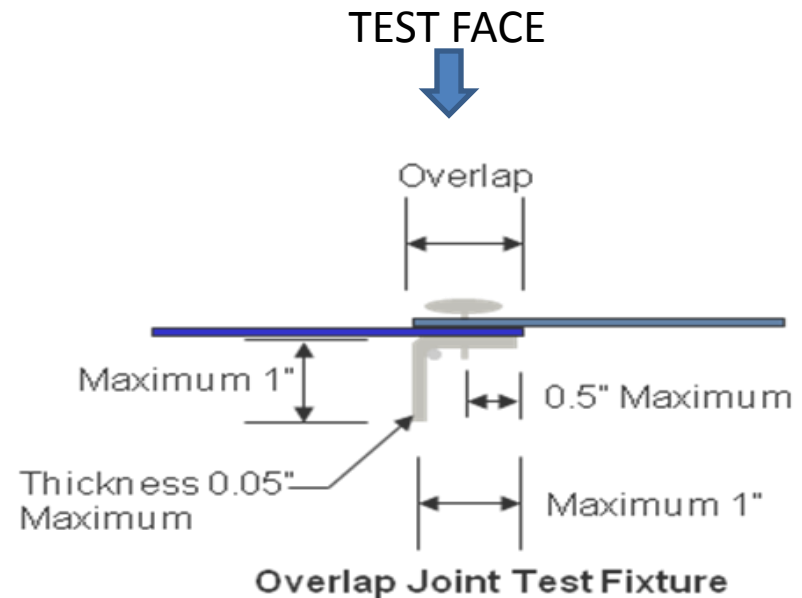
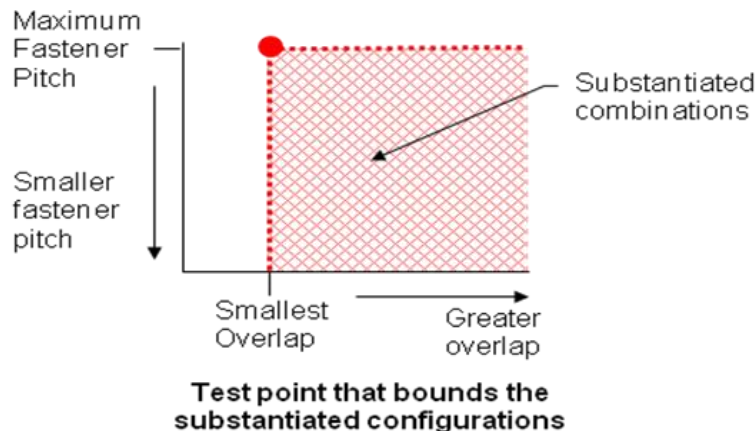
- Type of tests and fixturing
 - Horizontal, Vertical, Corner test
 - Optimal positioning of joints
 - Pinning or Clamping of specimens



Develop Specimen clamping (no pins) guidance

AC Topics

- Boundary condition (joint geometry) test methodologies
 - Standardized test configuration for cargo liner joints.



Standardize approach to testing design boundary conditions

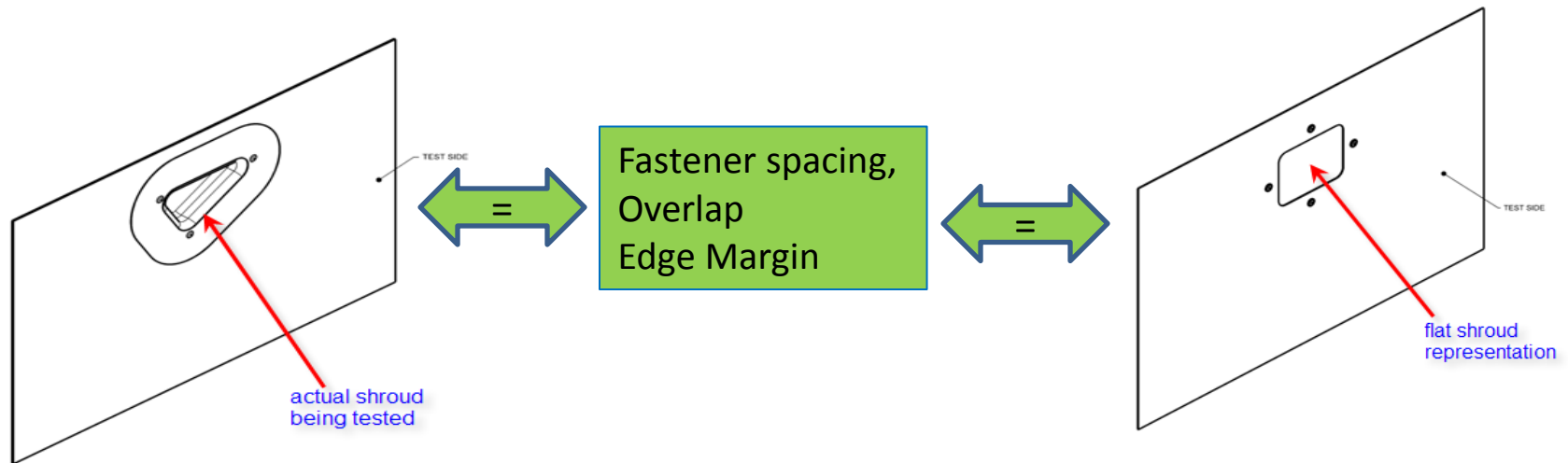
AC Topics

- Substitutions in the categories of
 - Materials
 - Metals
 - Fiberglass laminates
 - Finishes
 - Paints
 - Decoratives
 - Fastening systems
 - Materials
 - Sizing
 - Washers

Define substitutions with no appreciable effect

AC Topics

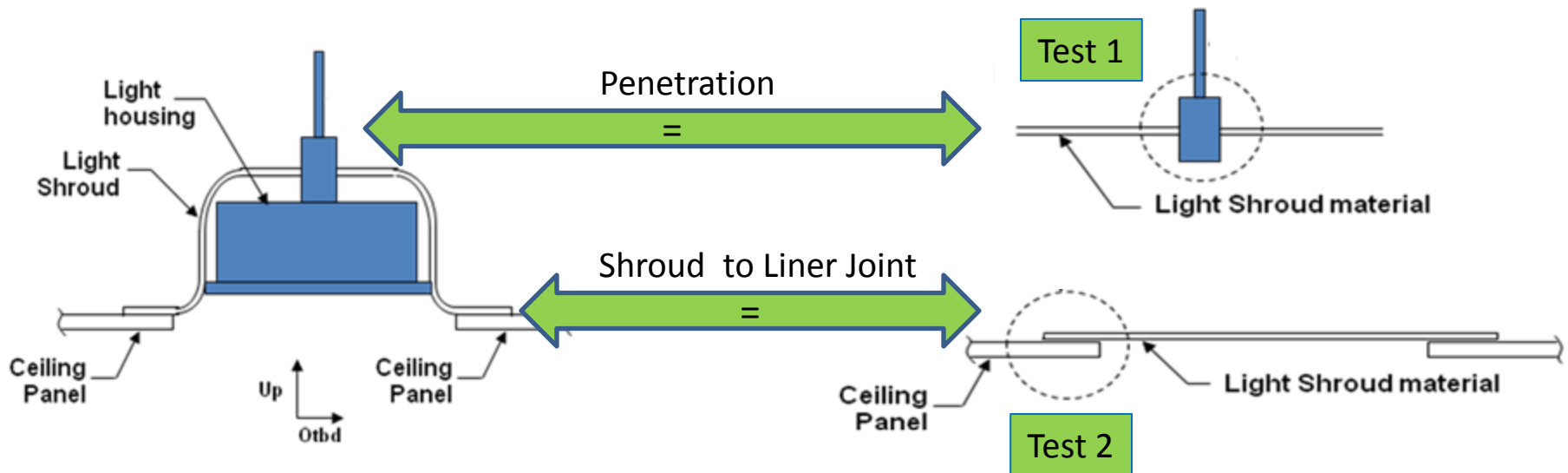
- Feature test guidance
 - Abstraction of a design to a simple test
 - Guidance for substantiating designs with simple test data



Develop guidance for use of parameters in cargo feature tests

AC Topics

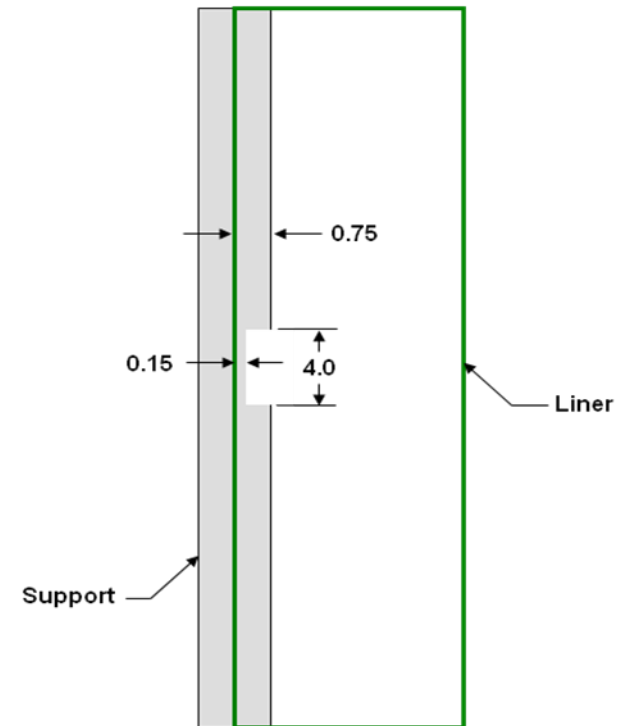
- Feature test guidance
 - Separation of design elements into several simple tests



Develop guidance for separating a design into simple tests

AC Topics

- Test Exclusion Areas
 - **Holes in ceiling panels** used to provide access for smoke detector sampling ports should not be larger than 3/8-inch in diameter. (Ref. AC25-17)
 - **Joints on cargo doors** are excluded from Appendix F Part III unless flame penetration poses a risk to critical systems.
 - **Joint attachment to or below cargo floor** or cargo conveyance system is considered outside the cargo liner definition and does not need to be oil burner tested.
 - **Small Unique Joints.**
 - The joint does not extend more than 4" and has a minimum overlap of 0.15"
 - The joint consists of materials that meet the requirements of Appendix F Part III

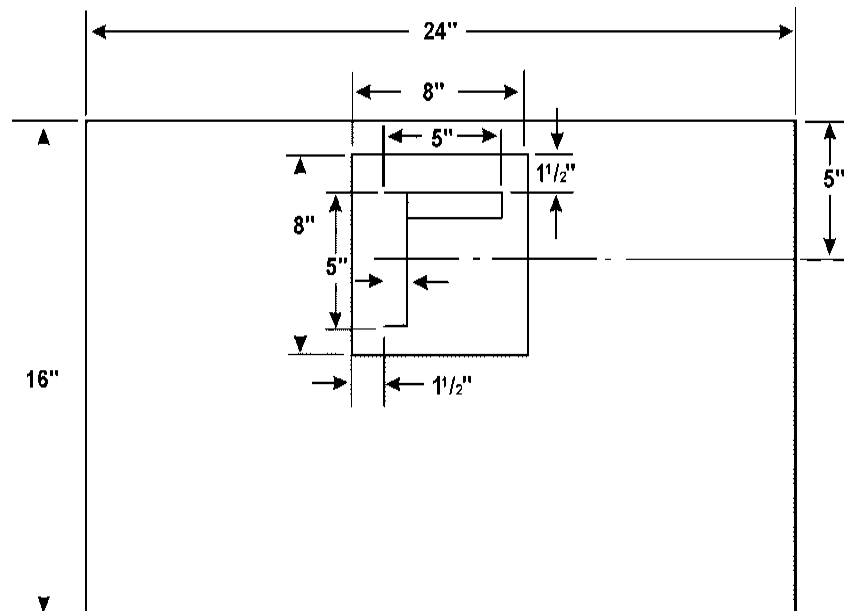


Example of Small Unique Joint

Define common non-critical design features

Repairs

- Liner Repairs
 - Included in this AC
 - Drafted by Akro Fireguard
 - Revised information from Fire Test Handbook Chapter 15



Example: square patch on standard damage

Presented separately by Akro Fireguard