



AEROSPACE STANDARD

AS1426™**REV. C**

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Superseding AS1426B

(R) Minimum Performance Standards for
Galleys in Transport Category Airplanes

RATIONALE

AS1426 was cancelled in 2012 and has been substantially revised in 2021.

AS1426 Revision C was a complete rewrite of AS1426B. Revision B did not adequately define or present galley design requirements for the galley designer to follow. Improved descriptions were provided to almost every section of the previous revision. Revision C is now satisfactory in informing a new galley supplier of the industry wide requirements and is now relevant.

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For more information on this standard, visit
<https://www.sae.org/standards/content/AS1426C>

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1. SCOPE

1.1 General

This SAE Aerospace Standard (AS) establishes the minimum design and performance requirements for galleys to be certified and installed in transport category airplanes.

1.2 Purpose

This standard applies to galleys installed in transport category airplanes.

1.3 Intended Use

This standard applies to galleys as its term defined in the glossary.

Airplane galleys are recognized as food storage and preparation areas as such may require evidence of compliance with specified national sanitary construction guidelines.

This standard does not address:

- a. Non-electrical galley insert equipment covered in AS8056 (in-flight meal carts and containers).
- b. Galley insert equipment, electrical/pressurized covered in AS8057.
- c. Requirements that are covered by national aviation regulations, pertinent U.S. Public Health regulations, and/or customized design details, which shall be covered by customer specific specifications for the subject equipment.”
- d. Built-in equipment that is part of the galley such as warming compartments, hot plates, etc.

However, references to these considerations are included as appropriate.

When the term “galley” is used in this standard, it refers to all food and galley equipment stowages and preparation facilities identified in [1.2](#), unless specifically identified otherwise.

1.4 Mandating and Recommendation Phrases

- a. **SHALL:** The word “shall” indicates a mandatory criterion; i.e., compliance with the particular procedure or specification is mandatory and no alternative may be applied.
- b. **SHOULD:** The word “should” indicates a criterion for which an alternative, including non-compliance, may be applied if it is documented and justified.

2. REFERENCES

2.1 Applicable Documents

The following publications form a part of this document to the extent specified herein. The latest issue of SAE publications shall apply. The applicable issue of other publications shall be the issue in effect on the date of the purchase order. In the event of conflict between the text of this document and references cited herein, the text of this document takes precedence. Nothing in this document, however, supersedes applicable laws and regulations unless a specific exemption has been obtained.

2.1.1 SAE Publications

Available from SAE International, 400 Commonwealth Drive, Warrendale, PA 15096-0001, Tel: 877-606-7323 (inside USA and Canada) or +1 724-776-4970 (outside USA), www.sae.org.

AMS-STD-401	Sandwich Constructions and Core Materials; General Test Methods
ARP577	Emergency, Instruction, and Information Placards - Internal and External
ARP4761	Guidelines and Methods for Conducting the Safety Assessment Process on Civil Airborne Systems and Equipment
ARP8058	Thermal Design and Performance of Airplane In-Flight Food Storage Carts
AS1212	Electric Power, Aircraft, Characteristics and Utilization of
AS8049	Performance Standard for Seats in Civil Rotorcraft, Transport Aircraft, and General Aviation Aircraft
AS8056	Minimum Design and Performance of Airplane Galley In-Flight Carts, Containers, and Associated Components
AS8057	Minimum Design and Performance of Airplane Galley Insert Equipment, Electrical/Pressurized
AS39029	Contacts, Electrical Connector, General Specification for
AS50881	Wiring Aerospace Vehicle

2.1.2 U.S. Government Publications

Copies of these documents are available online at <https://quicksearch.dla.mil>.

14 CFR Part 1	Definitions and Abbreviations
14 CFR Part 25	Airworthiness Standards: Transport Category Airplanes
21 CFR Part 1240	Control of Communicable Diseases
21 CFR Part 1250	Interstate Conveyance Sanitation
AC 25-17A	Transport Airplane Cabin Interiors Crashworthiness Handbook
DOT/FAA/AR-00/12	Aircraft Materials Fire Test Handbook
HF-STD-001	The Human Factors Design Standard
MIL-STD-401	Sandwich Constructions and Core Materials, General Test Methods
MIL-STD-704	Aircraft Electric Power Characteristics
PS-ANM-25.853-01-R2	Flammability Testing of Interior materials (FAA Policy Statement)

2.1.3 U.S. Food and Drug Administration (FDA) Publications

Attachment 3 “Guidelines for Sanitary Construction of Aircraft Galleys and Galley Components” in U.S. FDA document “Guide to Inspections of Interstate Carriers and Support Facilities”

Public Health Service Publication No. 308, “Handbook on Sanitation of Airlines”

2.1.4 National Sanitation Foundation (NSF) Publications

Available from NSF International, P.O. Box 130140, 789 N. Dixboro Road, Ann Arbor, MI 48105, Tel: 734-769-8010, Toll Free (USA): 800-NSF-MARK, www.nsf.org.

NSF/ANSI 51 Food Equipment Materials

2.1.5 NASA Publications

NASA Technical Services, NASA STI Program STI Support Services, Mail Stop 148, NASA Langley Research Center, Hampton, VA 23681-2199, 757-864-9658, Fax: 757-864-6500, <http://ntrs.nasa.gov/>.

NASA-STD-3001 Vol 2 Human Factors, Habitability, and Environmental Health

2.1.6 ASTM Publications

Available from ASTM International, 100 Barr Harbor Drive, P.O. Box C700, West Conshohocken, PA 19428-2959, Tel: 610-832-9585, www.astm.org.

ASTM C273 Standard Test Methods for Shear Properties of Sandwich Core Materials

ASTM C393 Standard Test Method for Core Shear Properties of Sandwich Constructions by Beam Flexure

ASTM D1781 Standard Test Method for Climbing Drum Peel for Adhesives

ASTM D7249 Standard Test Method for Facing Properties of Sandwich Constructions by Long Beam Flexure

ASTM D7250 Standard Practice for Determining Sandwich Beam Flexural and Shear Stiffness

2.1.7 RTCA Publications

Available from RTCA, Inc., 1150 18th Street, NW, Suite 910, Washington, DC 20036, Tel: 202-833-9339, www.rtca.org.

RTCA DO-160 Environmental Conditions and Test Procedures for Airborne Equipment

2.1.8 AWS Publications

Available from American Welding Society, 8669 NW 36 Street, #130, Miami, FL 33166-6672, Tel: 1-800-443-9353 or 305-443-9353, www.aws.org.

AWS D17.1 Specification for Fusion Welding for Aerospace Applications

2.1.9 EASA Publications

Available from European Aviation Safety Agency, Konrad-Adenauer-Ufer 3, D-50668 Cologne, Germany (for visitors and for mail over 1 kg) and Postfach 10 12 53, D-50452 Cologne, Germany (for mail 1 kg or less); Tel: +49 221 8999 000, www.easa.europa.eu.

AMC-20	General Acceptable Means of Compliance for Airworthiness of Products, Parts and Appliances
CM-CS-004	Flammability Testing of Interior Materials
CM-CS-007	Evaluation of Aisle Width with Respect to Seat Installations
CM-ES-002	Electrical Wiring Interconnection Systems Instructions for Continued Airworthiness
CM-S-002	Application of CS 25.561(c)(2) 1.33 "Wear and Tear" Factor - Frequent Removal of Interior Structures
CM-S-009	Certification Memorandum, Loading Conditions for Occupant Safety in Cabin Interiors
CS-25	Certification Specifications and Acceptable Means of Compliance for Large Aeroplanes
CS-26	Certification Specifications and Guidance Material for Additional Airworthiness Specifications for Operations
CS-Definitions	Definitions and Abbreviations Used in Certification Specifications for Products, Parts and Appliances
CS-ETSO	Certification Specifications for European Technical Standard Orders

2.2 Abbreviations

°C	Degrees Celsius
AC	Alternating Current
BL	Buttock Line
c.g.	Center of Gravity
CAS	Cabin Attendant Seat
CF	Constant Frequency
dB	Decibel
DC	Direct Current
EASA	European Union Aviation Safety Agency
FAA	Federal Aviation Administration (USA)
FAR	Federal Air Regulations (USA)
FCAA	Foreign Civil Aviation Authority
FDA	Food and Drug Administration (USA)
GAIN	Galley Insert Equipment

Hz	Hertz
ICD	Interface Control Document or Drawing
J	Joules
kg	Kilograms
kPa	Kilopascals
KVA	Kilovolt Amperes
l	Liters
L/min	Liters per Minute
LRU	Line-Replaceable Unit
lx	Lux (Lumens per Square Meter)
m	Meters
mL	Milliliters
mm	Millimeters
MVF	Material Variability Factor as defined in FAA AC 20-107B and EASA AMC 20-29
OEM	Original Equipment Manufacturer
psia	Pounds per Square Inch Absolute
psig	Pounds per Square Inch Gauge
SCFM	Standard Cubic Feet per Minute
VDC	Volts Direct Current
WF	Wide Variable Frequency

2.3 Definitions

2.3.1 Standard World Airlines Definitions

Airline industry standard definitions contained in “Airline Industry Standard World Airlines Technical Operations Glossary” (WATOG) shall apply for terms used in this specification which are not otherwise defined in the text or in [2.3.2](#).

2.3.2 Standard Galley Definitions

ACCEPTANCE TEST: A test conducted to verify that the operational and safety performance of each production unit conforms to its design and published technical data.

AIRPLANE PROVISIONS: The airplane structure, equipment, furnishings, and related hardware furnished by the airframe manufacturer as part of the airplane.

AIRFRAME MANUFACTURER: The manufacturer responsible for providing airframe structure and provisions for galleys in the airplane of the galley buyer or user. The terms airframe manufacturer, airplane/aircraft manufacturer, and original equipment manufacturer (OEM) are used interchangeably throughout this document.

ASSOCIATED COMPONENTS: Defined as both of the following:

1. Items such as drawers, trays, waste bin liners, or other similar components that are stowed in meal carts and/or galley compartments but are non-stationary parts thereof.
2. Items that need to meet 14 CFR Part 25 in order to be included as part of the airplane's type design.

BUTTOCK LINE (BL): A vertical fore and aft plane used for identifying inboard/outboard locations within the airplane.

CART: A movable enclosure on wheels designed for the purpose of transporting and storing various items used for cabin service activities. A meal cart is manoeuvred inside the cabin.

CERTIFICATION BASIS: The applicable regulations and mandatory type certificate holders requirements which are defined on the airplane type certificate data sheet (TCDS), issued by an airworthiness agency.

CONDITION MONITORING: The process of monitoring a parameter of condition in machinery (vibration, temperature, etc.), in order to identify a significant change which is indicative of a developing fault. The use of condition monitoring allows maintenance to be scheduled or other actions to be taken to prevent consequential damages and avoid its consequences.

CONFIGURATION: Relative arrangement of parts. The figure, contour, or pattern produced by a space arrangement of parts, assemblies, or structures.

CONSTANT FREQUENCY (CF): Designates AC equipment intended for use on airplane electrical systems where the primary power is from a constant frequency (400 Hz) AC system.

CONTAINER: A moveable enclosure (without wheels) designed for the purpose of transporting and storing various items used for cabin service activities. A container is typically carried by hand or in meal carts and is not typically removed from the galley work area during cabin service activities. Containers are also referred to as carriers, standard carriers, standard units, standard containers, etc.

CUSTOMER: The aircraft manufacturer, operator, or airline purchasing galleys, or an airplane containing galleys.

DESIGN APPROVAL HOLDER: A design approval holder is the holder of a type certificate or supplemental type certificate under which a galley is approved for aircraft installation.

DESIGN DEVELOPMENT TEST: Tests conducted to establish or verify design concepts for items which have not been proved by previous use.

EASILY CLEANABLE: Surfaces which are accessible without tools for hand cleaning, and of such material and finish and so fabricated that residue may be completely removed by normal cleaning methods.

EASILY REMOVABLE: Capable of being removed from its normally used or installed position without the use of tools.

FAILURE: An event or condition, occurring within an equipment item or system that prevents the equipment from performing its intended function or endangers passengers and/or crewmembers.

FAIL-SAFE: Provisions that maintain safety even when a failure occurs.

FIRE RESISTANT: The capacity to withstand the heat associated with fire at least as well as aluminum alloy.

FIRE RESISTANT MATERIALS: Materials as defined by 14 CFR § 25.853, Advisory Circular 25-17A, and Aircraft Materials Fire Test Handbook Chapters 2 and 10.

FULL SIZE MEAL CART: A meal cart that is typically stowed as a single item in a stowage compartment. Typically, a full size meal cart is approximately 30 to 35 inches (762 to 889 mm) deep.

GALLEY(S): Galleys are interior monuments on airplanes that serve and store food and beverages. Galleys also contain emergency equipment storage and anything else the flight attendants may need during the flight.

All galley hardware items furnished for installation on the airplane, exclusive of airplane provisions. This includes galley complex structure, decorative panels, ceilings, furnishings, lighting, galley units, modules, food, beverages, utensils, ovens, coffee makers, floor tie down fittings, refrigeration equipment, electrical, water, and drain system connections from the galley equipment to the airplane interface connectors.

GALLEY COMPLEX: A structurally integral installation of galleys at a designated galley envelope area within the airplane. A complex includes items such as one or more galley units, work space, partitions, curtains, walls, ceilings, lights, and structural attachment devices.

GALLEY ENVELOPE: The three-dimensional outside surface limits of the volume(s) within the airplane reserved for locating the galleys.

GALLEY INSERT: A mechanical component, used in conjunction with airplane food service that is not an integral part of the galley and is removable from the galley without tools or with the use of simple tools (e.g., trolley/cart, standard unit, container).

GALLEY INSERT EQUIPMENT (GAIN): Electrical equipment, used in conjunction with airplane food service, which is not an integral part of the galley and is removable from the galley without tools or with the use of simple tools (e.g., beverage maker, oven).

GALLEY INSTALLATION: An equipment/subsystem, used in conjunction with airplane food service, that is integral to the galley (e.g., galley potable water system, galley waste water system).

GALLEY UNIT: A major subsection of a galley complex, or an independent galley structure which houses various items such as ovens, food trays, coffee makers, refrigeration, liquor, and service items.

GROUND SERVICE: Airplane servicing operations during which rotatable galley equipment, such as containers, carts, modules, and similar inserts are unloaded from galleys on the airplane, transported to ground kitchens, washed and cleaned, stored, or recycled with food and supplies for installation in galleys ready for flight.

HALF SIZE MEAL CART: A meal cart that can be stowed as a single item or, in a full size compartment, can be stowed together with another half size meal cart. Typically, a half size meal cart is approximately 15 to 18 inches (381 to 457.2 mm) deep.

INTENDED FUNCTION: The activity equipment normally executes or provides.

INTERCHANGEABILITY: That quality which allows an assembly or part to substitute or be substituted for another and to meet physical, functional, and structural requirements. No alterations except designed adjustments are allowed to install the item.

INTERFACE: The fit and functional relationships of the equipment with the galley or with other structure (e.g., a meal cart and its stowage compartment).

INTERFACE CONTROL DRAWING (ICD): A drawing created for the purpose of communicating interface information.

PHYSICAL INTERFACE: The hardware physical relationship at the juncture between items designed, manufactured, or tested by different activities jointly responsible for the hardware. It includes dimensional geometric relationship, tolerances, materials, and finishes at the juncture.

FUNCTIONAL INTERFACE: The relationship between functions at the hardware physical interface, such as electrical voltage and current, fluid pressure and flow, temperature, acceleration, acoustic, and other environments.

PROCEDURAL INTERFACE: The matters related to successful conduct of the program for hardware which has physical or functional interfaces, such as design reviews, tests, inspections, approvals, government certification data preparation, schedules, and related procedural activities.

JOINT: The line of meeting of two or more pieces or parts of equipment.

LATCH: A retaining device (e.g., hand-operated quarter turn or a spring actuated latch for a door) which secures an item(s) during structural loading.

LOADED GALLEY WEIGHT: The weight of all galleys including maximum allowable weight of food, carts, beverages, and inserts galley service items.

LOOSE COMPONENTS: Items, such as brew cups, beverage servers, or other components not attached to equipment, which are stowed in the equipment and are part of the equipment part number.

LOOSE EQUIPMENT: Galley insert equipment that is moveable and stowed in galley compartments when not in use (e.g., toaster, skillet).

MAINTENANCE SIGNIFICANT: Maintenance items of equipment or components which are judged to be relatively the most important for safety, reliability, or economic impact.

MAXIMUM NORMAL OPERATING PRESSURE (MNOP): The maximum attainable pressure of the equipment's pressure system when all the equipment's components are functioning normally. For wet equipment connected and open to the airplane potable water system, the maximum airplane water system pressure determines the MNOP.

MEAL CART: A cart designed for the purpose of transporting and storing used and/or unused food tray set-ups. Provisions for interface with the galley refrigeration system may be provided in the meal cart. This type of meal cart is called an "air through" refrigerated meal cart.

MODULE: A subsection of a galley unit or complex that is easily removable and transferable to ground equipment for cycling through ground kitchens for cleaning and reloading with food or service items.

NON-OPERATING: The condition when the galley, with loaded equipment and inserts, is not used but remains installed in the airplane on the ground and the water system is filled, but without air conditioning or power, when the airplane is exposed outdoors with cabin closed for a period of time of 2 hours or more duration.

OBJECTIVE: A hardware requirement established for design to achieve optimum performance, minimum weight, or other technical criteria. The feasibility of meeting an objective or modifying the technical criteria to establish a firm requirement is subject to review. Renegotiation may be accomplished during development after analyses, test reports, and cost data are available which support a review to determine viability for manufacturing production, cost of development, or other program factors.

OPERATING: The condition when the galley and its equipment and inserts are used by cabin crew for food and beverage service and cleanup.

OPTION: A function capable of being included as part of equipment. It shall be fully developed and able to be incorporated without adverse effects.

PERIODIC TESTING: Testing conducted on each batch of material or product used to determine conformance to the process specification. When consistent conformance has been demonstrated, reduced testing may be implemented in accordance with a quality assurance sampling plan.

POTABLE WATER: Water meeting the requirements of the U.S. Environmental Protection Agency Drinking Water Regulations or the U.S. Food and Drug Administration Bottled Water Regulations and filled into the water storage system of an airplane by an external source, i.e., service truck or filling port at the passenger bridge.

PROCESS SPECIFICATION: A specification used to control manufacturing processes (such as bonding or welding) or materials (such as sandwich panels) that are dependent on preparation, application, and procedure. These specifications ensure repeatability of the process or material for which it is written.

QUALIFICATION TESTS: Tests which are accomplished on a sample galley configuration representative of production hardware, or on production hardware to establish to the extent practical under laboratory conditions, that the equipment complies with all the requirements of this specification.

RAIL ASSEMBLY: A device provided for beverage makers, water heaters, and air chillers that simplifies interfaces between the equipment and the galley and facilitates easy installation and removal.

RETAINING DEVICES: Any device such as a latch, stop, detent, guide, or other mechanical configuration used to retain items such as doors, drawers, meal carts, modules, containers, equipment items, or any other movable galley component.

ROTABLE INSERT: Insert equipment that can be readily removed during airplane turn-around without use of tools such as carts or standard containers.

SERVICE LIFE: The period of time after galleys are installed and introduced in operational service within which the article continues to fulfill its intended function as specified including structural, performance, and all safety requirements. This includes routine cleaning and servicing, with periodic inspection and maintenance, until repair is no longer physically or economically feasible.

SMOOTH: Free of pits, pinholes, cracks, crevices, inclusions, rough edges, and other surface imperfections detectable by visual and tactile inspection.

SPLIT LINES/JOINTS: Structural joints in that allow the galley to be disassembled into subassemblies to pass through the airplane door and/or be rotated within the airplane during installation or removal.

STANDARD UNIT: For the purposes of this document, the word “standard unit” is synonymous with “standard container.”

STOWED: Placed and retained in a stowage location for taxi, take-off, landing, and turbulence.

TROLLEY: For the purposes of this document, the word “trolley” is synonymous with “cart.”

TYPE CERTIFICATE DATA SHEET (TCDS): The certificate issued by the applicable airworthiness agency which defines the certification basis of the type design and relevant limitations.

TYPE DESIGN: All of the drawings and the specifications that show compliance with the certification basis of the original airplane and all of the data necessary to show that subsequent airplanes conform to the approved type design.

UNIT UNDER TEST (UUT): An equipment article, identical to a production unit, used for tests, or an equipment article that is a modified production unit, provided the modifications do not affect the test results.

WASTE BIN LINER: A separate item installed in either a waste meal cart or galley waste compartment, intended to assist in the easy removal of collected waste or for fire containment.

WASTE CART: A cart designed for the purpose of transporting and storing waste generated by cabin service.

WEIGHT: The weight terminology shall be defined and reported as follows:

- a. **GROSS WEIGHT:** The total weight of the galley with all compartments loaded to their placarded weight or maximum capacity if no placard is provided. This weight includes items for which provisions are provided and that are to be installed such as flight attendant seat, magazine rack, monitor, bassinet, etc.
- b. **EMPTY WEIGHT:** The maximum design empty weight consisting of weight of all the items in the design definition data (e.g., bill of material, drawings, and specifications).
- c. **MAXIMUM CAPACITY WEIGHT:** The weight of all equipment items and miscellaneous items at their loaded or full weight, as supported or restrained by the monument shell. This includes ovens, coffee makers, containers, carts, and emergency equipment.

WET AREA: A wet area is defined as an area that is exposed to liquids. A galley for the purpose of serving beverages, containing a water line or equipment (chiller, refrigerator, ice drawer, dry ice, etc.) that may leak or cause condensation, shall meet requirements for wet area. The airplane overhead area is also defined as a wet area due to moisture condensation.

WIDE VARIABLE FREQUENCY (WF): Designates AC equipment intended for use on airplane electrical systems where the primary power is from wide variable frequency (360 to 800 Hz) AC system.

3. REQUIREMENTS

3.1 General Requirements

3.1.1 Galley-to-Airplane Interfaces

The galley shall meet the interface requirements of the airplane it will be installed on. All galley interfaces to the airplane shall be defined in the interface control drawing (ICD).

3.1.1.1 Defined Envelopes

Maximum galley unit sizes to be installed is defined in terms of allowable envelope in the respective interface control document. All components shall be contained within the envelope except when documented on the ICD.

The standard interface specification and customized interface specification include all interface requirements, necessary clearances, and tolerances.

The interface specifications shall be provided by respective airplane OEM. Necessary galley contour drawings not covered by the ICD shall be prepared and provided.

3.1.1.2 Minimum Passageway and Assist Space

The regulatory agencies require that adequate aisles, passageways and attendant assist spaces be provided in order to allow the unobstructed evacuation of passengers in the event of an emergency.

No portion of the galley may protrude beyond the assist space or emergency exit/egress aisle. Refer to 14 CFR § 25.813 and § 25.815.

3.1.2 Galley Insert and Galley Insert Equipment (GAIN) Interfaces

The galley shall meet the interface requirements of the GAIN. All interface information needed to integrate the equipment in its installation shall be provided with the top assembly (general arrangement) drawing package.

The galley insert and GAIN installation shall meet physical interface, functional interface, and procedural interface requirements.

3.1.3 Installation and Removal

For ease of shipping and installation, galley shell structures shall be made up of components and subassemblies which will pass through a intended airplane doorway. Service lines (water lines, vent lines, electrical wiring) shall be completely installed within the galley subassemblies with access to easily mated connectors at the subassembly split lines. Galley insert, GAIN, and modules that are removed and installed during airplane ground service, shall meet size limitations for installing in galley shell structures as defined above, and shall be capable of being moved into galley position without interference or damage to airplane interiors, floors, and furnishings to the extent that these interfaces are defined herein. Suitable ground support equipment may be used for galley loading to meet this requirement.

The galleys shall be designed to pass through the entry door and rotated within the airplane interior without interference or damage. See [3.1.1.1](#) for defined galley envelopes.

3.1.3.1 Split Line Requirements

The following apply to major assembly “split” lines which are required to allow the major assemblies to pass through the airplane door or restricted areas for installation/removal:

- a. All split lines should be designed to ensure that the fasteners are not visible from the cabin/galley work area after installation. The split line fasteners (screws, connectors, etc.) should be marked in red except where the fasteners are visible after installation. In this case, the fasteners should be consistent with the decor or their natural color.
- b. All split line fasteners should be accessible when the galley assembly is installed in the airplane. Removal of other airplane components to gain access to split line fasteners should be minimized. Split line fastener system design strategy should consider minimizing installation/removal time.
- c. For ease of installation horizontal split lines should be designed not to have any protrusions. See [Figure 1](#).
- d. Galley split lines should be located to minimize the amount of sealing needed after re-assembly.
- e. Galley systems (attachments, plumbing, ventilation, electrical, refrigeration) shall be easy to join or separate at the split lines.

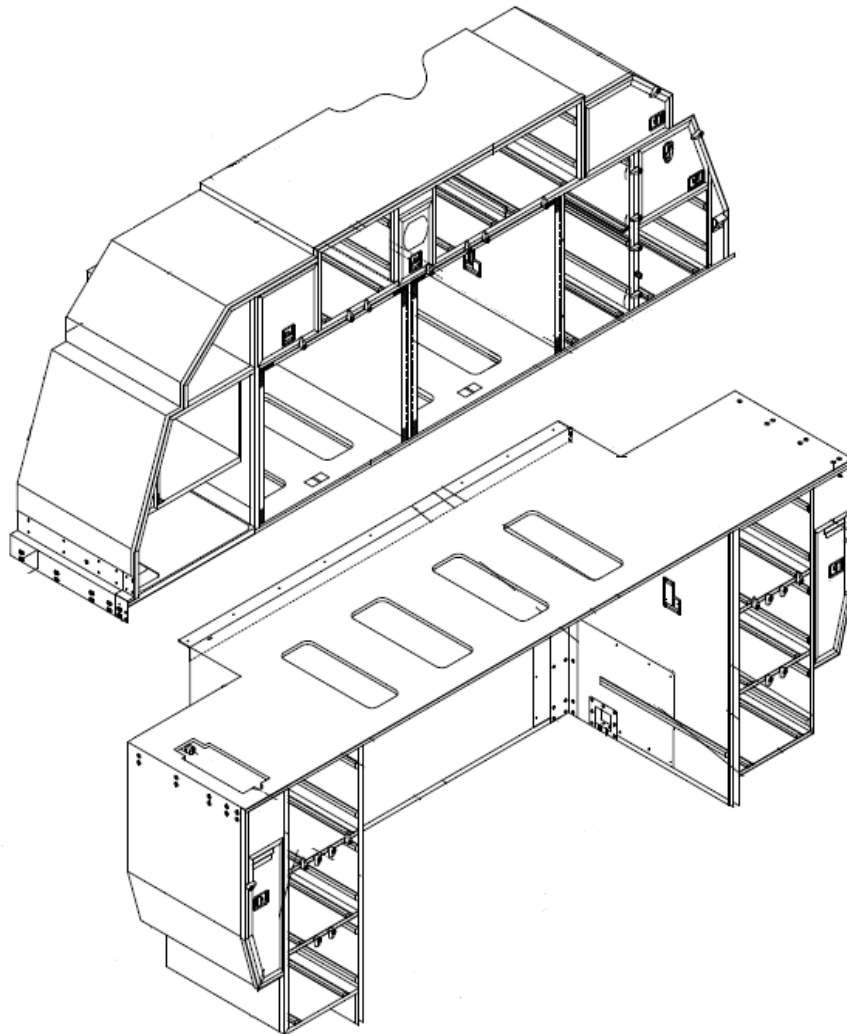


Figure 1 - Galley horizontal split line

3.2 General Construction

The methods of fabrication shall produce a consistently sound structure (i.e., 14 CFR § 25.605 and § 25.613). If a fabrication process (e.g., adhesive bonding, spot welding, or heat-treating) requires close control to reach this objective, a process specification shall be utilized.

Each part of the structure shall be suitably protected against deterioration or loss of strength in service due to any cause, including weathering, corrosion, disinfectant/cleaning agents, and/or abrasion, and have provisions for ventilation and drainage where necessary for protection. (Refer to 14 CFR § 25.609.)

3.2.1 Threaded Fastener Installation

Fastener installations shall be controlled by a process specification that includes, but is not limited to, the following:

- a. Procedures to ensure thread length is sufficient to fully engage the nut, including any locking feature. For permanent installed fasteners, thread-locking compound shall not be used.
- b. Procedures to apply torque in accordance with proper torque values.

3.2.2 Sealing Materials and Processes

Sealing within galley structure is required for leak prevention, corrosion, and FDA sanitary construction requirements per [3.2.8](#).

Sealants used in galley construction shall be non-shrinking, durable, resistant to cracking/loosening, smooth, easily cleanable, and non-absorbent. Additionally, sealants used on food contact surfaces shall be non-toxic.

The application of sealant shall be consistent, repeatable and controlled by a process specification that includes, but is not limited to, the following:

- a. Surface preparation of the area to be sealed.
- b. Control, preparation, and application of the sealant.
- c. Curing parameters with applicable tolerances.

3.2.3 Potting

When potting for installing inserts, or fabricating joints, the process operations shall be controlled by a process specification. These processes shall include, but are not limited to, the following:

- a. Surface preparation of the area to be potted.
- b. Control, preparation, and application of the potting compound.
- c. Curing parameters with applicable tolerances.

3.2.4 Bonding

The adhesive bonding processes used for all structurally significant joints shall be controlled by a process specification, which ensures production of a consistently sound structure. Processes shall include, but are not limited to, the following:

- a. Surface preparation of areas to be bonded.
- b. Control, preparation, and application of adhesives and primers.
- c. Curing parameters with applicable tolerances.

3.2.5 Welding

Welding shall comply with AWS D17.1 or equivalent.

3.2.6 Materials and Processes

The suitability and durability of materials used for parts shall conform to approved specifications such as industry or military specifications, or technical standards, taking into account the effects of the environmental conditions, such as temperature and humidity expected in service.

The methods of fabrication used shall produce a consistently sound structure. If a fabrication process requires close control to reach this objective, the process shall be performed under an approved process specification.

3.2.6.1 Material and Process Variability

See [3.3.3](#) for applicability during galley test.

3.2.6.2 Hazardous Materials

Prohibited material shall not be used. Material selection shall take into consideration of materials restricted or prohibited by law. Materials shall not render toxic any food or beverage with which they may come in contact. Contact local agencies for clarification of restrictions such as Registration, Evaluation, Authorisation, and Restriction of Chemicals (REACH) for a list of banned hazardous materials if applicable.

3.2.6.3 Sandwich Panels

The mechanical properties of sandwich panels shall be controlled by process specification and the specification shall require periodic testing to assure conformance to the specification.

At minimum, the specification shall contain requirements for the following, per AMS-STD-401 (or equivalent):

1. Core shear or sandwich shear (refer to ASTM C273).
2. Sandwich flexure (refer to ASTM C393 and ASTM D7249).
3. Sandwich climbing drum peel (refer to ASTM D1781).

Surface finish of fiber-reinforced components shall be in accordance to controlled specification.

Aluminum honeycomb core shall be finished for corrosion resistance at the time of core fabrication.

3.2.6.4 Materials at Airplane Interfaces

All galley-to-airplane interfaces connections shall be designed to prevent galvanic corrosion with the airplane. Mechanical/electrical isolation to prevent electrolytic corrosion is an acceptable strategy.

3.2.6.5 Industry Standard Parts

A standard part is a part or material that conforms to an established industry or government-published specification.

Standard parts should be used where practical for design requirements.

3.2.6.6 Castings and Forgings

Castings and forgings shall be produced in accordance with an approved specification.

Castings shall be a minimum Class 3 per AMS2175 or equivalent, and shall be clean, sound, and free from blowholes, porosity, or surface defects. Imperfections may be acceptable if strength and serviceability are not impaired as a result.

All structural castings shall have a minimum casting factor of 1.5, unless a lower casting factor can be justified by inspection level requirements. Castings shall be inspected per 14 CFR § 25.621.

3.2.6.7 Forgings/Extrusions

Forgings and extrusions shall be of uniform condition, free from blisters, fins, folds, seams, laps, cracks, segregation, and other defects. Imperfections may be removed if strength and serviceability are not impaired as a result.

3.2.6.8 Storage and Shelf Life

Perishable Materials (e.g., prepreg, finishes, sealants, resins, adhesives and potting compounds) shall be controlled by a process specification, which shall define minimum strength properties, storage control, shelf life and re-test requirements of properties to assure that only acceptable material is used.

3.2.6.9 Environmental Protection

The Materials and components shall be suitably protected against deterioration or loss of strength in service due to any environmental cause. Selection and finishing of material (including fasteners), where dissimilar metals may be placed in contact, shall be per MIL-STD-889 (or equivalent).

Materials which are not inherently corrosion resistant should be finished with a protective treatment or coating, unless it is shown by experience that it is satisfactory without treatment. The use of protective coatings which could crack, flake, or chip during use or due to the specified environmental conditions shall be prohibited.

3.2.7 Finishes

Finishes at the interfacing area to the airplane and to galley insert and GAIN shall be defined on the interface control drawing.

Finishes (chemical treating, anodizing, powder coating, primer, paint, decorative laminate application, etc.) shall be controlled by a process specification that includes, but is not limited to, the following:

- a. Surface preparation of area to be finished.
- b. Control, preparation, and application of finish.
- c. Curing parameters with applicable tolerances.

3.2.8 Sanitation

The galley should meet U.S. Food and Drug Administration (FDA) requirements for sanitary construction in accordance with 21 CFR Part 1250, Attachment 3 "Guidelines for Sanitary Construction of Aircraft Galleys and Galley Equipment," FDA document "Guide to Inspections of Interstate Carriers and Support Facilities," and Publication Number 308 "Handbook on Sanitation of Aircraft" (<http://www.fda.gov/iceci/inspections/inspectionguides/ucm095485.htm>).

3.2.9 Compartments

Each stowage compartment shall be completely enclosed (14 CFR/CS § 25.787). A gap of 0.125 inch or less around the compartment door/drawer for operation of the compartment and manufacturing is acceptable. Carts and standard units with their own doors are considered to be their own enclosure. Therefore, if a galley stowage area is for these items and does not have a door installed, the compartment (i.e., five-sided recess) is considered to be completely enclosed. Fixed equipment such as ovens, beverage makers, etc., need not be installed in an enclosed compartment. The completely enclosed requirement does not apply to small magazine racks or literature pockets. Stowage compartments that retain an item and are limited by placarding to stowing that item only need not be enclosed. An example is a stowage compartment for folding trolleys which is placarded "Folding Trolley Only."

3.2.9.1 Divided Compartments

Horizontal dividers/shelves within miscellaneous stowage compartments shall be terminated such that the gap between the shelf and door is a maximum of 0.125 inch when emergency or electrical equipment is located in the lower compartment. Otherwise, the termination may provide a maximum gap of 1 inch without further strength substantiation.

3.2.9.2 Cart/Standard Unit Compartments

Compartments for carts and standard units should be equipped with bumper strips to minimize damage to the compartment caused by installation and removal.

Cart compartments without doors which utilize 1/4 turn type of latches shall have minimum of two latches. One latch shall retain the cart structure only. The other latch shall retain the cart structure including the cart door. Cart compartments without doors for half-size carts may need additional 1/4 turn type latches below the center of gravity of the cart to prevent escapement under emergency landing conditions. The necessity of these additional 1/4 turn type latches shall be coordinated with the installer.

For carts and standard containers, the galley retaining devices shall be located (placement) with engagement per the item insert ICD.

NOTE: Also see [3.2.11](#) for additional retaining device definition.

Each primary and secondary latch shall take the total load as described in [3.3.1](#) and [3.3.2](#). If fitted an intermediate latch, may be designed for the in-flight condition load cases only, with the exception of the two HS cart/container (two deep) (see [3.2.11.2](#)) and three HS cart/container configurations (see [3.2.11.3](#) and [3.2.11.4](#)).

There should be an intermediate latch between two half size carts/standard units, if they are stowed one behind another in a common compartment.

The intermediate latch does not need to be engaged at all times; situations might exist where the intermediate latch can be engaged only when the first cart is removed.

When more than one insert can be stowed in a compartment with turn latch retention, operating the turn latch should not release more than one unit.

For the compartments design, the gap dimensions between the inserts (like carts and standard container) and bearing surfaces of the compartment (e.g., rubstribs, bumpers, latches, etc.) shall adhere to installer-specified requirements. An example is shown in [Table 1](#).

Table 1 - An example of OEM allowable galley compartment clearance definitions

Inserts	Allowable Galley Compartment Clearance (mm)		
	Sidewall Each Side	Latch (Total)	Top
H/S cart*, F/S cart	8 max 3 min	10 max 5 min	14 max 6 min
F/S cart alternate instead of two H/S carts in the same compartment*	8 max 3 min	Up to 20** 5 min	14 max 6 min
Standard unit	8 max 3 min	10 max 5 min	14 max 6 min

NOTES:

For air over cooling, the gaps between carts and standard units and the sliding strips, bumpers, and compartment walls shall ensure sufficient cooling airflow.

* Shall use two latches on the shelf or workdeck and two latches on the sidewall panel to resist kick load of H/S cart. Valid for any compartment face direction (forward, side, aft).

** Each latch shall be qualified with 16 g static load to restrain under dynamic impact for gaps greater than 10 mm, up to 20 mm as maximum. Valid for any compartment face direction (forward, side, aft).

The sidewall and latch minimum gaps are recommended for proper cart handling. For rotatable inserts, the clearances are required for ease of installation and removal. The gaps shall be small enough to avoid dynamic impact loading on the retaining devices.

A retrieval mechanism should be incorporated in the compartments for the removal of containers and carts that are beyond reach.

3.2.9.3 Waste Compartments

All materials used in the construction of a waste compartments interior enclosure shall be fire resistant.

The capability of the waste compartment to contain those fires under all probable conditions of wear, misalignment, and ventilation expected in service shall be demonstrated by test. See [3.7.3](#).

The Waste Compartments shall be fully enclosed and sealed, with no openings or ducts large enough to provide sufficient air for combustion.

Provisions shall be made to prevent waste falling outside the waste containers.

A Waste compartment should not include systems such as electrical wire bundles or plumbing or conduits. When wiring or plumbing exist in the waste compartment, they shall be made of, or shrouded with, aluminum material at least 0.06 inch thick, or equivalent fire resistant materials. The penetrations of the compartment panels by wiring or plumbing shall be sealed with a fire resistant sealant or tested with no sealant installed.

3.2.9.3.1 Waste Compartment Design Features

Areas that are required to contain fire, in addition to being constructed of fire resistant materials, shall meet the following requirements:

- Design shall comply with 14 CFR/CS § 25.853(h).
- There shall be limited ventilation to the compartment. The compartment shall be enclosed on all sides with no openings or ducts large enough to provide sufficient air for rapid combustion.
- There shall be design features which guide the waste material from the waste chutes into the waste containers, preventing spillage outside the container.
- Waste flaps shall have no "finger holes," and shall be self-closing or shall be placarded to be closed when not in use (see [3.6.1.4](#), item c.).

- e. Waste compartments shall be capable of containing fire with the waste container in place.
- f. Compartments in which waste containers are stored shall not contain wiring, hoses, equipment, or accessories unless these items are of fire resistant materials or are suitably insulated against fire damage
- g. Waste containers shall contain any liquid introduced with the waste under normal operating conditions.
- h. Waste flaps should be self-closing. Waste flaps shall be marked per [3.6.1.4](#).
- i. The design of hinges, latches, and other moving parts (e.g., springs) shall consider service wear and tear to preclude degradation of fire containment capability. Multiple latches shall be used on doors for which fire induced warp or wear effects may degrade the fire containment capability. Hinges shall be durable and provide minimum air gap. Springs, such as those used on waste flaps, which are necessary to assure fire containment compliance, shall be redundant and shall have a fatigue life of 300000 cycles or greater and shall be easily replaceable.
- j. Unacceptable features: features proven by experience to be unreliable shall not be used. Examples include, but are not limited to:
 - 1. Tape;
 - 2. Hook and loop type fastening;
 - 3. Snaps or other attachment means that are easily fouled by waste;
 - 4. Bonded catch plates;
 - 5. Hollow core (pop) rivets;
 - 6. Seals bonded to structure without mechanical attachment or capture;
 - 7. Seals exposed to tear-out from repetitive insertion/removal of waste;
 - 8. Plates, doors and panels that exhibit “oil-canning” behavior due to insufficient stiffness.

3.2.9.4 Fixed Catering Equipment Compartments

Clearances required by heat generating equipment are usually specified on the equipment ICD and shall be adhered to.

In order to prevent any trash traps, the gaps around fixed equipment or other items shall not exceed 0.5 inch.

3.2.10 Drawers, Tables, and Pull-Out Tables

3.2.10.1 Drawers Shall Meet the Following Requirements

- a. Integrated drawers shall incorporate a positive locking mechanism for the closed position and a stop in the fully open position.
- b. Drawers, when loaded to design capacity, shall not have transverse or vertical movement or deformation during opening and closing which can cause binding or jamming.
- c. Drawers shall be removable without tools for cleaning or maintenance.