UNIFIED FACILITIES GUIDE SPECIFICATIONS

References are in agreement with UMRL dated January 2021
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SECTION 12 50 00.13 10

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08/17, CHG 1: 11/18

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SECTION 12 50 00.13 10

FURNITURE AND FURNITURE INSTALLATION
08/17, CHG 1: 11/18

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NOTE: Use this specification for new construction and building renovation projects for Army and Air Force projects. This specification is not typically used for Navy projects, but if the Army is administering a project for the Navy this specification can be used but must be coordinated through the Navy representatives and Navy Interior Designers for Navy specific requirements. Use this specification only when it has been determined by the Government that the Contractor will be responsible for the purchase and installation of the furniture. This specification can also be used for furniture purchases that are not associated with building construction. Following are exceptions:
- Do not use this specification for Army projects in which the U.S. Army Corps of Engineers Huntsville Engineering and Support Center (HNC) will be purchasing and installing the furniture.

Furniture is not purchased with building construction funds. O&M funding is typically used; coordinate funding source with Government. Since other than building construction funding is used, a separate line item for the FF&E purchase and installation is required on the project Contract Line Item Number (CLIN) Bidding Schedule in the specifications to track different funding sources. Coordinate funding sources with the Government Project Manager. Coordinate the CLIN Schedule requirements with the Contracting Officer, Government Project Manager and Project Specification Editor. If a project also includes System Furniture, Section 12 59 00, include it as part of the FF&E line item on the CLIN Bidding Schedule.
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NOTE: This Guide Specification covers the requirements for furniture and furniture installation.

NOTE: Adhere to UFC 1-300-02 Unified Facilities

Guide Specifications (UFGS) Format Standard when editing this guide specification or preparing new project specification sections. Edit this guide specification for project specific requirements by adding, deleting, or revising text. For bracketed items, choose applicable item(s) or insert appropriate information.

Remove information and requirements not required in respective project, whether or not brackets are present.

Comments, suggestions and recommended changes for this guide specification are welcome and should be submitted as a Criteria Change Request (CCR).

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PART 1 GENERAL

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NOTE: The FF&E Package must be attached and be designed in accordance with the Government Scope of Services document. The FF&E Package must comply with the Federal Acquisition Requirements (FAR), Buy American Act (BAA), User Requirements and Government Contracting Office's procurement methodology. Coordination is required with the Government Contracting Office to insure that the FF&E Package is procurable.

The FF&E Package furnishings order form contains ordering information, such as but not limited to description, size, finish and fabric information (see Government Scope of Services for more information). The description must include and identify minimum product requirements, be non-proprietary and contain project specific salient characteristics. This information must be sufficient so the Contractor understands the design and furniture intent and furniture minimum requirements. Dependent on the project Scope of Services this form may have different names, for example: data sheet, furniture data sheet, specification sheet or procurement information.

Do not include a cost estimate or furniture item costs in the FF&E Package included in the construction contract documents. Provide copies of the cost estimate for the project design reviews as required by the Government.

For coordination purposes with the other design disciplines (architectural, electrical, mechanical, etc.) include the furniture drawings in the building construction contract drawing set. Also include the furniture drawings in the FF&E binder for the project design review submittals as required by the Government.

Provide information on existing furniture to be reused and not reused in the FF&E if required for project. See paragraph titled EXISTING FURNITURE in Part 1 of this specification for more information.

Various provisions of this guide specification may be irrelevant to or in conflict with the requirements of any given project. This spec should be carefully edited to fit the needs of each specific application. Portions must be deleted, if not applicable, and additional material inserted where necessary to adequately delineate requirements. Brackets and blanks identify provisions which involve alternates; the editor must select and/or insert the appropriate requirements.
****

Purchase and install furniture as identified within this specification. This specification section includes a Furniture, Fixtures and Equipment (FF&E) Package attachment.[

The requirements of this specification also apply to systems furniture unless otherwise specified in Section 12 59 00 Systems Furniture.]

1.1 REFERENCES

****
NOTE: This paragraph is used to list the publications cited in the text of the guide specification. The publications are referred to in the text by basic designation only and listed in this paragraph by organization, designation, date, and title.

Use the Reference Wizard's Check Reference feature when you add a RID outside of the Section's Reference Article to automatically place the reference in the Reference Article. Also use the Reference Wizard's Check Reference feature to update the issue dates.

References not used in the text will automatically be deleted from this section of the project specification when you choose to reconcile references in the publish print process.
****

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

AMERICAN SOCIETY OF HEATING, REFRIGERATING AND AIR-CONDITIONING ENGINEERS (ASHRAE)

ASHRAE 90.1 - IP	(2013) Energy Standard for Buildings Except Low-Rise Residential Buildings
ASHRAE 90.1 - SI	(2013) Energy Standard for Buildings Except Low-Rise Residential Buildings

ASTM INTERNATIONAL (ASTM)

ASTM D4157	(2013; R 2017) Standard Test Method for Abrasion Resistance of Textile Fabrics (Oscillatory Cylinder Method)
ASTM E 1537	(2016) Standard Test Method for Fire Testing of Upholstered Furniture
ASTM E 1590	(2017) Standard Test Method for Fire Testing of Mattresses
ASTM E84	(2020) Standard Test Method for Surface Burning Characteristics of Building Materials

BIFMA INTERNATIONAL (BIFMA)

ANSI/BIFMA X5.1	(2017) American National Standards For Office Furnishings - General Purpose Office Chairs
ANSI/BIFMA X5.3	(2007; R2012) American National Standards For Office Furnishings - Vertical Files
ANSI/BIFMA X5.4	(2012) American National Standards For Office Furnishings - Lounge Seating
ANSI/BIFMA X5.5	(2014) American National Standards For Office Furnishings -Desk Products
ANSI/BIFMA X5.6	(2016) American National Standards For Office Furnishings -Panel Systems
ANSI/BIFMA X5.9	(2012) American National Standards For Office Furnishings - Storage Units

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)

NFPA 101	(2021) Life Safety Code
NFPA 260	(2013) Standard Methods of Tests and Classification System for Cigarette Ignition Resistance of Components of Upholstered Furniture
NFPA 265	(2019) Standard Methods of Fire Tests for Evaluating Room Fire Growth Contribution of Textile or Expanded Vinyl Wall Coverings on Full Height Panels and Walls

STATE OF CALIFORNIA DEPARTMENT OF CONSUMER AFFAIRS, BUREAU OF ELECTRICAL AND APPLIANCE REPAIR, HOME FURNISHINGS AND THERMAL INSULATION (BEARHFTI)

TB 117-2013	(2013) Requirements, Test Procedure and Apparatus for Testing the Smolder Resistance of Materials Used in

	Upholstered Furniture
TB 133	(1991) Flammability Test Procedure for Seating Furniture in Public Occupancies

TELECOMMUNICATIONS INDUSTRY ASSOCIATION (TIA)

TIA-568-C.2	(2009; Errata 2010; Add 2 2014; Add 1 2016) Balanced Twisted-Pair Telecommunications Cabling and Components Standards

U.S. NATIONAL ARCHIVES AND RECORDS ADMINISTRATION (NARA)

16 CFR 1632	Standard for the Flammability of Mattresses and Mattress Pads (FF 4-72 Amended)
36 CFR 1191	Americans with Disabilities Act (ADA) Accessibility Guidelines for Buildings and Facilities; Architectural Barriers Act (ABA) Accessibility Guidelines

UNDERWRITERS LABORATORIES (UL)

UL 723	(2018) UL Standard for Safety Test for Surface Burning Characteristics of Building Materials

1.2 SUBMITTALS

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NOTE: Review submittal description (SD) definitions in Section 01 33 00 SUBMITTAL PROCEDURES and edit the following list, and corresponding submittal items in the text, to reflect only the submittals required for the project. The Guide Specification technical editors have classified those items that require Government approval, due to their complexity or criticality, with a "G." Generally, other submittal items can be reviewed by the Contractor's Quality Control System. Only add a “G” to an item, if the submittal is sufficiently important or complex in context of the project.

For Army projects, fill in the empty brackets following the "G" classification, with a code of up to three characters to indicate the approving authority. Codes for Army projects using the Resident Management System (RMS) are: "AE" for Architect-Engineer; "DO" for District Office (Engineering Division or other organization in the District Office); "AO" for Area Office; "RO" for Resident Office; and "PO" for Project Office. Codes following the "G" typically are not used for Navy, Air Force, and NASA projects.

The "S" classification indicates submittals required as proof of compliance for sustainability Guiding

Principles Validation or Third Party Certification and as described in Section 01 33 00 SUBMITTAL PROCEDURES.

Choose the first bracketed item for Air Force projects, or choose the second bracketed item for Army projects.

****

Government approval is required for submittals with a "G" or "S" classification. Submittals not having a "G" or "S" classification are [for Contractor Quality Control approval.][for information only. When used, a code following the "G" classification identifies the office that will review the submittal for the Government.] Submit the following in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-01 Preconstruction Submittals

Storage Location; G[, [_____]]

SD-02 Shop Drawings

Installation Drawings; G[, [_____]]

[Grommet[, Power and Communication Units][, and Wire Management] Locations; G[, [_____]]]

SD-03 Product Data

Product Data; G[, [_____]]

Product Style Options; G[, [_____]]

SD-04 Samples

Fabric and Finishes; G[, [_____]]

SD-07 Certificates

Authorized Dealer; G[, [_____]]

Certified Furniture Installers; G[, [_____]]

Licensed Electrician; G[, [_____]]

Certified Telecommunications Installer; G[, [_____]]

Manufacturer's Certification; G[, [_____]]

Warranty; G[, [_____]]

SD-10 Operation and Maintenance Data

Furniture, Data Package 1; G[, [_____]]

SD-11 Closeout Submittals

Energy Efficient Equipment; S

Reduced VOC's for Furniture; S

Recycled Content of Furniture; S

Bio-Based Content of Furniture; S

1.3 SERVICES

****

NOTE: These services are for Contractor Furnished/ Contractor Installed (CF/CI) furniture and can also be used for Government Furnished/Contractor Installed (GF/CI) furniture. For the purposes of this specification as written, Government furnished furniture includes existing furniture provided by the Government.

Clearly identify in the FF&E Package and on furniture drawings CF/CI and GF/CI furniture, and when required Government Furnished/Government Installed (GF/GI) furniture and equipment. This information clarifies the responsibilities of the Contractor and the Government and aids in space planning and coordination with other design disciplines.

Determine if the Contractor will be responsible for disassembling, packing, storing, moving and reinstalling existing furniture (GF/CI)or if existing furniture will be handled by the User (GF/GI). See EXISTING FURNITURE for more information.

****

Provide services to include furniture purchase, field measuring, installation drawings, shipping and delivery coordination, receiving, inspection, submitting and processing freight and warranty claims, unpacking, storing, assembly, installation and other related activities or tasks for a complete and functional installation. Reference Section 01 45 00.00 10 QUALITY CONTROL for inspection requirements. The Contracting Officer must be allowed to participate in inspections.[In addition provide services for existing furniture as specified, reference paragraph on EXISTING FURNITURE for more information.] Develop project timelines and establish shipping, receiving and installation dates that coordinate with the building construction schedule. Hold at a minimum weekly team meetings to brief the project team, include the Contracting Officer. Notify the Contracting Officer immediately of any scheduling problems, discontinued furniture items including fabrics and finishes, or other conditions which may cause delays, and recommend available substitutes, solutions, and provide updated timeline to coordinate with building construction schedule. Substitutes and solutions must comply with the specification and be approved by the Contracting Officer.

1.4 FURNITURE PURCHASE

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NOTE: Once the Government determines that the furniture can be purchased by the Contractor, coordinate furniture procurement method (such as GSA

Schedules and Open Market) with the Government. (This note applies to new construction and renovation projects.)

FURNITURE FROM THE GSA SCHEDULES: Select this bracketed option if it has been determined that the Government will authorize the Contractor to purchase furniture using the Government Supply Sources. If this option is selected make sure that FAR clause 52.251-1 Government Supply Sources is included in the project FAR requirements. This FAR provides the Government the ability to write a letter to the Contractor authorizing the Contractor to use Government Supply Sources to purchase furniture. Coordinate the inclusion of the FAR clause requirement with the Project Specification Editor.

FURNITURE FROM THE OPEN MARKET: Select this bracketed option if it has been determined that the Government will not authorize the Contractor to purchase furniture using the Government Supply Sources.

If another source for furniture is necessary to meet project requirements, for example Navy or Air Force BPA's, edit specification accordingly and add the requirement. Verify that source and processes are appropriate for use within the framework of this specification. Use of any other sources must recieve approval by the Government before proceeding.

Delete bracketed sentence on the quick-ship programs and coordinating factory times if project is not on a tight schedule and not applicable to the project.

****

Purchase furniture, including checking accuracy of all acknowledgements and schedules from manufacturers and making necessary corrections to insure that the manufacturer has a correct understanding of the order and requirement.[Provide furniture from the GSA Schedules and provide GSA pricing. Provide furniture from open market only when an item is not available on the GSA Schedules. See FAR clause 52.251-1 Government Supply Sources.][Purchase furniture from the open market. The furniture provided needs to be available on the GSA Schedules to assist the User with future purchases. GSA information is provided FOR INFORMATIONAL PURPOSES ONLY. It is encouraged to solicit and provide GSA pricing on furniture.] Compete the furniture purchase by obtaining a minimum of (3) separate proposals. Furniture is subject to FAR clause 52.236-5 Materials and Workmanship.[If necessary to meet project timeline requirements, furniture may be purchased using manufacturers quick-ship programs or by coordinating factory times.]

1.5 ALTERNATE DESIGN

****

NOTE: Minor differences exist among different manufacturer's product. This paragraph pertaining to "alternate design" is included in order to not exclude a manufacturer when an equally acceptable

solution is proposed.
****

When a manufacturer's product is unable to provide desk and workstation configurations and filing/storage that conform exactly to the furniture layouts shown in the contract drawings and specifications, alternate designs may be submitted for consideration by the Contracting Officer. Alternate designs must meet or exceed the following criteria. Alternate designs that are submitted but do not meet these criteria will be rejected.

1.5.1 Desk and Workstation Size and Configuration

The alternate design must provide desks and workstations of the same basic size and configuration shown, with only the sizes of the individual components within the desk and workstation changed to meet the standard product of the manufacturer.

1.5.2 Filing and Storage Size and Configuration

The alternate design must provide filing and storage of the same basic size and configuration shown, with only the size changed to meet the standard product of the manufacturer. The storage capacity must not be reduced.

1.5.3 Furniture Requirements

The furniture provided must comply with the drawings, specifications, and the requirements identified in the FF&E Package Attachment.

1.5.4 Layout

The storage capacity, number of desks and workstations, number of persons accommodated, width of aisles, and functionality must be maintained. Layout must comply with NFPA 101 and 36 CFR 1191.

1.6 AUTHORIZED DEALER, CERTIFIED FURNITURE INSTALLERS, LICENSED ELECTRICIAN AND CERTIFIED TELECOMMUNICATIONS INSTALLER

When required by the furniture manufacturer, furniture must be installed by an authorized dealer and a certified furniture installation crew must be used on the project.[Services provided to reuse existing furniture must comply with manufactures warranty requirements to maintain warranty. If warranty for existing furniture to be reused has expired, services must be completed by a furniture installation crew with a minimum of 5 years experience.] All furniture requiring hardwiring must be completed by a licensed electrician. Communications installers must be Building Industry Consulting Services International (BICSI) Registered Cabling Installers, Technician Level or have a minimum of [3][_____] years experience in the installation of the specified cables and components. All installers, furniture, electrical and communications, must be on-site if questions arise. Submit copies of authorized dealer, furniture installation crew, licensed electrician and certified telecommunications installer certifications.

1.7 DELIVERY, STORAGE AND HANDLING

1.7.1 Delivery

Deliver furniture to the jobsite in manufacturer's original packaging or

blanket wrapping. Original packaging must be marked with the manufacturer name, item identification, and project reference clearly marked.

1.7.2 Furniture Inspection

Inspect furniture and provide notification of damage within the time frame required by the shipping company while carrier is still on-site. Complete claims for concealed damage within the time frame required by the shipping company and furniture manufacturer. A claim file must be maintained that documents each claim. Forward copies of claims to the Contracting Officer on a [daily][_____] basis.

1.7.3 Storage

Storage space is not available on-site and furniture must be stored at an off site location. Provide any storage space required for furniture and transport stored furniture to the project site for installation. Storage location must be approved by the Contracting Officer at the time of the furniture order. If storage is required, furniture must be stored in a dry location that is adequately ventilated and free from dirt and dust, water, and other contaminants, in a manner that permits easy access for inspection and handling, and in an environment in accordance with furniture manufacturers instructions.

1.7.4 Furniture Staging Area

Coordinate location of the furniture staging area with the Contracting Officer.

1.8 WARRANTY

****
NOTE: Revise, add and/or delete warranty information as applicable to meet project requirements.
****

Provide manufacturer performance guarantees or warranties for single-shift service and include parts, labor and transportation as follows, unless otherwise noted:

a. Systems Furniture - [see Section12 59 00 Systems Furniture][12 year minimum][lifetime]

b. Desks and Workstations - 12 year minimum

c. Filing and Storage - 12 year minimum

d. Seating

(1) Seating, unless otherwise noted - 10 year minimum

(2) 24/7 Seating (multiple shift use) - 10 year minimum

(3) Seating Mechanisms and Pneumatic Cylinders - 10 year minimum

(4) Lounge Seating - 10 year minimum

(5) Stacking Chairs - 10 year minimum

e. Tables

(1) Unless otherwise noted - 10 year minimum

(2) Table Mechanisms - 5 year minimum

(3) Table Ganging Device - 1 year minimum

f. Miscellaneous

(1) Fabric - 3 year minimum

(2) LED Task Lighting - 5 year minimum

(3) Task Lighting - [2][3][_____] year minimum

Provide items not listed with a 1 year minimum. When manufacturers standard performance guarantees or warranties exceed the minimum requirements identified, provide the standard performance guarantee or warranty. Submit manufacturer's warranty information for all furniture items.

PART 2 PRODUCTS

2.1 PRODUCT SUSTAINABILITY CRITERIA

For products in this section, where applicable and to extent allowed by performance criteria, provide and document the following:

2.1.1 Energy Efficient Equipment

Coordinate requirement for energy efficient equipment, such as appliances and lighting, and provide documentation in accordance with Section 01 33 29 SUSTAINABILITY REQUIREMENTS AND REPORTING paragraph ENERGY EFFICIENT EQUIPMENT.

2.1.2 Reduced VOC's for Furniture

Coordinate requirement for reduced VOC requirements for furniture and provide documentation in accordance with Section 01 33 29 SUSTAINABILITY REQUIREMENTS AND REPORTING paragraph REDUCE VOLATILE ORGANIC COMPOUNDS.

2.1.3 Recycled Content of Furniture

Coordinate requirement for recycled content for furniture and provide documentation in accordance with Section 01 33 29 SUSTAINABILITY REQUIREMENTS AND REPORTING paragraph RECYCLED CONTENT.

2.1.4 Bio-Based Content of Furniture

Coordinate requirement for biobased content for furniture and provide documentation in accordance with Section 01 33 29 SUSTAINABILITY REQUIREMENTS AND REPORTING paragraph BIO-BASED PRODUCTS.

2.2 REFERENCE TO MANUFACTURER NAMES AND COLORS

Where product and color is shown as being specific to one manufacturer in the FF&E Package Attachment, an equivalent color or product by another

manufacturer may be submitted for approval. Manufacturers, style lines, model numbers, finish, and fabric information are provided to establish design intent and are not intended to limit the selection of equal products and colors from other manufacturers.

2.3 FURNITURE REQUIREMENTS

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NOTE: Coordinate with electrical engineer to comply with LED and task lighting guidance in UFC 3-530-01 Interior and Exterior Lighting Systems and Controls. Add information as appropriate to this specification or the FF&E Package to identify project requirements.

If product data for all furniture items should be submitted at the the same time

****

Use the FF&E Package Attachment in conjunction with the drawings and specifications for the furniture requirements.[Systems furniture is specified in Section 12 59 00 SYSTEMS FURNITURE.] Provide furniture from manufacturer's standard product as shown in the most current published price list or amendment. Furniture provided must be part of current line as indicated with no intent to discontinue within two years. Provide furniture that is intended for commercial use not residential. submit product data for all furniture items, to include catalog cuts, brochures, product information, and other necessary literature to indicate compliance with specifications.[Provide product data for all items together in a single submittal.][Provide product data for all similar types of items together as a group, such as [desks/workstations,] [seating,] [storage,] [tables,] and [_____]. Submit each grouping of similar type items in a single submittal.] When applicable, include GSA schedule information to confirm that items are available on GSA schedule. Tag product data sheets with applicable furniture item code and name. Submit data for all product style options for selection when options are available. This applies to but is not limited to furniture items that have options such as edge details, hardware options, and grommet colors. Submit manufacturer's certification stating that furniture meets the specifications.[

2.3.1 EXISTING FURNITURE (GOVERNMENT FURNISHED/CONTRACTOR INSTALLED-GF/CI)

****

NOTE: Existing furniture typically applies to renovation projects in which the User wants the project to be turnkey and have the Contractor also be responsible for handling existing furniture. Note that adding this requirement increases project cost.

Determine if the Contractor will be responsible for disassembling, packing, storing, moving and reinstalling existing furniture (GF/CI)or if existing furniture will be handled by the User (GF/GI). If User will be responsible for existing furniture delete this paragraph.

If it is determined existing furniture will be reused (disassembled, moved and re-installed)or

excessed, the existing furniture must be inventoried and clearly tagged to be reused or excessed as part of the FF&E design. Inventory must also include identifying condition of existing furniture to be reused. Inventory and tagging can be accomplished by the FF&E interior designer, the User or other method determined during design but must be completed as part of the FF&E Package design.

Verify if certified installers are required to maintain the warranty when existing furniture is disassembled and reinstalled and to insure the furniture is handled properly. If this is the case, it is suggested that the Contractor be involved or at a minimum the User contract with a certified furniture installer for this effort.

Supply sufficient information in the FF&E Package attachment and construction contract drawings for a Contractor to provide a bid on the existing furniture requirement. This information can include current and new locations of existing furniture, item name and code for existing furniture, manufacturer information if available, drawings, photographs, description and size of furniture, and other necessary information to clearly indicate intent. Also provide information and locations for existing building and furniture electrical and communication features.

****

2.3.1.1 Existing Furniture to be Reused

Disassemble, pack, move, store, transport to the project site and install existing furniture identified to be reused. This includes disconnecting and reconnecting furniture electrical connections at the building source. Coordinate with electrician for safe terminations or removal of disconnected building electric system supply circuits.

[2.3.1.2 Existing Furniture that is Not Reused

****

NOTE: Coordinate with the Government to insure that furniture that will not be reused and requires excessing is handled according to the base or post requirements and modify verbiage accordingly to reflect the requirements.

****

[Disassemble and have ready for excessing and pick up any furniture identified as not to be reused. Furniture will be picked up by Government directed vendors. Coordinate pick-up times with Contracting Officer and User.][Disassemble and relocate any furniture identified as not to be reused to the [Defense Logistics Agency Disposition Services (DLADS)][_____] facility.] This includes disconnecting furniture electrical connections at the building source. Coordinate with electrician for safe terminations or removal of disconnected building electric system supply circuits. Protect all items from damage and provide security and weather protection prior to and during[pickup][

relocation].

][2.3.1.3 Existing Furniture Communications

Remove existing Information Technology (IT) cables (i.e. SIPRNET, NIPRNET, J-WIC'S, etc.) and telephone wiring from existing furniture systems identified to be reused or requiring excessing.

]]2.3.2 Construction

a. Provide furniture that complies with the following testing requirements:

(1) ANSI/BIFMA

[(a) Office Seating - ANSI/BIFMA X5.1

][(b) Vertical Files - ANSI/BIFMA X5.3

][(c) Lounge Seating - ANSI/BIFMA X5.4

][(d) Desk Products - ANSI/BIFMA X5.5

][(e) Panel Systems - ANSI/BIFMA X5.6

][(f) Storage - ANSI/BIFMA X5.9]

(2) Flammability

****

NOTE: Comply with NFPA 101. Review occupancy chapter requirements for smoldering ignition of upholstered furniture and mattresses and for upholstered furniture and mattresses requiring limited rates of heat release.

****

[(a) Systems furniture and workstation panel components must meet requirements for flame spread and smoke development as specified by NFPA 101 except as follows. Conduct testing in accordance with either ASTM E84 or UL 723 on the entire assembled panel of the worst case (most combustible) combination of fabric and interior construction. In addition, fabric must meet the requirements of NFPA 265. Panel flame spread shall not exceed [25 for Class A] [75 for Class B] [200 for Class C], and panel smoke development shall not exceed 450 for Class A, B, and C.][

(b) Upholstered furniture must comply with[TB 117-2013 or NFPA 260][TB 133 or ASTM E 1537].][

(c) Mattresses must comply with 16 CFR 1632[and ASTM E 1590].]

b. Provide furniture with no rough or sharp edges or exposed connections. Clips, screws, and other construction elements must be concealed wherever possible.

****

NOTE: Recommend that desks, workstations and systems furniture be designed so they do not require

attachment to the walls; this provides the User with more flexiblity in reconfiguring the furniture. When they are attached to the wall, the User must patch and repair the walls when furniture is reconfigured or replaced in the future. Prior to specifying wall mounted furniture make sure that User is aware of the ramifications and agrees with design approach.

****

c. Items such as desks, workstations and systems furniture must include all necessary components to be structurally sound and must not be attached to the wall unless specified to be wall mounted in the contract documents.

d. Desks, workstations, storage, and tables must have leveling devices to compensate for uneven floors.

e. The underside of desks, workstations, and tables must be completely and smoothly finished.

f. The backside of freestanding desks, workstations, [_____] and storage must be finished.

g. Provide chair casters and glides appropriate for the floor material they are located on, such as carpet and resilient flooring.

2.3.3 Locks and Keying

a. All drawers and doors, including but not limited to overhead storage cabinets, storage towers, supply cabinets, storage cabinets, desk and workstation pedestals, and filing cabinets must be lockable.

b. Key each desk and workstation in an office differently and key locks within each desk and workstation alike.

c. Furniture storage components in private offices must be keyed alike. Key each private office differently.

d. Provide field changeable lock cylinders in desks and workstations with a minimum of 100 different key options. Number keys and lock cylinders for ease of replacement or clearly label locks with a key number, except for those manufacturers who have removable format locks.

e. Drawers within a pedestal must be lockable either by a central lock that controls all pedestals under one work surface or an individual keyed lock in each pedestal.

f. Central file and storage units which are grouped together but are not a part of a workstation must be keyed [alike][differently] unless otherwise specified.

g. Provide two keys for each workstation when components are keyed alike. Also provide two keys for each miscellaneous item such as filing cabinets, supply cabinets, storage cabinets, and similar type furniture items.

h. Provide three copies of each master key to the Contracting Officer.[

i.[Leave keys in locks] [Inventory keys, label keys by lock number, room number and furniture item and turn over inventory and keys to the Contracting Officer].]

2.3.4 Receptacle Bodies and Device Cover Plates

****
NOTE: Coordinate isolated ground receptacle requirements with the electrical/telecommunications engineer.
****

Provide furniture panel faceplates and receptacle body types [and color] as specified in [FF&E Package Attachment] [12 59 00 SYSTEMS FURNITURE] [_____]. [Provide color as follows:

a. Faceplate: [match panel trim color][_____]

b. Receptacle Bodies: [match panel trim color][_____]

c. Communication Cable Jackets: [match receptacle device cover plates in color][_____]

d. Isolated Ground Receptacles:[orange][or][have distinct markings][be of a different color than other receptacles]]

2.3.5 Keyboard Tray

Provide worksurfaces that are capable of accepting an articulating keyboard tray at locations indicated. The keyboard tray must be capable of fully recessing under the work surface and extending to give the user full access to the keyboard. The keyboard tray must have height adjustability and positive and negative tilting capability and have 180-degree swing side travel rotation. The keyboard tray must have a wrist support and include a mouse pad at the same level as the keyboard that can accommodate both right and left handed users.

2.3.6 Fabric and Finish

Submit samples of all furniture fabric and finishes. Samples must be actual samples, not photographic representations, size must be a minimum of 75 by 75 mm 3 by 3 inches. If necessary, provide larger size samples to clearly represent pattern. Label samples with fabric or finish code, furniture item code and name, manufacturer name, and color information. Fabric samples must also be labeled with fiber content and double rub testing information.

2.3.6.1 Fabric

****
NOTE: Recommended minimum requirement for double rubs is typically 55,000 for an office environment. Some areas within a facility may require a higher double rub number where seating is located in heavy use and high traffic areas. Modify information as necessary on double rubs to meet project requirements, information may vary if different types of fabrics are specified.

Verify with Government if use of customer's own material (COM) is acceptable.

When required, identify which seating requires a topical or inherent soil retardant treatment.

Recommend specifying acceptable minimums for pattern size to establish design intent for aesthetics and to help hide soiling. Typically the use of solid colors are not recommended unless furniture is located in a command type area or the fabric is a vinyl, polyurethane, leather, faux leather or other similar type of fabric.

Coordinate pattern size and terminology used in this specification with fabric pattern information included in the FF&E Package Attachment.
****

a. Fabric must be from manufacturer's standard line[and][,] graded-in textile manufacturer's fabrics[, and customer's own material (COM)].[Do not provide COM fabrics.]

b. Provide a mid grade fabric[, unless otherwise noted]. Example: manufacturer available grades 1 through 4 (even number of grades), provide grade 3; manufacturer available grades A through D (even number of grades), provide grade C; manufacturer available grades A through E (odd number of grades), provide grade C (middle grade).

c. Provide a topical or inherent soil retardant treatment where indicated.

d. [Comply with double rub testing as specified in the FF&E Package Attachment.][Fabric for seating must comply with a minimum of [55,000][_____] double rubs unless otherwise noted.] Perform double rub testing in accordance with the ASTM D4157 Wyzenbeek Method.

e. Provide vinyl, polypropylene or similar type fabric for seating only if allowed in FF&E Package Attachment.

f. Pattern:

(1) Provide patterned upholstery fabric to help hide soiling. Pattern is defined as follows:

(a) Solid Color: [textured,] [single color] [or] [pattern smaller in size than the small size pattern][_____]

(b) Small Size Pattern: minimum [12 mm1/2 inch] [_____]

(c) Medium Size Pattern: minimum [50 mm2 inch] [_____]

(d) Large Size Pattern: minimum [125 mm5 inch] [_____]

(2) Provide patterns [as specified in the FF&E Package Attachment.] [as follows:

(a) Desk Chairs: [solid color] [small] [_____] size pattern

(b) Side or Guest Chairs: [small] [medium] [_____] size pattern

(c) Lounge Type Chairs: [small] [medium] [large] [_____] size pattern

(d) [_____]: [small] [medium] [large] [_____] size pattern]

g. See FF&E Package Attachment for additional information.

2.3.6.2 Finishes

Provide furniture finishes as listed below unless otherwise noted:

a. Finishes must be able to be cleaned with ordinary household cleaning solutions. Wood finishes must be able to be cleaned with damp cloth as directed by the manufacturer.

b. The finish of steel surfaces must be the manufacturer's most durable finish such as factory powder coat or baked enamel.

c. Grommet colors must be compatible and coordinated with desk, workstation, and table finish colors.

[d. Finishes must be neutral in color.

][e. Plastic laminate worksurfaces and table tops must be neutral in color and must have a pattern to help hide soiling.

] f. See FF&E Package Attachment for additional information.

2.4 FURNITURE LAYOUT

Provide furniture layout as indicated.

PART 3 EXECUTION

3.1 BUILDING EXAMINATION

Become familiar with details of the work, inspect all areas and conditions under which furniture is to be installed, and coordinate scheduling of dedicated elevators and docks. Notify the Contracting Officer in writing of any conditions detrimental to the proper and timely completion of the installation. Work will proceed only when conditions have been corrected.

3.2 BUILDING PROTECTION

Protect building surfaces to prevent soiling and damage during delivery and installation. Any soiling and damage that occurs to the building during the installation of furniture must be cleaned and repaired, or replaced to its original condition and must be approved by the Contracting Officer.

3.3 INSTALLATION

3.3.1 Installation Drawings

Installation drawings must include furniture layout, critical dimensions and locations of electrical and communications. Furniture layouts shall reflect field verified conditions. Drawings must be at 1:100 1/4 inch = 1 foot scale, unless otherwise specified. Provide typical plans and

isometrics/elevations of desks and workstations at a scale of 1:50 1/2 inch = 1 foot. When applicable, provide desk and workstation electrical and communications locations. When applicable include controlled-circuit identification for each furniture receptacle and coordinate with the building electrical system circuits in accordance with ASHRAE 90.1 - SI ASHRAE 90.1 - IP. Critical dimensions include, but are not limited to clearances and aisle widths. Drawings must include layout for furniture systems workstations for coordination purposes. Label furniture with furniture item code identified in this specification. Submit grommet[, power and communication units][, and wire management] locations.

3.3.2 Furniture Installation Procedures

Complete installation in accordance with manufacturer's installation instructions, assembly manuals, warranty requirements and approved installation drawings. Also comply with the following requirements:

a. Use material handling equipment with rubber wheels.

b. Furniture and components must be installed level, plumb, square, and with proper alignment with adjoining furniture.

c. Match keys to locks and check locking mechanisms.

d. Check drawers, doors, lighting, and other operable items and mechanisms for proper operation.

e. Remove all protective wrapping tape, residue, and related type items.

f. Securely interconnect furniture components where required.

g. Securely attach and anchor furniture components to the building when required.

h. Securely anchor furniture such as shelving and storage units to the building when required by the manufacturer.

i. All items with an electrical plug, such as but not limited to task lighting and tables with electrical power, must be fully operational.

j. All hardwired furniture, such as but not limited to furniture systems, must be fully operational. Verify that voltage is present in electrical outlets. Verify controlled-circuit outlets are properly configured in accordance with the installation drawings.

k. Furniture must not block SIPRNET[and][_____] jacks or the jack enclosures on walls. Report conflicts to Contracting Officer to discuss resolution.

l. Upon completion of installation, all furniture must be completely cleaned, finished, leveled, aligned, operational and functional.[

m. Install artwork with security mount hardware as recommended by the manufacturer.]

3.3.3 Furniture Communications Installation

****

NOTE: Coordinate with the User and

electrical/telecommunications engineer if the Contractor or others will be providing all IT cables (i.e. SIPRNET, NIPRNET, J-WIC'S, etc.) and phone wiring up to and including the face plate/box of all furniture as required and the services to install new cables/phone wiring and face plates/boxes in the furniture. Furniture may include, but not be limited to desks and workstations, systems furniture and tables.

If required for a project, the requirement for the Contractor to provide the IT cables (i.e. SIPRNET, NIPRNET, J-WIC'S, etc.) and phone wiring up to and including the face plate/box of the furniture should also be indicated in the applicable project UFGS Communications specifications.

Revise language as necessary to meet project specific requirements.
****

[Provide all Information/Technology (IT) cables (i.e. SIPRNET, NIPRNET, J-WIC'S, etc.) and phone wiring up to and including the face plate/box of all furniture as required and the services to install the cables, wiring and face plates/boxes in the furniture. Coordinate cable type, cable jacket and outlet jack color with Section 27 10 00 BUILDING TELECOMMUNICATIONS CABLING SYSTEM. Furniture communication installers must be on site to install communication cables, wiring and other components for furniture during furniture installation. Coordinate the TIA-568-C.2 pin/pair assignments for communication outlets to match the configuration of the building's non-furniture outlets; coordinate with Contracting Officer. All items with a communication interface must be fully operational.][Installation of Information/Technology (IT) wiring, cables and face plates/boxes in the furniture will be completed by others.]

3.4 CLEANING

Remove all packing materials and other trash from the jobsite. Upon completion of installation, all products must be clean, including inside all drawers and doors, and the area must be free of debris and left in a clean and neat condition. Any defects in or damage to furniture must be repaired or replaced and approved by the Contracting Officer. Damaged products that cannot be satisfactorily repaired must be replaced. Correct any problems with assembly and installation. Prior to any furniture repair, replacement, and/or assembly and installation corrections, protect the building surfaces.

3.5 OPERATION AND MAINTENANCE MANUALS

Submit the Furniture, Data Package 1 in accordance with Section 01 78 23 OPERATION AND MAINTENANCE DATA and include the following:

3.5.1 Assembly Manuals

Describe assembly and re-configuration procedures. Provide three sets of installation video tapes if available.

3.5.2 Installation Instructions

Provide a copy of the instructions used to install the furniture. Also describe any special procedures or helpful hints learned during the installation process.

3.5.3 Maintenance Manuals

Describe proper cleaning and minor repair procedures, include cleaning instructions for fabrics.

3.5.4 Electrical System Manuals

Describe the functions, configuration, and maintenance of the furniture electrical system (power[, communication][, and data]). This information may be included in the assembly or maintenance manuals.

3.5.5 Special Tools

Provide [three][____] sets of special tools necessary for assembly and disassembly of furniture and components from each manufacturer. Mark tool(s) with manufacturer and product information.

3.5.6 Furniture Drawings

Provide hard copy and electronic, showing installed furniture layout. Include all modifications. Provide electronic copies on a CD-ROM. Coordinate type (such as but not limited to Microstation, AutoCad and Revit) and version required with User. Include critical dimensions, and locations of building and furniture electrical and communications. Provide drawings at 1:100 1/4 inch = 1 foot scale, unless otherwise specified. Provide typical plans and isometrics/elevations of workstations at a scale of 1:50 1/2 inch = 1 foot. Code all furniture with furniture item code identified in this specification.

3.5.7 Furniture Listing

Provide complete listing, hard copy and electronic, of furniture provided. Include all modifications. Provide electronic copies on a CD-ROM. Coordinate type of electronic file required with User (such as but not limited to Word and Excel). Listing must include furniture item code and name used in FF&E Package, part/model numbers, fabrics and finishes for all components furnished. Organize listing by item name and code and provide building totals.

3.5.8 Order Form Documentation

Provide Order Form Documentation with Purchase Order number and project name and location to allow the User to follow up on warranty issues and help with future purchases.

[3.5.9 Key Control System

Key Control System. Provide system in excel format; indicate lock number, room number and location of lock within rooms if more than one lock number.
]

-- End of Section --