



Facilities Planning and Construction Design and Construction Standards

DIVISION 12 - Furnishings

12 10 00 Art

- Division 12 Artwork is not included in the 1% Public Art Program allocation as outlined in Division 1 of these standards.
- Division 12 Artwork will be specified and procured by a third-party contracted vendor unless otherwise approved by FP&C.
- Division 12 Artwork will be listed as a separate line item within the project FF&E budget.
- Division 12 Artwork includes but is not limited to, artwork for public spaces, conference rooms, corridors, classrooms, exam rooms, etc.
- Artwork shall not impede on required clearances as outlined by the Americans with Disabilities Act (ADA) or Texas Accessibility Standards (TAS).
- All vinyl wall coverings must be ASTM E84 Class A fire rated.
- All interior artwork in public spaces shall be mounted with security hardware.
- Artwork hanging systems shall be adjustable and recessed into the ceiling.
- Artwork hanging systems shall include security hardware for hanging artwork.
- Approved manufacturer(s) for artwork hanging systems are Hamilton or equal.
- Art lighting shall be track mounted, adjustable, LED fixtures.



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12 20 00 Window Treatments

12 22 00 Curtains and Drapes

- All drapery fabric must meet or exceed NFPA 701.
- Drapes should only be used if specifically requested and approved by TTUS FP&C and the Owner.

12 24 13 Roller Window Shades

- Solar shades shall be specified 3% open unless otherwise directed and approved by TTUS FP&C.
- Consider dual shades (solar + blackout) for exterior windows if budget allows. At a minimum, windows in all classrooms, conference rooms, or other spaces with AV integration must have dual shades (solar + blackout).
- Acceptable manufacturers for roller shades include Draper, Mecho, Lutron, Hunter Douglas, or equal.
- Unless otherwise required in the contract documents, all products shall carry the standard manufacturer's warranty or a 1-year replacement warranty, whichever is longer.
- Shadecloth material must meet NFPA 701 and ASTM E84.
- Shadecloth must be attached to the roller via spline attachment- no tape or adhesive attachments are acceptable.
- Electrical components for motor-operated roller shades must meet NFPA 70 and be UL certified.
- Railroad shade material where the material roll width is less than the

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required width of the shade. Provide battens and seams as required by railroaded material to produce shades with full roll-width panel(s).

- Where shade seams are necessary, space seams uniformly and align with window mullions if possible.
- Controls for manual and motor-operated shades should be placed in a convenient location and meet applicable accessibility requirements.



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12 30 00 Casework

- All laboratory casework shall be of quality wood or steel construction and meet the Scientific Equipment and Furniture Association's (SEFA) requirements unless otherwise requested and approved by TTUS FP&C and the Owner.
- Drawer glides shall be full-extension and heavy-duty rated.
- Laboratory countertops shall be selected based on intended use.
- Wood casework must meet current standards set forth by the American Woodworking Institute (AWI).
- Installation of casework must be completed by qualified and factory authorized personnel.
- All necessary plumbing, electrical, and data must be coordinated with the casework installation.
- Acceptable manufacturers must have significant experience providing laboratory casework to other higher education institutions.
- Casework shall be installed over continuous flooring unless otherwise approved by TTUS FP&C and the owner.
- An impervious seal shall be provided where casework meets the flooring material.
- Casework intended to store chemicals shall be acid-resistant.
- MDF and particle board are not acceptable substrates or finish materials.



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12 40 00 Furnishings & Accessories

- All markerboards shall be magnetic glass unless otherwise approved by FP&C.
- All markerboards shall be specified and purchased with appropriate accessories (marker trays, magnets, markers, etc.)
- LED task lights must be provided under overhead hutch-mounted or panel-mounted cabinets.



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12 50 00 Furniture

General Requirements

All furniture shall be selected and specified per TTUS FP&C's process outlined in the FF&E Manual.

Furniture shall be selected and specified based on performance standards, appropriateness of application related to project criteria, quality, cost, aesthetics, warranty, and reputation of the furniture manufacturer.

All items shall be ANSI/BIFMA tested for their product category.

<https://www.bifma.org/page/standardsoverview>

All upholstered furniture shall comply with California Technical Bulletin #117 flammability standards. All open-office systems furniture shall comply with ASTM E-84 flammability standards.

All product shall have a minimum ten (10) year warranty unless otherwise noted.

All systems furniture, seating and associated storage units to be Greenguard or SCS certified to comply with LEED 2009 Low Emitting Materials- Systems Furniture and Seating requirements.

Furniture Installation Requirements

- All installations shall be performed by qualified and factory authorized personnel with consistent level of quality and attention to detail throughout the installation. All work shall be executed in accordance to factory directive.

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- Furniture vendor shall provide a project manager as the single point of contact who must be readily available for the entire project duration. A lead installer shall be at the site for all installation phases of vendor's products.
- The furniture vendor's project manager and lead installer must attend TTUS FP&C's FF&E Pre-Installation Meeting. The meeting will be conducted by FP&C and the Design Professional at the project site with the Owners Representative and General Contractor's representative in attendance.
- If products are direct-shipped to the site, they must arrive in dedicated trucks. Any LTL shipments must be received at the vendor's warehouse and brought to the site in their trucks in order to maintain delivery control at the site. While construction is in progress, all truck arrivals must be scheduled with the General Contractor through the Design Professional and TTUS FP&C. Vendor shall submit estimated quantities of truck deliveries by manufacturers per floor. Specify if trucks are dedicated direct-ship trucks or vendor trucks.
- Loading docks and elevator availability are to be determined on a project specific basis. Elevators that are available to vendors for vertical transportation will need to be shared with the General Contractor and scheduled through the Design Professional and TTUS FP&C
- Any wall mounted items shall be installed with toggle bolts; no blocking is provided for FF&E products unless specifically requested by the design professional during the design process. Three quarter inch (3/4") drill stops shall be used for all wall penetrations.
- The furniture vendor/installer is responsible for protecting all interior building finishes, including walls and elevators, during the time of product delivery and installation. Any damages to building finishes shall be repaired by professional and/or licensed craftsman approved by TTUS FP&C and paid for by the vendor. Floor protection during construction and FF&E installation is to be coordinated with the Design Professional, Contractor, and TTUS FP&C.
- All installed furnishings shall be protected by the furniture vendor/installer until the last

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week of the installation. Removal of the protective materials shall be included in the installation schedule.

- All items with plug-in electrical devices shall be plugged in and tested by the furniture vendor/installer during the installation. The electrical connections will be hardwired by the General Contractor's electrical subcontractor and will be scheduled through the Design Professional, General Contractor, and TTUS FP&C.
- Vendors are required to remove trash and debris caused by installation from the campus/project job site daily. Consult with the General Contractor and Design Professional for proper trash disposal on LEED Accredited jobs. Installation must include proper cleaning/wiping down of all surfaces to leave product in a "move in" state. General Contractor's dumpsters may not be used.
- No custom cuts or product modifications, including any gluing or re-finishing of products may be performed inside the building unless approved by TTUS FP&C. Any such work shall be performed outside the building or at the vendor's warehouse.
- No high VOC products may be used at the site at any time. Refer to the Design Professional's indoor air quality LEED specifications and obtain approval for products to be used on site prior to using.
- TTUS FP&C and the Design Professional will schedule a punch list walk-through with the furniture vendor/installer at least three (3) days in advance and shall be conducted at completion of each phase. These will be attended by the Design Professional, TTUS FP&C, and the client. Warranty and missing items shall be identified during each walk through and shall be ordered immediately for completion of respective phases.
- TTUS FP&C requires a 10 year warranty that guarantees product shall be free from defects in materials and workmanship and a 1 year warranty on all labor. All furniture is to meet or exceed BIFMA (Business and Institutional Furniture Manufacturer's Association) Testing Standards.



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12 51 00 Office Furniture

Desk & Workstation Components

- All desk work surfaces must be a minimum thickness of 1 3/16" with 3 mm square profile PVC edge unless otherwise approved by TTUS FP&C.
- Horizontal surfaces should be high pressure laminate (HPL) or solid surface unless otherwise approved by TTUS FP&C.
- All wood grain laminate must run in the same direction on all furniture pieces when installed.
- All desk work surfaces shall be specified with the appropriate grommets or other pathways to feed cords from equipment to a power source.
- Desk returns and/or bridges shall be specified without modesty panels to provide access to power and data connectivity on the wall. Hinged modesty panels or other forms of access may also satisfy this requirement. Please reference the drawings linked [here](#) for further detail on modesty panel placement.
- Where overhead storage is requested or required, use hutch-mounted overheads when possible. Hutch-mounted overhead storage shall also be specified with a tackboard and under-cabinet LED task lighting unless otherwise directed by FP&C.
- Hutch-mounted overheads shall have a minimum clearance of 23-3/8" between the upper cabinets and work surface and shall have locking doors. Doors on upper storage must not interfere with top surface of overhead when open.
- All key cores for a single desk, workstation, or private office shall be keyed alike. The user should have one (1) key that opens all storage components in an office or at a workstation.

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- All drawer/door pulls should be consistent throughout the project unless specified otherwise.

1) All exposed metal shall be extruded aluminum or have baked enamel finish.

- All electrical items shall be UL listed.

Storage

- All storage units shall be locking. The user should have (1) key that opens all storage components in an office or at a workstation.
- All file drawers shall include hardware to accommodate legal and letter size files, shall be of one-piece frame construction, have leveling glides, and shall be locking. Files shall feature compressors, dividers, and labeling system as available option.
- All drawer/ door pulls of storage components shall be consistent throughout project unless specified otherwise.



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12 52 00 Seating

General

- Glides and casters for furniture items should be specified appropriately for the flooring type where the item is located.

Task Seating

- Task seating should be specified with all available adjustments unless otherwise requested by TTUS FP&C.

Classroom Audience Seating

- Classroom audience seating shall meet Texas Accessibility Standards (TAS) and Americans with Disabilities Act (ADA) requirements. For tablet type desks, provide a minimum of 10% left-hand oriented desks in each classroom.
- Tablet surfaces shall be polyurethane or high-pressure laminate only. Low pressure laminate, thermally fused laminate and self-edged laminate is not acceptable.
- Upholstery for fixed seating should be durable (minimum of 100,000 double rubs), bleach cleanable, and meet NFPA 260 and ANSI/BIFMA X6.1.
- Acceptable manufacturers include KI, Sedia, or equal.

Upholstered Seating

- All fabrics and finishes should meet or exceed the requirements listed in *General Requirements for Furniture* above.
- All upholstered seating shall be specified with durable upholstery (minimum of 50,000 double rubs) and be easily cleanable.

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- Vinyl/polyurethane/silica should be strongly considered for any public furnishings with heavy student use.



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12 59 00 Systems Furniture

Workstation Panels:

- Panels shall be available in modular widths from 18" to 48" or as shown in drawings. Acceptable panel thicknesses are 3"-4" (actual dimensions).
- All panels shall feature a 6"-8" base for distribution of power and data if applicable.
- Workstation panel bases shall provide knockouts to allow for installation of data ports.
- All data serving a workstation must be terminated in the base of the workstation panel, NOT at the wall unless otherwise approved by TTUS FP&C. These terminations must be documented within the electrical drawings.
- All panels, 2-way, 3-way, 4-way end conditions and variable height connectors shall have a metal finish.
- Panels shall be stackable frame and tile system where stack units (except glazed units) shall be structural. Tile finishes shall be tackable/acoustic unless otherwise approved by TTUS FP&C.
- Overhead desk and workstation components may be a combination of wall mounted and/or panel mounted products as required for the layout.



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Preface

The Texas Tech University System's 'Design and Construction Standards', as administrated by Facilities Planning and Construction, are intended to serve as guidelines to the Design Professional and Construction Management teams for design development and construction administration of Texas Tech University System (TTUS) Capital Projects. They communicate the minimum expectations and requirements relative to specific building systems, design provisions, general specification requirements, and administrative procedures for new facilities being constructed on Texas Tech University System (ASU, MSU, TTU, TTUHSC, and TTUHSC El Paso) campuses. Several, but not all requirements for each component Institution or Agency within the TTU System are covered. Design Professionals, Construction Managers at Risk and/or Design-Build Firms shall also refer to provisions covered in their service Agreements, as well as within the project's Basis of Design (BOD) document.

In addition, the 'Design and Construction Standards' shall also be utilized in conjunction with the approved project specific Program and Schematic Design development. In the event of conflict between this document and specific project requirements, Design Professionals, Construction Managers at Risk and/or Design-Build Firms shall contact Facilities Planning & Construction for clarification.

The guidelines within the 'Design and Construction Standards' are not intended to prohibit the use of alternative design solutions, methods, systems, products or devices not covered in this document. Offered alternatives deviating from or not covered in these standards shall be documented by the Design Professional and/or Construction Management teams and submitted to Facilities Planning & Construction for approval prior to implementation.

Throughout the 'Design and Construction Standards' there are references to manufacturer specific products. These are to be considered the 'Basis of Design' to establish the expected

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minimum quality requirements. Design Professionals are encouraged to identify and include equivalent products and/or manufacturers offering comparable products to facilitate open bidding environments.