

**Jefferson County School District, R-1
Support Services**

TECHNICAL GUIDELINES

**DIVISION 12 – FURNISHINGS
January 22, 2007**

DIVISION 12 - FURNISHINGS

12 21 00 Window Blinds – November 1, 2006

- Work in this section is open to any product or material meeting the requirements of this Technical Guideline.
- Window blinds are included in the General Contract for Construction.
- Applications
 1. Blinds are required at all exterior windows with sill height below 6'-0" at instructional areas, administration areas, and ground level.
- Maintain minimum separation distance between window blinds and glazing in strict compliance with glazing manufacturer specifications.
- Submittals
 1. Product Data: Required
 2. Samples: Required
 3. Shop Drawing: Required for window blinds
 4. Closeout: Submittals listed above, updated to record status. Sample excepted.
- Window Treatments are required at exterior glazing and permitted at interior glazing
- Horizontal blinds: Preferred
 1. Manual operation only unless otherwise approved by JCSDR-1
 2. Headrail: U profile 0.25-inch corrosion-resistant steel with concealed hardware
 3. Tilter: .042 inch corrosion-resistant steel housing with a self-lubricating and automatically disengaging nylon worm gear mechanism to eliminate overdrive; gear ratio 1:4 or 1:1
 4. Tilt Wand: Field replaceable 5/16-inch hexagonal profile transparent acrylic plastic
 5. Cord Lock: Crash proof mechanism of .042 inch corrosion-resistant steel
 6. Drum: Die-cast steel or engineering polymer
 7. Cradle: .042 inch corrosion-resistant steel
 8. Mounting Brackets: .048 inch corrosion-resistant steel with rivet-hinge safety lock front cover to permit removal of headrail without lateral movement.
 9. Slats: .0072 inch minimum thickness copper free 5000 series magnesium aluminum alloy. Reprocessed metal, vinyl and plastic slats are prohibited.
 10. Bottom rail: .031 inch corrosion-resistant steel
 11. Paint: Alkyd resin with zero lead content
 12. Ladderbraided: UV stabilized polyester yarn with reinforced core. 23" maximum spacing
 13. Installation brackets
 - a. 0.48 inch minimum thickness corrosion protected steel
 - b. Locking front cover to permit headrail removal without lateral movement
- Vertical blinds: Permitted
 1. Fabric only
 2. Aluminum and vinyl are prohibited

END SECTION 12 21 00

12 22 00 Curtains and Drapes – November 1, 2006

- No requirements

END SECTION 12 22 00

12 23 00 Interior Shutters – November 1, 2006

- Not permitted

END SECTION 12 23 00

12 24 00 Window Shades – November 1, 2006

- Not recommended

END SECTION 12 24 00

12 31 00 Manufactured Metal Casework – November 1, 2006

- Not recommended

END SECTION 12 31 00

12 32 00 Manufactured Wood Casework – November 1, 2006

- Work in this section is open to any product or material meeting the requirements of this Technical Guideline.
- Manufactured wood casework is included in the General Contract for Construction.
- In the absence of other information, standards of the following organizations apply:
 1. American Woodworking Institute (AWI)
- Submittals
 1. Product Catalog: Required; with proposed items annotated
 2. Shop Drawing: Required
 3. Samples: Preferred
 4. Closeout: Submittals listed above, updated to record status. Except Samples
- Quality Assurance
 1. Custom Architectural Wood casework (Section 06 41 00) does not qualify as Manufactured Wood Casework.
 2. Manufactured Wood Casework is defined by the following characteristics:
 - a. Standard materials and modular assembly
 - b. Standard specifications and configurations
 - c. Multi-state product distribution
 - d. Ten consecutive year history of installations in K-12 public school buildings in the western USA; with at least 5000 lineal feet installed in Colorado.
 - e. Published and publicly distributed catalog documenting the above.

- Materials
 1. Particle (composition) board:
 - a. Monolithic high grade industrial western pine or fir
 - b. Minimum uniform density = 45 lbs. per cubic foot.
 - c. Body: $\frac{3}{4}$ inch
 - d. Countertops and shelves spanning up to 36 inches: $\frac{3}{4}$ inch
 - e. Countertops and shelves spanning 36 inches to 48 inches: 1 inch
 - f. $\frac{5}{8}$ inch elsewhere; $\frac{1}{2}$ inch permitted when laminated to other structural materials.
 - g. Trim edges. Exposed unfinished edges are prohibited.
 - h. Exterior grade wood and phenolic resin composite panels treated with zinc borate are recommended for countertops containing lavatories or sinks.
 2. Hardboard:
 - a. Oil impregnated wood fiberboard, finished both sides.
 - b. Minimum thickness: $\frac{1}{4}$ inch
 - c. Restricted to concealed backs
 3. Plywood: exterior grade
 4. Exterior Plastic Laminate
 - a. High pressure decorative laminate
 - b. Low glare, fine textured finish
 - c. Countertop: 0.0420 inch
 - d. Other: 0.028 inch
 5. Interior Liner:
 - a. Neutral color 0.020-inch thick high-pressure laminate.
 - b. Thermally fused Melamine laminate
 6. Adhesives:
 - a. Laminate: Liquid polyvinyl acetate or urea resin bonded at 15-psi minimum.
 - b. Edge: Hot melt glue
 - c. Contact adhesives are prohibited.
- Construction
 1. Modular components are required for interchangeability and field modification
 2. Joinery Options:
 - a. Eight or 10 mm fluted dowels + glue at 4 inch maximum spacing.
 - b. Rabbet/dado + glue
 - c. Screw attached friction-type connector
 - d. Screw: For attachment of accessories only
 - e. Staple: not permitted
 - f. Nail: not permitted
 3. Hinge:
 - a. 5 knuckle (hospital type)
 - b. 5 screw attachment to door; 4 screw attachment to body
 - c. One pair typical; 1 $\frac{1}{2}$ pair for doors over 35 inch height
 - d. 170 degree minimum door swing
 - e. Recessed/concealed (European) type hinges are not permitted
 4. Pull: Recessed or semi-recessed screw-attached ABS

5. Catch: Magnetic type at both top and bottom of each door leaf.
 6. Drawer: Rabbet, dovetail, or tongue and groove construction
 - a. Butt joints are prohibited
 - b. PVC-clad hardboard is permitted for drawer bottom only.
 7. Drawer Slide:
 - a. 100 pound minimum static load rating
 - b. Full extension roller bearing type is required for drawers deeper than 6 inches.
 - c. Bottom mounted track type is permitted elsewhere
 - d. Drawer Stops: Positive open and close stops are required.
 8. Shelf: Adjustable with 36 inch maximum unsupported free span
 9. Shelf Hardware:
 - a. Standard: Pre-drilled holes or recessed adjustable track
 - b. Support: Self-locking 2-pin metal or nylon clip rated at 250 lbs. minimum; adjustable without the use of tools
 10. Locks:
 - a. Specific locations per Jefferson County School District, R-1 Educational Specifications
 - b. 5 pin tumbler cylinder lock.
 - c. Machined hole shape other than round to prevent lock rotation
 - d. Two keys per lock
 - e. Single key for each room or space, except where individual student compartments are provided.
 11. Coat rod: 1 inch minimum diameter chrome plated 14 gauge steel with minimum installed loading capacity = 10 lbs. per inch
 12. Glass: Prohibited in Manufactured Plastic Laminate Faced Casework.
 13. Countertop: B
 - a. Plastic Laminate
 - b. Radius is required at external corners exposed to PK-5 student traffic
 14. Backsplash: Required at all terminations to vertical building surfaces.
 - a. Four inch minimum height
 15. Finish all surfaces
 - a. Exterior: high-pressure laminate
 - b. Interior: liner
 - c. Concealed edges: Sealer
 16. Exposed edges:
 - a. 3mm solid PVC radiused and buffed banding at countertop and drawer/door edge
 - b. 1mm flat edge PVC banding at body, shelf, and elsewhere
 - c. Self-edge barbed T-mold is not recommended
 - d. Match edge is prohibited
 17. Particleboard is prohibited within 3 vertical inches of finished floor.
 18. Balanced construction of laminated panels is required. Unfinished particleboard surfaces, whether visible or concealed, are prohibited.
- Manufacturer-trained installers are strongly preferred.

END SECTION 12 32 00

12 35 50 Educational / Library Casework – November 1, 2006

- Work in this section is restricted to specific manufacturers that have been previously approved by Jefferson County School District, R-1 Purchasing Department.
- Coordination
 1. Work in this section requires careful coordination among the design architect, general contractor, Jefferson County School District, R-1 Purchasing Department, and library furniture vendor per Division 01 Coordination summary.
 2. See section 06 40 00 for Library circulation desk

END SECTION 12 35 50

12 35 53 Laboratory Casework – November 1, 2006

- Work in this section is open to any product or material meeting the requirements of this Technical Guideline
- Work in this section applies only to grade 9 – 12 Chemistry and Biology science facilities identified by the Jefferson County School District, R-1 Educational Specifications.
- For grades 1 – 12 Physics, General Science, and other curriculum, use Manufactured Wood Casework (Section 12 32 00).
- Laboratory casework is included in the General Contract for Construction.
- In the absence of other information, standards of the following organizations apply:
 1. American Woodworking Institute (AWI)
- Submittals
 1. Product Data: Required
 2. Shop Drawing: Required
 3. Samples: Preferred
 4. Closeout: Submittals listed above, updated to record status. Except Samples.
- Manufactured Metal Casework is prohibited for science applications due to magnetic properties.
- Materials
 1. Plywood: Veneer core hardwood plywood with type II water-resistant glue.
 2. Face Veneers: Kiln-dried red oak or white hard maple
 3. Banding: 3mm hardwood edgebanding to match veneer door and drawer fronts
 4. Adhesive: Laminating glue -Type II water-resistant; assembly glue or Type III water resistant.
 5. Glass: 7/32 inch (6mm) for tall cases 1/8 inch (3mm) for wall and upper cases.
- Construction
 1. Modular components are required for interchangeability and field modification
 2. Joinery Options:
 - a. Eight or 10 mm fluted dowels + glue at 4" maximum spacing.
 - b. Rabbet/dado + glue
 - c. Screw attached friction-type connector
 - d. Screw: For attachment of accessories only
 - e. Staple: not permitted
 - f. Nail: not permitted

3. Hinge
 - a. 5 knuckle (hospital type)
 - b. 5 screw attachment to door; 4 screw attachment to body
 - c. One pair typical; 1 1/2 pair for doors over 35 inch height
 - d. 170 degree minimum door swing
 - e. Recessed/concealed (European) type hinges are not permitted
4. Pull: Recessed or semi-recessed screw-attached ABS
5. Catch: Magnetic type at both top and bottom of each door leaf.
6. Drawer: Rabbet, dovetail, or tongue and groove plywood box construction
 - a. Butt joints are prohibited
 - b. PVC clad hardboard is permitted for drawer bottom only.
7. Drawer Slide:
 - a. 100 pound minimum static load rating
 - b. Full extension roller bearing type is required for drawers deeper than 6 inches.
 - c. Bottom mounted track type is permitted elsewhere
 - d. Drawer Stops: Positive open and close stops are required.
8. Shelf: Adjustable with 36 inch maximum unsupported free span
9. Shelf Hardware:
 - a. Standard: Pre-drilled holes or recessed adjustable track
 - b. Support: Self-locking 2-pin metal or nylon clip rated at 250 lbs. minimum; adjustable without the use of tools
10. Locks:
 - a. Typically, most laboratory casework doors and drawers are to be lockable.
 - b. 5 pin tumbler cylinder lock.
 - c. Machined hole shape other than round to prevent lock rotation
 - d. Two keys per lock
11. Coat rod: 1 inch minimum diameter chrome plated 14 gauge steel with minimum installed loading capacity = 10 lbs. per inch
12. Laminated construction is prohibited.
13. Chemical resistant joinery, fasteners, and hardware
- Countertops: Solid monolithic material; Phenolic resin or pre-approved equivalent material with the following characteristics:
 1. Non-porous
 2. Resistant to all instructional laboratory chemicals including acetone and acetic acid
 3. Flame resistant
 4. Abrasion resistant
 5. Dark color to contrast active flame
 6. Twenty-five year service life without degradation of appearance.

END SECTION 12 35 53

12 40 00 Furnishings and Accessories – November 1, 2006

- Work in this section is open to any product or material.
- Built-in Furnishings and Accessories are included in the General Contract for Construction.
- Movable furnishings and Accessories are excluded from the General Contract for Construction

END SECTION 12 40 00

12 50 00 Furniture – November 1, 2006

- Work in this section is restricted to specific manufacturers that have been previously approved by Jefferson County School District, R-1 Purchasing Department.
- Coordinate furniture selection throughout the design process. Mismatches between room configuration and furniture layout can impact room utilization by as much as 50%.
- Furniture has a direct impact on student performance. Involve students and staff in furniture selection.
- One size does not fit all. Allow for multiple age-appropriate ergonomic furniture sizes within a room.
- Shelving at Science and Art: Perimeter only, no island configurations; Non-corrosive assemblies including mounting hardware; Shelf lip is mandatory.

END SECTION 12 50 00

12 61 00 Fixed Audience Seating – November 1, 2006

- Work in this section is open to any product or material meeting the requirements of this Technical Guideline.
- Work in this section is included in the General Contract for Construction.
- Submittals
 1. Product Data: Required
 2. Shop Drawing: Required for built-in work
 3. Samples: Preferred
 4. Closeout:
 - a. Submittals listed above, updated to record status. Samples excepted.
 - b. Operation and Maintenance Manual for built-in work.
- Construction
 1. Floor mounted type
 2. Standards: Heavy gauge rectangular profile tubular steel welded to mounting plate, seat, back and armrest.
 3. Seat:
 - a. One piece construction mechanically restrained from separating from standards.
 - b. Upholstered cushion

4. Hinge: Compensating type heavy-duty cast iron or steel with noiseless self-rising mechanism
5. Back: Upholstered plastic
6. Arm rest: Steel, aluminium, solid wood or solid molded plastic. Veneer or laminated construction is prohibited.
7. Aisle lights: UL listed with rectangular louvered metal faceplate.

END SECTION 12 61 00

12 63 00 Stadium and Arena Seating – November 1, 2006

- Work in this section is open to any product or material meeting the requirements of this Technical Guideline.
- Work in this section is included in the General Contract for Construction.
- Submittals
 1. Product Data: Required
 2. Shop Drawing: Required
 3. Samples: Preferred
- 1. Closeout:
 - a. Submittals listed above, updated to record status. Samples excepted.
 - b. Operation and Maintenance Manual for built-in work.
- Materials
 1. Wood seats are prohibited for exterior use.

END SECTION 12 63 00

12 66 00 Telescoping Stands – January 22, 2007

- Work in this section is restricted to specific manufacturers that have been previously approved by Jefferson County School District, R-1 Facilities Services Department.
 1. Hussey Seating Co.
 2. Interkal
 3. Irwin Seating Co.
- Telescoping stands are included in the General Contract for Construction.
- Submittals
 1. Product Data: Required
 2. Shop Drawing: Required
 3. Samples: Preferred
- 4. Closeout:
 - a. Submittals listed above, updated to record status. Samples excepted.
 - b. Operation and Maintenance Manual for built-in work.

- Construction
 1. Wood plank / steel frame construction
 - a. Single-species wood throughout
 - b. Plastic and Vinyl/steel assemblies are not acceptable
 2. Wall mounted vertical flush front stack configuration is preferred.
 - a. Reverse folding configuration is permitted for special applications only.
 3. Row spacing: 25 inches minimum
 4. Row Rise:
 - a. Installations of 6 rows or higher: 10” or 12” row rise is acceptable. (Typical of Main Gymnasium installations)
 - b. Installations of 5 rows or lower: 10” row rise only. (Typical of Auxiliary Gymnasium installations).
 5. Capacity: Assume 18 lineal inches per occupant
 6. Motorized systems are required:
 - a. For installations of 10 rows or more
 - b. When unit Length (in feet) x number of Rows exceeds 250.
 7. Motor Controller:
 - a. Hand-held controller units are preferred over fixed type.
 - b. Portable tractor-type motor units are not recommended
 8. Comply with applicable codes and regulations for aisles, railings
 9. In closed position, horizontal gaps between sections should not exceed 1/4 inch to deter unauthorized climbing.
- Field Quality Control
 1. Confirm lateral load capacity of wall structure.
 2. Provide On-site operation/maintenance instruction by manufacturer's authorized personnel.

END SECTION 12 66 00

12 93 00 Site Furnishings – November 1, 2006

- Work in this section is open to any product or material.

END SECTION 12 93 00