SECTION 12 35 83

SPECIALTY CASEWORK

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\*\* NOTE TO SPECIFIER \*\* Wenger Corporation, including all Wenger, J.R. Clancy and GearBoss product brands; Broadcast, theater and stage equipment, sound-control door assemblies, acoustic room components, lockers, storage assemblies, specialty casework, special purpose rooms, integrated controls and audio video systems.
This section is based on the products of Wenger Corporation, which is located at:
 555 Park Dr.
Owatonna, MN 55060
Toll Free Tel: 800-4WENGER (493-6437)
Tel: (507) 455-4100
Fax: (507) 455-4258
Email:info@wengercorp.com
Wenger Corporation - Syracuse, which is located at:
7041 Interstate Island Road
Syracuse, NY 13209
Toll Free Tel: 800-836-1885
Tel: (315) 451-3440
Email:info@wengercorp.com
Web: https://www.wengercorp.com , http://www.jrclancy.com
[Click Here] for additional information
Wenger Corporation and J.R. Clancy are Your Performance Partners. In 2011, Wenger and J.R. Clancy brought together almost 200 years of experience to provide complete solutions for Performing Arts Centers and Theatres. We design, manufacture and install leading theatrical equipment worldwide from Complete Rigging Solutions and Controls to Acoustical Shell Enclosures and Orchestra Pit Fillers as well as a full-line of quality furnishings.
Wenger Corporation provides innovative, high-quality products and solutions for performing arts and music and theatre education. For more than 65 years Wenger has been listening to what our customers need and then designing and manufacturing innovative, durable and functional products to meet those needs.
Wenger pioneered sound isolation in practice rooms and now offers modular rooms with virtual acoustic technology (VAE) and built-in digital recording/playback. Products for music and theatre spaces include: pre-engineered acoustical doors, sound-isolating music practice rooms, acoustical shells, acoustical wall and ceiling treatment, instrument and equipment storage cabinets, portable audience seating, portable stage platforms and staging systems, music posture and portable audience chairs, orchestra pit fillers, makeup stations, tiered risers and music furniture.
Since 1885, J.R. Clancy has been a leading designer and supplier of theatrical rigging systems, accessories and services to the theatre and entertainment industries around the world. Our team of experienced mechanical and electrical engineers, project managers, and installers provides expert technical assistance and information to architects, general contractors, theatre consultants, end users, and dealers.
With a combination of innovative designs, outstanding quality, and a century of experience, J.R. Clancy has become the leading manufacturer of theatrical stage equipment in the United States. We provide everything from the simplest hemp sets and rigging hardware to complete, highly sophisticated motorized rigging systems-for use just about anywhere.

1. GENERAL

\*\* NOTE TO SPECIFIER \*\* Edit paragraphs below based on project scope. Include option for acoustically enhanced music instrument storage casework when located within music rehearsal space. Acoustically enhanced casework minimizes the loss of cubic volume and provides sound absorption, helping to control overall sound levels.

* 1. SECTION INCLUDES
		1. Specialty Casework Including the Following:
			1. Musical instrument storage casework.
			2. Music library system.
			3. Fixed theater make-up stations.
			4. Portable theater make-up stations.
			5. Metal shelving systems.

\*\* NOTE TO SPECIFIER \*\* Edit paragraphs below to correspond to project. Retain references to sections specifying work that might otherwise be incorporated in work of this section. Delete Article if not required by project scope.

* 1. RELATED SECTIONS
		1. Section 06 10 00 - Rough Carpentry.
		2. Section 09 21 16.33 - Gypsum Board Area Separation Wall Assemblies.
		3. Section 09 65 13 - Resilient Base and Accessories.
		4. Section 12 36 23 - Plastic Countertops.

\*\* NOTE TO SPECIFIER \*\* Retain description of references below remaining in section following editing. For projects of limited scope, delete Article.

* 1. REFERENCES
		1. American National Standards Institute (ANSI):
			1. ANSI A208.1 - Particleboard.
		2. American Society of Civil Engineers (ASCE):
			1. ASCE 7 - Minimum Design Loads for Buildings and Other Structures.
		3. ASTM International (ASTM):
			1. ASTM C 423 - Standard Test Method for Sound Absorption and Sound Absorption Coefficients by the Reverberation Room Method.
			2. ASTM C 1503 - Specification for Silvered Flat Glass Mirror.
			3. ASTM E 488 - Standard Test Methods for Strength of Anchors in Concrete and Masonry Elements.
			4. ASTM E 795 - Standard Practices for Mounting Test Specimens During Sound Absorption Tests.
		4. Audio Engineering Society (AES):
			1. AES-4id - AES information document for room acoustics and sound reinforcement systems -- Characterization and measurement of surface scattering uniformity.
		5. Builders Hardware Manufacturers Association (BHMA):
			1. ANSI/BHMA A156.9 - Cabinet Hardware.

\*\* NOTE TO SPECIFIER \*\* GREENGUARD Environment Institute is an ANSI Authorized Standards Developer that oversees the GREENGUARD certification program. GEI establishes acceptable indoor air standards for indoor products, environments, and buildings.

* + 1. GREENGUARD Environmental Institute (GEI):
			1. GREENGUARD certified low emitting products.
		2. International Electrotechnical Commission (IEC)
			1. Requirements for listing and labeling of products.
		3. National Electrical Manufacturers Association (NEMA):
			1. NEMA LD 3 - High Pressure Decorative Laminates.
		4. National Fire Protection Association (NFPA):
			1. NFPA 70 - National Electrical Code (NEC).
		5. Underwriters' Laboratories, Inc. (UL) and Underwriters' Laboratories of Canada (ULC):
			1. Requirements for listing and labeling of products.
		6. U.S. Department of Commerce, National Institute of Standards and Technology (NIST):
			1. DOC PS 1 - U.S. Product Standard for Construction and Industrial Plywood.
		7. California Air Resources Board (CARB).
		8. California 93120 - Formaldehyde Emissions Phase I.
	1. SUBMITTALS
		1. Product Data: Manufacturer's data sheets, installation instructions, and maintenance recommendations.
		2. Shop Drawings: Prepared by manufacturer. Include elevations showing casework components, details of each condition of installation, and types and locations of hardware and fasteners. Show fabrication and installation details. Include plans, elevations, sections, details, and attachments to other Work.

\*\* NOTE TO SPECIFIER \*\* Retain below when required by Project.

* + - 1. Indicate seismic bracing and fastening requirements.
		1. Samples: For each color and finish for each exposed casework component.
		2. Operation and Maintenance Data.
		3. Warranty: Submit sample meeting warranty requirements of this Section.
	1. QUALITY ASSURANCE
		1. Manufacturer Qualifications: Approved manufacturer listed in this section, with minimum 5 years experience in manufacture of similar products in use in similar environments.
		2. Obtain music education casework through one source from a single approved manufacturer.

\*\* NOTE TO SPECIFIER \*\* All Wenger electrical components are supplied listed and labeled by UL and ULC to meet typical local electrical inspection requirements.

* + 1. Electrical Components: Listed and labeled per NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction.
	1. DELIVERY, STORAGE, AND HANDLING
		1. Deliver, store, and handle casework in accordance with manufacturer's recommendations. Ship to jobsite only after roughing-in, painting work, and other related finish work has been completed and installation areas are ready to accept casework and recommended temperature and humidity levels will be maintained during the remainder of construction.
	2. COORDINATION
		1. Coordinate installation of blocking and supports in frame wall assemblies under work of other sections where required for anchoring casework.
	3. WARRANTY

\*\* NOTE TO SPECIFIER \*\* The "special warranty" is a warranty provided by the manufacturer to the building owner. The warranty terms below are available from Wenger Corp. Verify that other manufacturers listed or seeking approval furnish warranty meeting requirements. Durability is a key aspect of Wenger's product value for Owners. The available warranty reflects Wenger's high confidence in the performance of their products.

* + 1. Special Warranty: Manufacturer's written warranty indicating manufacturer's intent to repair or replace components of music education storage casework that fail in materials or workmanship within 10 years from date of Substantial Completion. Failures are defined to include, but are not limited to, the following:
			1. Fracturing or breaking of casework components including doors, panels, shelves, or hardware resulting from normal wear and tear and normal use other than vandalism.
			2. Delamination or other failures of glue bond of components.
			3. Warping of casework components not resulting from leaks, flooding, or other uncontrolled moisture or humidity.
			4. Failure of operating hardware.
1. PRODUCTS
	1. MANUFACTURERS
		1. Acceptable Manufacturer: Wenger Corporation, JR Clancy and GearBoss, which is located at:555 Park Dr.Owatonna, MN 55060Toll Free Tel: 800-4WENGER (493-6437)Tel: 507-455-4100Fax: 507-455-4258Email: [request info (info@wengercorp.com)](https://arcat.com/rfi?action=email&company=Wenger%252BCorporation%252C%252BJR%252BClancy%252Band%252BGearBoss&message=RE%253A%2520Spec%2520Question%2520(12350wen)%253A%2520&coid=36487&spec=12350wen&rep=&fax=507-455-4258);Web: <https://www.wengercorp.com> | <https://www.jrclancy.com>

\*\* NOTE TO SPECIFIER \*\* Delete one of the following two paragraphs; coordinate with requirements of Division 1 section on product options and substitutions.

* + 1. Substitutions: Not permitted.
		2. Requests for substitutions will be considered in accordance with provisions of Section 01 60 00 - Product Requirements.
			1. Approval of Comparable Products: Submit the following in accordance with project substitution requirements, within time period allowed for substitution review:
				1. Product data, including certified independent test data indicating compliance with requirements for acoustical performance.
				2. Samples of each type of product specified, including but not limited to the following:

Door and casework panels.

Grille doors.

Hinges with through-bolting hardware.

Latches with through-bolting hardware.

* + - * 1. Project references: minimum of 5 installations not less than 5 years old, with owner contact information.
				2. List of successful installations of similar products available for evaluation by Architect.
				3. Sample warranty.
			1. Approved manufacturers shall meet separate requirements of Submittals.

\*\* NOTE TO SPECIFIER \*\* If reviewing substitution requests for compliance with this specification, Wenger recommends particular attention to the following issues:
Modularity of individual units: Most facilities undergo changes to cabinet layout long before the end of the service life. Wenger through-bolting, and integrated base with leveling feature allows complete rearrangement of units without damage to individual units.
Strength of door/hinge and latch construction: Failure of these components is the most common field service issue among alternative products. Bolt-through metal fasteners provide strength in high usage environments.
Replaceable construction for all components: These most frequently-damaged items are easily replaced in Wenger cabinets, and are engineered to prevent damage to their supporting sides.
Impact and abrasion resistance of the thermally-fused polyester surfacing and PVC edge banding: The polyester surfacing and edge banding materials have been selected to withstand the normal wear and tear expected in Institutional use.

* 1. MATERIALS
		1. Materials Meeting Sustainable Design Requirements:
			1. No Added Urea Formaldehyde Products: Provide music education storage casework made with composite products and adhesives with no urea formaldehyde added.
			2. FSC Certified Wood Products: Provide music education storage casework made with wood from certified sources. Also available in Moisture Resistant, Class 1 Fire rated and Plywood cores.
		2. Particleboard: ANSI A208.1, minimum 43 lb/cu. ft. (689 kg/cu. m) density, composite products and adhesives, with no urea formaldehyde added.
		3. Fire Rated Particle Board: ANSI A208.1, minimum 45 lb/cu. ft. (720 kg/cu. m) density ASTM E-84 class 1.
		4. Plywood: APA standards PS1-98 section 5.7.4 or 5.7.1 or ANSI /HPVA HP-1-2004 Panel provide with HDF skins to prevent grain telegraphing.
		5. Particleboard Thermoset Panels: Particleboard finished with thermally-fused polyester surfacing on both sides meeting performance properties of NEMA LD 3 for VGS grade, edge-banded, including the following:
			1. Surface Abrasion Resistance: Taber Wheel, 400 cycles, for solid colors.

\*\* NOTE TO SPECIFIER \*\* Retain paragraph below for projects that include Wenger Sheet Music Storage Casework.

* + 1. Particleboard Thermoset Panels: Particleboard panel with no formaldehyde added 3/4 inch (19 mm) thick finished with thermally-fused polyester surfacing on both sides meeting performance requirements of NEMA LD 3 for VGS grade, edge-banded, including the following:
			1. Surface Abrasion Resistance: Taber Wheel, 400 cycles, for solid colors.

\*\* NOTE TO SPECIFIER \*\* Wenger utilizes a patented shelf design that is highly impact and abrasion resistant, formed to protect instrument cases from abrasion, and is designed to deflect rather than transfer abusive overloading to the casework. This eliminates the need for expensive on-site repairs. Wenger will replace failed shelves without charge for the life of the installation.

* + 1. Polyethylene Shelves: High-density, one-piece, blow-molded or polyethylene, with radiused front edge, for abuse-resistant shelves. Same color throughout will not show scratches.
		2. PVC Edge Banding: Radiused PVC extrusions, 1/8 inch (3 mm) thick.

\*\* NOTE TO SPECIFIER \*\* Retain material below if specifying Wenger's unique AcoustiCabinet acoustically enhanced instrument storage casework. These cabinets provide the designer with the capability of increasing control over excess sound levels in rehearsal spaces. Delete if not required.

* 1. MUSICAL INSTRUMENT STORAGE CASEWORK

\*\* NOTE TO SPECIFIER \*\* Retain paragraph below corresponding to project scope. .

* + 1. Basis of Design: UltraStor Storage Cabinets as manufactured by Wenger Corporation. Modular instrument storage casework with integral bases, adjustable levelers, and through-bolted fastening, enabling owner reconfiguration of unit layout.
			1. Adjustable shelf system integrated into cabinet walls allowing shelf placement at increments common to musical instruments. No loose parts or tools required. Shelf system to include a latch to prevent unintended shelf movement.

\*\* NOTE TO SPECIFIER \*\* Retain paragraph below corresponding to project scope. .

* + 1. Basis of Design: AcoustiCabinets as manufactured by Wenger Corporation. Modular instrument storage casework with integral bases, adjustable levelers, and through-bolted fastening, enabling owner reconfiguration of unit layout.

\*\* NOTE TO SPECIFIER \*\* Retain paragraphs below that correspond to scope of project. Retain paragraph and subparagraph below when utilizing Wenger's AcoustiCabinet on project.

* + - 1. Acoustically enhanced instrument storage casework finished with interior lining of sound-absorbent material providing sound absorption and noise reduction properties.
			2. Sound Absorption Average: Minimum SAA of 0.80, based upon sound absorption coefficient for twelve one-third octave bands from 200 to 2500 Hz, inclusive, with a minimum Noise Reduction Coefficient (NRC) of 0.75, per ASTM C 423 and ASTM E 795.
			3. Acoustical Performance: Comply with manufacturer's published sound absorption data.
			4. Wave grille doors in 5/16 inch (24 mm) and 1/4 inch (6.4 mm) diameter designed to reduce vibration.
			5. Adjustable shelf system integrated into cabinet walls allowing shelf placement at increments common to musical instruments. No loose parts or tools required. Shelf system to include a latch to prevent unintended shelf movement.

\*\* NOTE TO SPECIFIER \*\* Below relates to contractor requirement for securing architectural components to building structure. Verify seismic performance requirements of authorities having jurisdiction. Consult project structural engineer. When required, retain below and indicate special bracing and fastening requirements on drawings. Delete if not required.

* + 1. Seismic Performance: Comply with ASCE 7, "Minimum Design Loads for Buildings and Other Structures": Section 9, "Earthquake Loads" based upon seismic design criteria indicated.
		2. Storage Casework Component Load Capacities:
			1. Storage Casework Wire-Grille Door Hinge: Each weld capable of resisting 400 lbf (1779 N) pull test without visible damage or permanent deformation.
			2. Storage Casework Full Grille Door Hinge= Full length door capable of supporting 315 lbs (143 kg). Through open and close cycle without permanent damage.
			3. Robe and Uniform Storage Casework Garment Hanger Rods: Capable of supporting vertical load applied uniformly along width of unit of 200 lbf (890 N).
		3. Robe and uniform storage casework with integral bases, adjustable levelers, and through-bolted fastening, enabling owner reconfiguration of unit layout.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + 1. General: Provide through-ventilating instrument storage casework meeting requirements in System Description and Performance Requirements Articles.
		2. Side Panels and Divider Panels: Particleboard thermoset panel with no urea formaldehyde added, 3/4 inch (19 mm) thick. Side panels machined to accept unit-to-unit through-bolting.

\*\* NOTE TO SPECIFIER \*\* Select door type(s) below required for project. If more than one type is required by project, indicate extent on drawings. Select open casework for casework without doors. For acoustically enhanced instrument storage casework, retain grille doors. Delete door types and design not required.

* + 1. Grille Doors: Bright basic steel wire, 5/16 and 3/16 inch (7.9 and 4.8 mm) diameter, or 5/16 and 1/4 inch (7.9 and 6.3 mm) diameter for AcoustiCabinets, with full 360 degree welds at T-joints.

\*\* NOTE TO SPECIFIER \*\* Delete application for grilles not required.

* + - 1. Provide for instrument storage casework.
			2. Provide for robe and uniform storage casework.
			3. Provide for casework indicated.
		1. Panel Doors: Particleboard thermoset panel with no urea formaldehyde added, 3/4 inch (19 mm) thick.

\*\* NOTE TO SPECIFIER \*\* Delete color not required.

* + - 1. Color: Oyster.
			2. Color: Maple.
			3. Color: Pebble.
			4. Color: Cherry.
			5. Color: Evening Tigris.
			6. Color: Fusion Maple.
			7. Color: Solar Oak.
			8. Color: As scheduled.

\*\* NOTE TO SPECIFIER \*\* Delete application for grilles not required.

* + - 1. Door Grille: Provide for instrument storage casework, full height.
			2. Door Grille: Provide for instrument storage casework, compartment height.
			3. Door Grille: Provide for Robe and Uniform Storage Casework.
			4. Door Grille: Provide for casework indicated.
		1. Open Casework: Provide casework without doors.

\*\* NOTE TO SPECIFIER \*\* Delete application for grilles not required.
Provide for instrument storage casework.

* + - 1. Provide for robe and uniform storage casework.
			2. Provide for casework indicated.
		1. Panel Edge Banding: 3 mm thick, heat-bonded, with radiused and profiled edges and corners.

\*\* NOTE TO SPECIFIER \*\* Wenger storage cabinet performance is based upon high strength shelf materials and strong shelf supports capable of surviving the day-to-day abuse of instrument case handling. Wenger's radiused, abuse-resistant shelf design is designed to survive continued impact. Delete shelving not required.

* + 1. Shelving: Sized with adequate gap between shelving and casework side panels to allow air movement inside casework.
			1. Up to 27 inches (686 mm) wide: Removable molded polyethylene shelf, with impact-resistant, radiused front edge, mounted to cabinet wall with self-locking clip.
			2. Over 27 inches (686 mm) wide: For large instrument casework: Removable formed polyethylene shelf, ribbed, with high-impact-resistant, radiused front edge, supported by steel tube frame.
			3. Tubular steel supports are included for shelves over 19 inches (483 mm) wide.
			4. Corner cabinet revolving shelving: 0.053 inch (1.3 mm) min. thickness steel sheet bolted to revolving steel center post, with radiused hardboard deflector panel.

\*\* NOTE TO SPECIFIER \*\* Retain optional paragraphs below if required for projects that include Corner cabinet. Delete if not required.

* + 1. Flag Storage and Garment Ring: 5/16 inch (8 mm) diameter steel rod bolted to steel center post with 10 gauge steel brackets.
		2. Flag Storage Bottom Shelf Pad: Carpet pad, adhered to steel shelf.
		3. Casework Panel Color: As selected by Architect from manufacturer's standard colors.

\*\* NOTE TO SPECIFIER \*\* Optional accessory. Delete if not required.

* + 1. Filler Panels and Closure: 3/4 inch (19 mm) thick particleboard thermoset panels with no urea formaldehyde in Oyster color. Provide the following, cut to fit field conditions, where indicated:

\*\* NOTE TO SPECIFIER \*\* Delete filler not required.

* + - 1. Wall filler between cabinet side and wall.
			2. Top filler between cabinet top and wall.
			3. Top of cabinet closure panel between cabinet and finished ceiling or soffits.
			4. Finished back panel for exposed cabinet backs.

\*\* NOTE TO SPECIFIER \*\* Hinge and latch performance on Wenger casework is achieved with the through-bolting of Wenger's institutional grade hardware. Substitute surface mounted hinges are less expensive but are a frequent point of failure in casework installed in high abuse areas.

* + 1. Butt Hinges: 2-3/4 inches (70 mm), 5-knuckle steel hinges made from 0.090 inch (2.29 mm) thick metal, ANSI/BHMA A156.9, Grade 1, with powder-coated finish, through-bolted to door and side panels and welded to grille door frames. Provide 2 hinges on compartment doors, and 4 hinges on full-height doors.
		2. Slide Latch: 0.105 inch (2.67 mm) min. thickness steel, with padlock eye, powder-coat finish, through-bolted to panel door and side panel and welded to grille door frames. Latches securely without padlock. Provide with clear plastic label holder for use with standard size labels; number system available for user to print. Padlocks furnished by Owner.
		3. Panel Connectors: 1/4- 20 by 1.77 inch (45 mm) panel connectors, with steel thread inserts, powder coated to match panels.
		4. Cabinet Levelers: Leveling glides with 3/8 inch (9.5 mm) diameter threaded steel rod in steel corner brackets, minimum two each per cabinet side, accessible from within unit, and concealed in completed installation.
		5. Carcass joinery includes lag screws powder coated to match substrate.
		6. Back panel 7/32 inch (5.6 mm) reinforced with 3/4 inch (19 mm) stretcher panels held in a dado groove and lag screwed in place.

\*\* NOTE TO SPECIFIER \*\* Retain option for load capacity for expansion anchors below where required for structural fastening to meet project seismic design requirements and where required by substrate. Delete if not required.

* + 1. Fasteners: Manufacturer-recommended fasteners as required for casework substrate and project performance requirements, consisting of one or more of the following:
			1. Sheet Metal Screws: SAE J78, corrosion-resistant-coated, self-drilling, self-tapping steel drill screws.
			2. Wood Screws: ASME B18.6.1.
			3. Expansion Anchors in Concrete and Concrete Masonry Units: Carbon-steel, zinc plated.
			4. Hardware supplied to anchor the cabinets to the wall and to adjacent casework
		2. Finish: Steel Sheet, Steel Wire, and Exposed Fasteners. Urethane-based electrostatic powder coating, color as indicated. Refer to Drawings.

\*\* NOTE TO SPECIFIER \*\* Retain article below and edit as required for projects that include sheet music storage casework. Wenger Music Library System is a high-density storage solution providing easy organization and access to sheet music collections while reducing required storage area square footage. Delete if not required.

* 1. MUSIC LIBRARY SYSTEM

\*\* NOTE TO SPECIFIER \*\* Wenger's high-density music storage units described below provide a minimum of 19 cu. ft. of storage capacity per 5.3 sq. ft. of floor area for a seven-shelf unit. This enables savings in space planning for music area storage. Coordinate flooring selection at wheeled sheet music storage casework location consistent with casework and flooring manufacturer's recommendations. Due to wheel loads when fully loaded, these units perform best on hard surfaced flooring and on some high-density carpets without cushion.

* + 1. Basis of Design: Music Library System as manufactured by Wenger Corporation.

\*\* NOTE TO SPECIFIER \*\* Delete types not required.

* + - 1. Standard Width 7-Shelf Unit: 173G700 S, 16 inches (41 cm) wide; 12 inches x 34-1/2 inches x 10-1/2 inches (30 x 88 x 27 cm) of shelf space available; 4 shelves adjustable, 3 shelves fixed.
			2. Oversized Width 7-Shelf Unit: 173G700 O, 19 inches (48 cm) wide; 15 inches x 34-1/2 inches x 10-1/2 inches (38 x 88 x 27 cm) of shelf space available; 4 shelves adjustable, 3 shelves fixed.
			3. Standard Width 6-Shelf Unit: 173G600 S, 16 inches (41 cm) wide; 12 inches x 34-1/2 inches x 10-1/2 inches (30 x 88 x 27 cm) of shelf space available; 4 shelves adjustable, 2 shelves fixed.
			4. Oversized Width 6-Shelf Unit: 173G600 O; 19 inches (48 cm) wide; 15 inches x 34-1/2 inches x 10-1/2 inches (38 x 88 x 27 cm) of shelf space available; 4 shelves adjustable, 2 shelves fixed.
		1. Design and Construction:
			1. Pull-out design, equally spaced shelves provide 10-1/2 inches (27 cm) of available height per shelf.
			2. Units are constructed of 3/4 inch (19 mm) thick industrial grade composite wood with no added formaldehyde and polyester laminate finish in Wenger standard colors.
			3. Shelves are reinforced with an aluminum extrusion that includes a slot with vinyl material for labeling with dry-erase markers.
			4. Frame is 16-gauge, 1 inch (2.54 cm) square tubular steel, painted black.
			5. Back panel is designed to fit on either side of unit for left or right hand use.
			6. Includes four 8 inch (20 cm) diameter casters.
			7. Each unit contains bumpers for control of side and outward movement.
			8. Unit requires anchoring to floor and wall.
			9. Each shelf rated at 100 lbs. (45 kg) maximum capacity.
			10. Ten-year warranty.

\*\* NOTE TO SPECIFIER \*\* The next three items are optional, delete if not required.

* + - 1. Top closure, constructed particleboard that matches the end covers, supports up to 50 lb/lin.ft. (74 kg/m) loading.
			2. Oblique file system accessory on standard 12 inch (30 cm) shelf widths.
			3. Lock option (padlocks not included).
		1. Substrate and Loading: Verify substrate is concrete or epoxy coated concrete; not recommended for installation on padded carpet or vinyl flooring.

\*\* NOTE TO SPECIFIER \*\* Delete loading not applicable.

* + - 1. Floor point load for a 7-shelf unit at rated load is 800 psi (5516 kpa) per caster.
			2. Floor point load for a 6-shelf unit at rated load is 700 psi (4826 kpa) per caster.
		1. Sustainability: GREENGUARD Indoor Air Quality Certified and GREENGUARD Children & Schools Certified.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* 1. FIXED THEATER MAKE UP STATIONS
		1. Fixed Theater Make Up Stations: Fixed, wall-mounted unit with countertop, shelf, mirror, electrical convenience outlet, and make up lights (light bulbs not supplied).
			1. Product: Wenger Corp., Studio Make Up Station.

\*\* NOTE TO SPECIFIER \*\* Select unit dimension below or delete if indicated on drawings. Dimensions shown are outside to outside of light protection cages. See Wenger product literature.

* + 1. Size: Nominal 36 inch (910 mm) wide model: 40-3/8-inch wide by 20-inch deep by 44-inch high (1030 mm by 510 mm by 1120 mm).
		2. Size: Nominal 30 inch (76 cm) wide model: 34-3/8-inch wide by 20-inch deep 44-inch high (870 mm by 510 mm by 1120 mm).
		3. Size: As indicated on Drawings.
		4. Countertop: Thermoset panel, 1 inch (25 mm) thick, concave shape.
		5. Overhead Shelf: Thermoset panel.
			1. Size: 12-inches (305-mm) deep by width of casework.
		6. Mirror: 28 inch (711 mm) by 8 inches (203 mm) less than nominal unit width.
			1. ASTM C 1503, clear glass, mirror glazing quality, with steel laminated backing.

\*\* NOTE TO SPECIFIER \*\* Tackboard is provided for the 36-inch wide model only; and may be mounted top, side or bottom. Delete if not required.

* + 1. Tackboard:
			1. Size: 6-inch wide by 28-inch long (152-mm wide by 711-mm long).

\*\* NOTE TO SPECIFIER \*\* Delete mounting not required.

* + - 1. Mounting: Top.
			2. Mounting: Side.
			3. Mounting: Bottom.
		1. Electrical Wiring: 3-wire, 24-inch (610-mm) electrical pigtail below the countertop prepared for hard wiring to building electrical service.

\*\* NOTE TO SPECIFIER \*\* Delete power not required.

* + - 1. Power: 115 VAC single phase.
			2. Power: 250 VAC single phase (European).
			3. Light switch: Rocker switch controlling make up lights.
			4. GFCI convenience receptacle, 20A. (Domestic Only)
		1. Make Up Lights:

\*\* NOTE TO SPECIFIER \*\* Delete lamp bases not required.

* + - 1. Lamp Bases: Medium (one-inch) Edison-base accepting maximum 60W incandescent or 15W swirl fluorescent lamps. Lamps to be provided by others.
			2. Lamp Bases: Medium Edison-base accepting maximum 60W incandescent or 15W swirl fluorescent lamps. Lamps to be provided by others.
			3. Lamp Bases: 27mm EU lamp bases.

\*\* NOTE TO SPECIFIER \*\* Select first paragraph below for 36-inch wide unit; select second paragraph for 30-inch wide unit. Adjacent units share the middle bank of make-up lights.

* + - 1. Lamp Base Quantity: 9 for free-standing units; 6 for paired units.
			2. Lamp Base Quantity: 8 for free-standing units; 5 for paired units.
			3. Protective Cages: Wire cages, 3/16 inch (5 mm) diameter steel wire, configured to allow changing of lamps without removing cage.
		1. Fiberboard: ANSI A208.2, Grade LD or MD.
		2. Thermoset Panels: Fiberboard finished with thermally-fused PVC with melamine backer, with the following characteristics:
			1. Surface Abrasion Resistance: Taber Wheel, 400 cycles.
		3. Accessories:

\*\* NOTE TO SPECIFIER \*\* Retain applicable optional features listed in paragraphs below. Select either storage cage or pull-out tray.

* + - 1. Storage Cage: Under-counter storage cage.
			2. Pull Out Drawer: Under-counter lockable sliding drawer.
			3. Tack Pad: White tackable surface in a matte white frame mounted on mirror.
		1. Hardware:
			1. Mounting Bracket: Individual mounting bracket with multiple holes and adjustable vertical slots for leveling between units in multiple unit installation.
		2. Finishes:
			1. Steel Sheet, Steel Wire, and Exposed Fasteners: Urethane-based electrostatic powder coating.
				1. Mirror surround and corner accent panel color: White.

\*\* NOTE TO SPECIFIER \*\* Portable theater makeup case equipment. Delete if not required.

* 1. PORTABLE THEATER MAKE UP STATIONS
		1. Portable Theater Make-Up Stations: Equipped with convenience handle, head and shoulders mirror, make up lights, electrical receptacle, and electrical power cord (light bulbs not supplied).
			1. Product: Wenger Corp., Backstage Portable Make-Up Station.
			2. Size: 33 inches wide by 9-3/8 inches deep by 33-1/4 inches high (840 mm wide by 240 mm deep by 850 mm high).
			3. Framing: Steel frame with aluminum trim.
			4. Weight: 38 lb (17.2 kg).
			5. Base: Four rubber feet.
			6. Lamp Bases: Six bases accepting 60-watt incandescent or 15-watt fluorescent lamps, with switch. Lamps to be provided by others.
			7. Wiring: 10-foot (3048-mm), 12 ga. wire with plug end.
			8. Convenience Outlet: GFCI receptacle.
			9. Finish:
				1. Case: Matte white finish.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* 1. METAL SHELVING SYSTEMS

\*\* NOTE TO SPECIFIER \*\* Wenger's GearBoss wall and floor mounted metal storage shelving system is part of the GearBoss family of durable athletic specialties and equipment. GearBoss provides rugged industrial grade athletic apparel and equipment storage, featuring adjustable cantilevered shelving and apparel hangers, work surfaces, and security lockers. Uprights and shelf brackets are capable of 1000 lb (454 kg) loading per 4-foot-wide section. The clear space below the upper shelving can be coordinated with Wenger's GearBoss SportCart for efficient use of floor space. GearBoss is an equipment storage solution designed to transform the athletic equipment room into an efficient, program support space that reduces the square footage required for athletic storage areas. The modular system features accessories specific for the needs of bulky athletic equipment such as helmets and shoulder pads. GearBoss units are designed to encourage airflow along with improving sanitation and odor issues. Delete if not required.

* + 1. GearBoss Metal Shelving Systems, Shelf Starter Bay, Shelf Add-On Bay, and Shelves by Wenger Corporation: Cantilever-type modular metal storage shelving system comprised of the following components:
			1. Structural Performance:
				1. Allowable Load Rating: 1000 lb. (373 kg) per 4 by 8-foot (1219 by 2438-mm) bay.
				2. Load-Carrying Capacity per 48 inch (1219 mm) Shelf: 250 lb. (113 kg).
			2. Shelf Unit Uprights: Steel tube, metallic-coated, 2-inch (50.8 mm) square, 0.109-inch (2.76 mm) thick, with perforations on all four sides at 1 inch (25 mm) on center.
			3. Horizontal Stringer: Formed sheet steel, metallic-coated, 0.075-inch (1.9-mm) thick.
			4. Shelf Cross Tubes: 14 gauge steel tube, metallic-coated, 5/8-inch (22-mm) square.
			5. Shelf Brackets: Formed steel, 0.015-inch (0.38-mm) thick.
			6. Laminate-Clad Wood Panels: Core material and thickness indicated, finished with thermally-fused anti-microbial polyester surfacing on both sides.
			7. Unit Width: 48 inch (1219 mm) center-to-center unless otherwise indicated.

\*\* NOTE TO SPECIFIER \*\* Select height. Delete options not required.

* + - 1. Unit Height: 96 inches (2438 mm).
			2. Unit Height: As indicated on the Drawings.
			3. Shelves can be adjusted in 1 inch (25 mm) increment without tools.

\*\* NOTE TO SPECIFIER \*\* Typically retain all materials.

* + 1. Metal Shelving Materials:
			1. Aluminum Extruded Bars, Profiles, and Tubes: ASTM B221.
			2. Sheet Steel: Cold-rolled, ASTM A1008, commercial steel, type B.
			3. Steel Tube: ASTM A501, hot-formed steel tubing.
			4. Steel Wire: ASTM C510, cold drawn steel wire
			5. Particleboard: To ANSI A208.1, minimum 43 lb/cu. ft. (689 kg/cu. m) density.
			6. Plywood: APA standards PS1-98 section 5.7.4 or 5.7.1 or ANSI /HPVA HP-1-2004 Panel provide with HDF skins to prevent grain telegraphing.
			7. Steel Tube: ASTM A500, cold-formed steel tubing.
			8. Laminate Finish: Composite, of thickness indicated, finished with thermally-fused anti-microbial polyester surfacing on both sides, meeting performance properties of NEMA LD3 for VGS grade, with heat bonded, radiused, 3 mm thick extruded PVC edge banding.
				1. Surface Abrasion Resistance: Taber Wheel, 400 cycles, for solid colors.
			9. PVC Edge Banding: LMA EDG-1, radiused PVC extrusions, 3 mm thick, heat-bonded.
			10. Anchors and Fasteners:
				1. Factory Provided: Material, type, and size recommended by manufacturer for secure anchorage to substrate.
				2. Field Installed: Manufacturer-recommended fasteners furnished by Contractor as required for locker substrate and project requirements.
		2. Metal Shelving Fabrication:
			1. Fabricate components square, and rigid. Make exposed metal safe to touch and free of sharp ends or burrs.
			2. Form frames, panels, doors, and accessories from one-piece, or one rigid assembly, unless specifically shown on Shop Drawings.
			3. Factory preassemble metal components by welding all joints, and connections; with no bolts, nuts, screws, or rivets used in assembly, except as required for knock down shipping and attachment to mounting surfaces.
		3. Metal Shelving Accessories:

\*\* NOTE TO SPECIFIER \*\* Retain one or both options.

* + - 1. Shelf Depth: 17.5 inches (444 mm) with 2 cross tubes.
			2. Shelf Depth: 30.5 inches (775 mm) with 4 cross tubes.

\*\* NOTE TO SPECIFIER \*\* Select accessories to be provided. Delete accessories not required.

* + - 1. Lock Box: Steel sides and bottom, polished aluminum front, key-tab lock, hinged door panel lockable with a key.
			2. Work Surface: Particleboard laminate-clad panel with graphite high wear laminate with black edge band, 1-1/8-inch (28.6-mm) thick, inserted into 30-1/2 inch (775 mm) cantilever shelf bracket over cross tubes. Quantity of work surfaces as indicated on Drawings.
			3. Cantilevered Shelf: Steel tube and bracket, with aluminum extrusion nosing, mill finish unless otherwise indicated.
			4. Hinged Panel Doors: Laminate clad panel door 5/8-inch (15.9 mm) thick.
			5. Garment Hanger: Steel round tube mounts underneath shelf; powder-coat finish, black. Quantity of garment bars as indicated on Drawings.
			6. Drawer: Pull-out utility drawer mounted under work surface.
		1. Metal Shelving Finishes: Manufacturer's standard finish, color as selected by Architect from manufacturer's standard colors.
1. EXECUTION
	1. EXAMINATION
		1. Examine casework installation areas for compliance with requirements for installation tolerances, location of blocking and other anchoring reinforcements, and other existing conditions affecting installation and performance of casework. Proceed with casework installation upon correction of unsatisfactory conditions.
	2. CASEWORK INSTALLATION
		1. Install plumb, level, and true; using integral levelers. Install in accordance with manufacturer's recommendations and approved submittals.

\*\* NOTE TO SPECIFIER \*\* Retain paragraph below for projects requiring seismic bracing. Delete if not required.

* + - 1. Install seismic bracing and fastening in accordance with approved shop drawings.
		1. Install hardware uniformly and precisely. Set hinges snug and flat. Adjust and align hardware so moving parts operate freely and contact points meet accurately. Allow for final adjustment after installation.
		2. Adjust casework and hardware so doors and drawers operate smoothly without warp or bind and close with uniform reveals.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + 1. Metal Shelving Requirements:
			1. Anchor uprights to walls using anchors of type, size, and spacing recommended by manufacturer.
			2. Install shelves in each unit.
			3. Erect cantilever adjustable uprights to substrate with a maximum tolerance from vertical of 1/4 inch (6 mm).
			4. Adjust metal shelving so connectors and other components engage accurately and securely. Verify modular components fit easily into alternate locations without force or use of tools.
	1. CLEANING AND PROTECTING
		1. Repair or replace defective work as directed by Architect upon inspection.
		2. Clean casework surfaces. Touch up, refinish, or replace damaged components in a manner acceptable to Architect.
		3. Turn over operation and maintenance instructions to Owner.

END OF SECTION