SECTION 12 50 00

MUSICAL INSTRUMENT / UNIFORM STORAGE CASEWORK / MUSIC LIBRARY SYSTEMS

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\*\* NOTE TO SPECIFIER \*\* MARCO; Band / Uniform Storage and Music Library Systems.
This section is based on the products of MARCO, which is located at:5400 Doniphan Dr.Neosho, MO 64850Toll Free Tel: 888-627-2601Tel: 417-455-9663Email: [request info (service@marcogroupinc.com)](https://arcat.com/rfi?action=email&company=MARCO&message=RE%253A%2520Spec%2520Question%2520(12500mar)%253A%2520&coid=51151&spec=12500mar&rep=&fax=)
Web: <https://www.madebymarco.net/>

 [ [Click Here](https://arcat.com/company/marco-51151) ] for additional information.

Neosho, Missouri based Marco Group Inc. was founded by Rick and Richard Davidson in 1997 and began operations as a wood supplier to Sunbeam Corporation. Over the years, Marco Group Inc. has expanded into a variety of categories and markets and continues to grow.
While a small percentage of our products are manufactured overseas, Marco prides itself in its efforts to maintain a U.S. based manufacturing facility that continues to support the U.S. economy. Marco Group and its management team are committed to manufacturing and sourcing products to meet customer expectations for delivery, quality, and value.
Marco Group Inc. has manufacturing and warehouse operations in Missouri and California, along with a sourcing operation in Asia. Today, Marco serves a variety of customers in the institutional and retail markets, and serves as an OEM supplier for some of the largest furniture manufacturers in the U.S. Marco's product line consists of a variety of seating, office and storage related items.
At Marco Group Inc., we put quality, service and value above all else. Our experienced management team is committed to manufacturing products to meet our customer expectations. We're constantly evaluating products, refining processes and striving to improve the overall experience you have with us so we can better support your needs.
'Partner with Marco Group' an easy company to do business with that consistently delivers value.'

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. Musical instrument and Uniform storage casework.
		2. Music library system.

\*\* 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 01 35 00 - Special Procedures.
		2. Section 01 60 00 - Product Requirements.
		3. Section 12 32 16 - Manufactured Plastic-Laminate-Clad Casework.

\*\* 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. ASTM International (ASTM):
			1. ASTM C 423 - Standard Test Method for Sound Absorption and Sound Absorption Coefficients by the Reverberation Room Method.
			2. ASTM E 795 - Standard Practices for Mounting Test Specimens During Sound Absorption Tests.
		3. 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. National Electrical Manufacturers Association (NEMA):
			1. NEMA LD 3 - High Pressure Decorative Laminates.
		3. US Green Building Council (USGBC):
			1. Leadership in Energy and Environmental Design (LEED) Green Building Rating System.
		4. California Air Resources Board (CARB).
		5. California 93120 - Formaldehyde Emissions Phase I.
	1. SUBMITTALS
		1. Product Data: Manufacturer's data sheets, installation instructions, and maintenance recommendations.

\*\* NOTE TO SPECIFIER \*\* Retain applicable paragraphs below for projects intended to be LEED-certified. Add additional requirements that apply. Verify credits required and availability of materials from manufacturer(s). Refer to USGBC LEED Reference Guide for detailed information.

* + 1. LEED Submittals:
			1. Credit EQ 4.4: Manufacturer's certificate indicating that composite wood products and adhesives used in casework with no urea formaldehyde added.
		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. 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 of experience in manufacture of similar products in use in similar environments.
		2. Obtain music education casework through one source from a single approved manufacturer.
	2. 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.
	3. COORDINATION
		1. Coordinate installation of blocking and supports in frame wall assemblies under work of other sections where required for anchoring casework.
	4. WARRANTY

\*\* NOTE TO SPECIFIER \*\* warranty provided by the manufacturer to the building owner. The warranty terms below are available from Marco Group Inc. Verify that other manufacturers listed or seeking approval furnish warranty meeting requirements. Strength and durability are key aspects of Marco Group product value for Owners. The available warranty reflects Marco Group's absolute confidence in the performance of their products.

* + 1. 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: MARCO, which is located at:5400 Doniphan Dr.Neosho, MO 64850Toll Free Tel: 888-627-2601Tel: 417-455-9663Email: [request info (service@marcogroupinc.com)](https://arcat.com/rfi?action=email&company=MARCO&message=RE%253A%2520Spec%2520Question%2520(12500mar)%253A%2520&coid=51151&spec=12500mar&rep=&fax=);Web: <https://www.madebymarco.net/>

\*\* 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 0160 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, Marco Group Inc. 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. Marco Group 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 Marco Group cabinets, and are engineered to prevent damage to their supporting sides. Impact and abrasion resistance of the thermally-fused laminate surfacing and PVC edge banding: The surfacing and edge banding materials have been selected to withstand the normal wear and tear expected in Institutional use.

* 1. MATERIALS

\*\* NOTE TO SPECIFIER \*\* Retain and edit requirements in paragraph and subparagraphs below for projects seeking LEED certification. Confirm that manufacturer(s) are able to meet requirements. Below may increase costs. Delete if not required.

* + 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.
		2. Particleboard: ANSI A208.1, minimum 43 lb. / cu. ft. (689 kg/cu. m) density, composite products and adhesives, with no urea formaldehyde added.

\*\* NOTE TO SPECIFIER \*\* Retain either above or below paragraphs. Retain below for projects seeking LEED certification; confirm that manufacturer(s) are able to meet requirements. Below may increase costs. The strength and long-term performance of Marco Group casework is based on the quality of Marco Group's patented 2 pc shelf design and the performance of the thermally fused surfacing material used on the panels. NEMA LD 3 standard includes a battery of durability-related tests.
\*\* NOTE TO SPECIFIER \*\* Retain paragraph below for projects that include Marco Group Sheet Music Storage Casework.

* + 1. Particleboard Thermoset Panels: Particleboard panel no formaldehyde added 3/4 inch (19 mm) thick finished with thermally-fused laminate surfacing 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 \*\* Marco Group Inc. utilizes a 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. Marco Group Inc. will replace failed shelves without charge for the life of the installation.

* + 1. Polyethylene Shelf-liners: Patented High-Modulus, two-piece, polyethylene liners, with radius front edge caps, for abuse-resistant shelves. Same color throughout will not show scratches.
		2. PVC Edge Banding: Radius PVC extrusions, 1/8 inch (3 mm) thick.

\*\* NOTE TO SPECIFIER \*\* Retain material below if specifying Marco Group's Acoustic Panels for 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 paragraphs below corresponding to project scope. Retain description of optional acoustically enhanced instrument storage casework where Marco Group Acoustic Cabinet products are included in project.

* + 1. Basis of Design: BandStor Storage Cabinets as manufactured by Marco Group Inc. 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 Marco Group's Acoustic Cabinets 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. Grille doors with 11/32 inch (9 mm) diameter outer wire and 3/16 inch (5 mm) diameter interior wires designed to reduce vibration.
		1. 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).
		2. 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 black steel wire, 11/32 and 3/16 inch (9mm and 5 mm) diameter wires for BandStor Cabinets, 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 \*\* Marco Group standard colors listed on catalogs and website.

* + - 1. Color

\*\* 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.

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

\*\* NOTE TO SPECIFIER \*\* Marco Group storage cabinet performance is based upon high strength shelf materials and strong through-bolted shelf supports capable of surviving the day-to-day abuse of instrument case handling. Marco Group radiused, abuse-resistant patented 2 pc shelf is designed to survive continued impact. Delete shelving not required.

* + 1. Shelving: 3/4 inch (19 mm) thick particleboard thermoset panels.
			1. Up to 27 inches (686 mm) wide: Removable molded polyethylene shelf-liner, with high-impact-resistant radius front edge caps, mounted to cabinet shelf with through-bolts, shelf supported by steel tubes through-bolted to side panels.
			2. Over 27 inches (686 mm) wide: For large instrument casework: Removable molded polyethylene shelf-liner, with high-impact-resistant radius front edge caps, mounted to cabinet shelf with through-bolts, shelf supported by steel tubes through-bolted to side panels.
			3. All shelves have dado construction to side and back panels, and are supported by tubular steel.
		2. 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 same color as cabinets. Provide the following, cut to fit field conditions, where indicated:

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

* + - 1. Wall filler between cabinet side and wall.
			2. Top filler between cabinet top and wall.
			3. Finished end panel to cover exposed hardware optional.

\*\* NOTE TO SPECIFIER \*\* Hinge and latch performance on Marco Group casework is achieved with the through-bolting of Marco Group'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 0.098 inch (2.5 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.
		4. Cabinet Levelers: Leveling glides with 3/8 inch (10 mm) diameter threaded steel rod in steel corner brackets, minimum two each per cabinet side, levers are adjustable from inside the cabinet after placement.
		5. Back panel 5/8 inch (16 mm) held in place by proprietary mar-block construction on all sides with dados to accept shelves.
		6. Fasteners: Manufacturer-recommended fasteners as required for casework substrate and project performance requirements, consisting of one or more of the following:
			1. Wood Screws: ASME B18.6.1.
			2. Hardware supplied to anchor the cabinets to adjacent casework.

\*\* NOTE TO SPECIFIER \*\* Retain article below and edit as required for projects that include sheet music storage casework. Marco Group 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 \*\* Marco Group'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 sheet 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 Marco Group Inc.
			1. Standard Width 7-Shelf Unit: BS420, 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. 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 thermally-fused laminate finish in Marco standard colors.
			3. Frame is 16-gauge, 1 inch (2.54 cm) square tubular steel, painted black.
			4. Back panel is designed to fit on either side of unit for left or right hand use.
			5. Includes four 8 inch (20 cm) diameter casters.
			6. Each unit contains bumpers for control of side and outward movement.
			7. Unit requires anchoring to floor and wall.
			8. Shelves are 1 inch (25 mm) thick, rated at 120 lbs. (54 kg) maximum capacity.
			9. 20 ft. of shelf space available for sheet music per unit.

\*\* NOTE TO SPECIFIER \*\* the next item is optional, delete if not required.

* + - 1. Top closure panel, constructed particleboard supplied in same color as units, supports up to 50 lb. /lin. ft. (74 kg/m) loading.
			2. Ten-year warranty.
		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.
		1. Sustainability: GREENGUARD GOLD Indoor Air Quality Certified and GREENGUARD Children & Schools Certified.

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

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.
		2. 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.
		3. 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. 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