

SECTION 11480 – GYMNASIUM EQUIPMENT

PART 1- GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the contract, including General and Supplementary conditions and division I specification sections, apply to this section.

1.2 SUMMARY

- A. This section includes the following gymnasium equipment:

- 1. Single Lift Up Batting/Golf Cage

1.3 DEFINITIONS

- A. FIBA: International Basketball Federation (Federation Internationale de Basketball Amateur)
- B. FIVB: International Volleyball Federation (Federation Internationale de Volleyball)
- C. NAGWS: National Association for Girls and Women in Sport
- D. NCAA: National Collegiate Athletic Association
- E. NFHS: National Federation of State High School Associations
- F. USAV: United States of America Volleyball (formerly, USVBA: U.S. Volleyball Association)

1.4 SUBMITTALS

- A. Product data: For each type of product indicated. Include construction details, material descriptions, dimensions of individual components and profiles, features, and finishes. Include details of anchors, hardware, and fastenings. If applicable, include assembly, disassembly, and storage instructions.
 - 1. Gymnasium Equipment Operators: Include operating instructions
- B. Shop Drawings: Show location and extent of fully assembled gymnasium equipment. Show location and extent of disassembled equipment and components and transport and storage accessories. Include elevations, sections, and details not shown in product data. Show method of field assembly, connections, installation details, mountings, floor inserts, attachments to other work, operational clearances, and relationship to adjoining work.
 - 1. Blocking and reinforcement: Show locations of blocking and reinforcement required for support of gymnasium equipment.
- C. Coordination Drawings: Court layout plans and elevations drawn to scale and coordinating floor-insert penetrations and game lines and markers applied to finish floor.
- D. Samples for initial selection: For each type of gymnasium equipment indicated where feasible.
- E. Samples for verification: For the following products
 - 1. Pad fabric: complete line of manufacturers colors with material specifications included.
 - 2. Curtain fabric: complete line of manufacturers colors with material specifications included.
- F. Product certificates: For each type of gymnasium equipment, signed by product manufacturer.

- G. Manufacturers certificates: Signed by manufacturers certifying that they comply with requirements. Include evidence of manufacturing experience.
- H. Qualification data: For professional engineer
- I. Maintenance Data: For gymnasium equipment and gymnasium equipment operator to include in maintenance manuals.

1.5 QUALITY ASSURANCE

- A. Installer Qualifications: A qualified installer
- B. Source limitations: Obtain each type of gymnasium equipment through one source from a single manufacturer.
- C. Standards: Provide gymnasium equipment complying with or exceeding the requirements of the Illinois State High School Association

1.6 PROJECT CONDITIONS

- A. Environmental limitations: Don not install gymnasium equipment until spaces are enclosed and weatherproof, wet work in spaces is complete and dry, and ambient temperature and humidity conditions are maintained at the levels indicated for project when occupied for it's intended use.
- B. Field measurements: Verify position and elevation of floor inserts and layout for gymnasium equipment. Verify dimensions by field measurements.

1.7 COORDINATION

- A. Coordinate installation of floor inserts with structural floors and finish flooring installation and with court layout and markers on finished floor.
- B. Coordinate layout and installation of overhead-supported gymnasium equipment and suspension system components with other construction that penetrates ceilings or is supported by them, including light fixtures, HVAC equipment, fire-suppression-system components, and partition assemblies.

PART 2- PRODUCTS

2.1 MANUFACTURERS

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - 1. Divider Curtain
 - a. Aalco Mfg. Co.
 - b.

2.2 MATERIALS, GENERAL

A. Aluminum: Alloy and temper recommended by aluminum producer and finisher for type of use and finish indicated; mill finish or decorative, baked-enamel, powder- coat finish.

- 1. Extruded Bars, Profiles, and Tubes: ASTM B 221
- 2. Cast Aluminum: ASTM B 179

- B. Steel: Comply with the following

1. Steel plates, shapes, and bars: ASTM A 36/A 36M, hot dipped galvanized
 2. Steel pipe: Standard-weight steel pipe complying with ASTM A 53.
 3. Cold formed Steel tubing: ASTM A 500, Grade A, unless another grade is required by structural loads.
 4. Steel mechanical tubing: Cold-rolled, electric-resistance-welded carbon or alloy steel tubing complying with ASTM A 513 or steel tubing fabricated from steel complying with ASTM A 569/A 569 M and complying with the dimensional tolerances in ASTM A 500.
 5. Malleable- iron castings: ASTM A 47, Grade required by structural loads.
 6. Support cable: ¼ inch- (6mm) diameter, 7x19 galvanized steel aircraft cable with a manufacturers written recommendation for size, number, and method of installation.
 7. Support chain: Proof coil chain, complying with ASTM A 413/A 413M, grade 30, size and diameter as required by structural loads; plated or painted. Provide fittings complying with chain manufacturers written recommendations for size, number, and method of installation.
- C. Particleboard: ANSI A208.1.
- D. Wood-based, Structural-use panels: Comply with DOC PS 2; for plywood, comply with DOC PS 1.
- E. Equipment mounting pads: Wood, transparent or neutral color painted finish, size, and quantity as required to mount gymnasium equipment according to manufacturer's written recommendations
- F. Anchors, fasteners, fittings, and hardware: Manufacturer's standard corrosion resistant or non-corrodible units. Provide as required for gymnasium equipment assembly, mounting, and secure attachment.
- G. Non-shrink, non-metallic grout: Premixed, factory- packaged, non-staining, non-corrosive, non-gaseous grout complying with ASTM C 1107 with minimum strength recommended in writing by gymnasium equipment manufacturer.

2.3 LIFT UP BATTING CAGE

- A. Specifications herewith are based upon products produced by Aalco Manufacturing Company, St. Louis, MO 63125.
1. Provide Aalco Mfg. Co. model #ABC (12'x12'x70') single batting/golf cage
 - a. The cage net shall be constructed of 7/8" square mesh, #210/48 knotted nylon netting treated for ultraviolet resistance. All wall & roof junctures and all free edges shall be reinforced with a machine-woven rope. Velcro fastening shall allow one cage side to be opened, allowing access to cage from 2 corners. Height of cage walls shall be such as to allow one foot of fabric to lie on floor to deter balls from being driven under netting.
 - b. Cage net shall be suspended 6" below a rectangular support frame, using black nylon rope at 2' intervals. The rectangular frame of 1.9" OD-16 gauge steel tube shall consist of parallel side tubes connected by spacer tubes every 12' using galvanized steel tee fittings.
 - c. Cage shall be supported, raised & lowered by 1/8"-7x19 aircraft cables secured to the frame. Cables shall turn at the ceiling level thru 2" diameter,

ball-bearing pulleys & thence onto individual cable reels spindled on a common drive shaft of 1.9" OD steel tube. The drive shaft shall be supported from the roof framing by roller brackets & driven at one end by a remotely controlled electric operator. The operator shall allow the frame to be lowered to floor level (to permit the stacking of the netting walls on top of the frame) before raising the whole to the ceiling for storage.

- d. For cage operation provide a electric operator with the following features: worm-gear speed reduction for unassisted support of load at all times; lubed-for-life bearings; automatic up & down travel limiting mechanism; reversing magnetic motor contactor to enable 4 wire remote motor control; and up-off-down, momentary contact, flush mounting, key-operated wall switch. All wiring & conduit as needed to connect hoist to power source and to wall switch shall be provided by the electrical contractor.

PART 3 -EXCECUTION

3.1 EXAMINATION

- A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for play court layout, alignment of mounting substrates, installation tolerances, operational clearances,[accurate locations of connections to building electrical system,] and other conditions affecting performance.
 1. Verify critical dimensions.
 2. Examine supporting structure and [subgrades,]subfloors and footings below finished floor.
 3. Examine wall assemblies, where reinforced to receive anchors and fasteners, to verify that locations of concealed reinforcements have been clearly marked. Locate reinforcements and mark locations.
 4. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION, GENERAL

- A. General: Comply with manufacturer's written installation instructions [and competition rules indicated for each type of gymnasium equipment]. Complete equipment field assembly, where required.
- B. Unless otherwise indicated, install gymnasium equipment after other finishing operations, including painting, have been completed.
- C. Permanently Placed Gymnasium Equipment and Components: Rigid, level, plumb, square, and true; anchored securely to supporting structure; positioned at locations and elevations indicated on Shop Drawings; in proper relation to adjacent construction; and aligned with court layout.
 1. Floor Insert Location: Coordinate location with application of game lines and markers [and core drill floor for inserts after game lines have been applied].

2. Floor Insert Elevation: Coordinate installed heights of floor insert with installation [and field finishing] of finish flooring and type of floor plate.
 3. Operating Gymnasium Equipment: Verify clearances for movable components of gymnasium equipment throughout entire range of operation and for access to operating components.
- D. Floor Insert Setting: Position sleeve in oversized, recessed voids in concrete [slabs] [and] [footings]. Clean voids of debris. Fill void around sleeves with grout, mixed and placed to comply with grout manufacturer's written instructions. Protect portion of sleeve above subfloor [and footing] from splatter. Verify that sleeves are set plumb, aligned, and at correct height and spacing; hold in position during placement and finishing operations until grout is sufficiently cured. Set insert so top surface of completed unit is flush with finished flooring surface.
 - E. [Wall] [Corner] [Column] Safety Pads: Mount with bottom edge at [4 inches (102 mm)] [dimension indicated on Drawings] <Insert dimension> above finished floor.
 - F. Anchoring to In-Place Construction: Use anchors and fasteners where necessary for securing built-in and permanently placed gymnasium equipment to structural support and for properly transferring load to in-place construction.
 - G. Connections: Connect automatic operators to building electrical system.
 - H. Removable Gymnasium Equipment and Components: Assemble in place to verify that equipment and components are complete and in proper working order. Instruct Owner's designated personnel in properly handling, assembling, adjusting, disassembling, transporting, storing, and maintaining units. Disassemble removable gymnasium equipment after assembled configuration has been approved by [Architect] [Owner], and store units in location indicated on Drawings.

3.3 ADJUSTING

- A. Adjust movable components of gymnasium equipment to operate safely, smoothly, easily, and quietly, free from binding, warp, distortion, nonalignment, misplacement, disruption, or malfunction, throughout entire operational range. Lubricate hardware and moving parts.

3.4 CLEANING

- A. After completing gymnasium equipment installation, inspect components. Remove spots, dirt, and debris and touch up damaged shop-applied finishes according to manufacturer's written instructions.
- B. Replace gymnasium equipment and finishes that cannot be cleaned and repaired, in a manner approved by Architect, before time of Substantial Completion.

3.5 DEMONSTRATION

- A. Engage a factory-authorized service representative to train Owner's maintenance personnel to adjust, operate, and maintain gymnasium equipment.