

## SPECIFICATIONS

### DIVISION 09 - FINISHES

#### 09 29 00 Gypsum Board (cont')

Acoustical Sealant for Exposed and Concealed Joints: Nonsag, paintable, nonstaining, latex sealant complying with ASTM C 834 that effectively reduces airborne sound transmission through perimeter joints and openings in building construction as demonstrated by testing representative assemblies according to ASTM E 90.

Joint Treatment Materials:

General: Provide joint treatment materials complying with ASTM C 475 and the recommendations of both the manufacturers of the wallboard products and joint treatment materials for each application indicated.

Joint Tape: Paper.

Joint Compound for Typical Applications: For each coat use formulation that is compatible with other compounds applied on previous or for successive coats.

Preffiling: At open joints and damaged surface areas, use setting-type taping compound. Embedding and First Coat: For embedding tape and first coat on joints, fasteners, and trim flanges, use setting-type taping compound.

Second coat: For filling over tape, beads and fasteners. Use setting-type, sandable topping compound. Third coat: For finishing over tape, beads and fasteners. Use drying-type, all-purpose compound.

Skim Coat: For final coat of Level 5 finish, use drying-type, all-purpose compound.

Joint Compound for Tile Backing Panels: Use setting-type taping and setting-type, sandable topping compounds.

Applying Interior Gypsum Board:

General: Install and finish gypsum panels to comply with ASTM C 840, GA-216, and the gypsum wallboard manufacturer's recommendations, where standards conflict, the more stringent shall apply.

Install ceiling panels across framing to minimize the number of abutting end joints and to avoid abutting end joints in central area of each ceiling. Stagger abutting end joints of adjacent panels not less than one framing member.

STC-Rated Assemblies: Comply with ASTM C 919 and with manufacturer's written recommendations for locating edge trim and closing of sound-flanking paths around or through assemblies, including sealing partitions above acoustical ceilings.

Install sound attenuation blankets before installing gypsum panels, unless blankets are readily installed after panels have been installed on one side.

Space fasteners in gypsum panels according to referenced gypsum board application and finishing standard and manufacturer's written recommendations.

Installing Trim Accessories:

Installing Trim Accessories: For trim with back flanges intended for fasteners, attach to framing with same fasteners used for panels. Otherwise, attach trim according to manufacturer's written instructions.

Install corner beads at external corners.

Install interior trim accessories where edge of gypsum panels would otherwise be exposed or semi exposed. Provide interior trim accessories with face flange formed to receive joint compound.

Install aluminum trim accessories where indicated.

Install control joints in locations indicated and where directed by the Architect for visual effect, or if not indicated or directed by the Architect, provide control joints in accordance with ASTM C 840 which is as follows:

Where a partition, wall or ceiling traverses a construction joint (expansion, seismic, or building control element) in the base building structure.

Where a wall or a partition runs in an uninterrupted straight plane exceeding 30 linear feet.

Control joints in interior ceilings with perimeter relief shall be installed so that linear dimensions between control joints do not exceed 50 feet and total area between control joints does not exceed 2500 square feet.

Control joints in interior ceilings without perimeter relief shall be installed so that linear dimensions between control joints do not exceed 30 linear feet and total area between control joints does not exceed 900 square feet.

A control joint or intermediate blocking shall be installed where ceiling framing members change direction.

Taping and Finishing: Complying with ASTM C840 and GA-214; all exposed board junctions and perimeter edges typically, all systems.

Finish Levels:

Provides Level 1 in ceiling plenum areas, concealed areas, and where indicated, unless a higher level of finish is required for fire-resistance-rated assemblies and sound-rated assemblies.

Provide Level 2 where panels are substrate for tile and where indicated.

Level 3: Not used.

Provide Level 4 at typical exposed gypsum board for paint or wall covering.

Provide Level 5 over entire surface of ceilings, soffits, and where wallboard is indicated to receive wall coverings, semi-gloss and high gloss paints, or decorative plaster.

#### 09 30 00 Tiling

This Section includes wall tile for backsplashes and decorative use.

Submittals: Provide Samples for each type and color of tile and grout scheduled.

Wall Tile Products, General:  
ANSI Ceramic Tile Standard: Provide Standard grade tile that complies with ANSI A137.1.  
"Specifications for Ceramic Tile," for types, compositions, and other characteristics indicated.

Miscellaneous Materials

Latex-Portland Cement Mortar (Thin Set): ANSI A118.4 consisting of the following:  
Prepackaged dry-mortar mix combined with liquid-latex additive.  
For wall applications, provide nonsagging mortar.  
For glass tile applications use mortar that will not show through glass tile bodies.

Polymer-Modified Tile Grout: ANSI A118.7.

Polymer Type: Dry, redispersible form, prepackaged with other dry ingredients.

Grouts for Wall Tile: Unsanded liquid latex types in colors as selected by Architect.

Sealants: "Silicone sanitary sealant", as specified in Section 079200, JOINT SEALANTS.

Wall Tile Installation:

ANSI Tile Installation Standards: Comply with parts of ANSI A108 Series "Specifications for Installation of Ceramic Tile" that apply to types of setting and grouting materials and to methods indicated in ceramic tile installation schedules.

TCA Installation Guidelines: TCA's "Handbook for Ceramic Tile Installation." Comply with TCA installation methods indicated in ceramic tile installation schedules.

Gypsum Wallboard, Interior (Latex Portland Cement Mortar) Method: TCA W243, place tiles maintaining 1/8" wide joints, and true accurate pattern as shown.

Grout Installation: Latex-Portland cement: ANSI A108.10.

Cleaning and Protecting

Cleaning: On completion of placement and grouting, clean all tile surfaces so they are free of foreign matter.

## SPECIFICATIONS

### DIVISION 09 - FINISHES

#### 09 22 16 Non-Structural Metal Framing

This Section includes non-load-bearing steel framing members for non fire-rated wallboard partitions, bulkheads, soffits, ceiling transitions, ledges and coves and suspension systems for wallboard ceilings

Submittals: Not required.

Performance Requirements: System Deflections:

Typical Walls: Wall assemblies shall be constructed for deflection not to exceed 1/240 of the wall height when subjected to a positive and negative pressure of 5 psf.  
Walls with Tile Finish: Wall assemblies to receive tile finishes shall be constructed for deflection not to exceed 1/360 of the wall height when subjected to a positive and negative pressure of 5 psf.

Ceilings, bulkheads, soffits, ceiling transitions, ledges, and coves shall be constructed for a deflection not to exceed 1/360 of the distance between supports.

Project Conditions: Comply with ASTM C840 requirements or wallboard material manufacturer's written recommendations, whichever are more stringent.

Metal Framing:

Framing Members, General: Comply with ASTM C 754 for conditions indicated.  
Steel Sheet Components: Comply with ASTM C 645 requirements for metal, unless otherwise indicated.  
Protective Coating: ASTM A 653/A 653M, G40 (Z120), hot-dip galvanized, unless otherwise indicated.

Grid Suspension System for Ceilings: ASTM C 645, direct-hung system composed of main beams and cross-furring members that interlock.  
Product Reference: Armstrong World Industries, Inc.; Drywall Grid Systems.

Steel Studs and Runners: ASTM C 645, in minimum depth indicated in partition type details.  
Minimum Base Metal Thickness:  
Typical: As required to comply with deflection criteria.  
Partitions Supporting Wall Mounted Casework: 1/6 ga. minimum.  
Depth: As indicated.

Single Long-Leg Runner Deflection Track System: ASTM C 645 top runner with 2-inch ( deep flanges in thickness not less than indicated for studs, installed with studs friction fit into top runner and with continuous bridging located within 12 inches of the top of studs to provide lateral bracing.

Isolation Strip at Exterior Walls: Adhesive-backed, closed-cell, compressible, non-extending, sound transmission reducing, vinyl foam tape strips with approximately 13 Shore 00 hardness that allow fastener penetration without foam displacement, 1 inch thick, in width 1/2" less than window mullion width.

Product Reference: V730 Norton Sealant Tape; gray color.

Installing Steel Framing, General:

General: Install steel framing to comply with GA-600, ASTM C754, ASTM C840 and the gypsum board manufacturer's recommendations, where standards conflict the more stringent shall apply.

Installing Steel Suspended Ceiling Framing:

Suspend ceiling hangers plumb and free from contact with insulation or other objects within ceiling plenum that are not part of supporting structural or ceiling suspension system. Splay hangers only where required to miss obstructions and offset resulting horizontal forces by bracing, countersplicing, or other equally effective means.

Installation Tolerances: Install steel framing components for suspended ceilings so members for panel attachment are level to within 1/8 inch in 12 feet measured lengthwise on each member and transversely between parallel members.

Installing Steel Partition And Soffit Framing:  
Install continuous runners (tracks) sized to match studs at floors, ceilings, and structural walls and columns where gypsum board stud assemblies abut other construction. Secure runners to substrates with fasteners spaced a maximum of 24" o.c. unless closer spacing is recommended by the framing manufacturer for the floor and ceiling construction involved. Provide fasteners at all corners and ends of runner tracks.

Where studs are installed directly against exterior walls, install foam gasket isolation strip between studs and wall. Installation Tolerance: Install each steel framing and furring member so fastening surfaces vary not more than 1/8 inch from the plane formed by the faces of adjacent framing.

Frame door openings to comply with GA-600 and with gypsum board manufacturer's applicable written recommendations, unless otherwise indicated. Screw vertical studs at jamba to jamb anchor clips on door frames; install runner track section (for cripple studs) at head and secure to jamb studs.

#### 09 29 00 Gypsum Board

This Section includes gypsum board, tile backing panels, trim accessories, sound attenuation blankets, acoustical sealants, and joint treatment materials.

Submittals: Not required.

Quality Assurance

Sound Transmission Characteristics: For gypsum board assemblies with STC ratings, provide materials and construction identical to those tested in assembly indicated according to ASTM E 90 and classified according to ASTM E 413 by a qualified independent testing agency.

Project Conditions:

Environmental Limitations: Comply with ASTM C 840 requirements or gypsum board manufacturer's written recommendations, whichever are more stringent.  
Do not install interior products until installation areas are enclosed and conditioned.  
Do not install panels that are wet, those that are moisture damaged, and those that are mold damaged.

Panel Products

Panel Size, General: Provide in maximum lengths and widths available that will minimize joints in each area and correspond with support system indicated.

Gypsum Wallboard for Vertical Walls: ASTM C 36.

Regular Type: In thickness indicated and with long edges tapered.

Type X: In thickness indicated and with long edges tapered.

Tile Backing Panels: Water-Resistant Gypsum Backing Board: ASTM C 630/C 630M or ASTM C1396/C1396M, 5/8 inch thick unless otherwise indicated.

Interior Trim: ASTM C 1047 and manufactured from galvanized or aluminum-coated steel sheet, rolled zinc, plastic, or paper-faced galvanized steel sheet.

Interior Steel Trim Accessories: ASTM C 1047; formed metal sheet steel zinc coated by hot dipped process. Shapes indicated below by reference to Fig. 1 designations in ASTM C1047.

Cornerbead: Use at outside corners.

LC-Bead with both face and back flanges to receive joint compound; use at exposed panel edges.

U-Bead with face and back flanges; face flange formed to be left without application of joint compound; Use where indicated.

Curved-Edge Cornerbead: With notched or flexible flanges; use at curved openings.  
Expansion (Control) Joint: One-piece control joint formed with V-shaped slot, with removable strip covering slot opening. Use where indicated.

Aluminum Trim Accessories: Extruded aluminum trim with 1/4 inch diameter holes in fins for attachment to wallboard or studs; longest lengths available in profiles indicated, primed for finish painting; sized for scheduled wallboard thickness indicated.

Sound Attenuation Blankets: ASTM C 665, Type I (blankets without membrane facing) produced by combining thermosetting resins with mineral fibers manufactured from glass, slag wool, or rock wool.

## SPECIFICATIONS

### DIVISION 08 - OPENINGS

#### 08 71 00 Door Hardware

This Section includes hardware for swinging, fly-passing, and sliding doors.

Submittals:

Door Hardware Schedule: Submit door hardware schedule prepared by or under the supervision of door hardware supplier.

Quality Assurance

Installer Qualifications: An experienced installer who has completed door hardware similar in material, design, and extent to that indicated for this Project and whose work has resulted in construction with a record of successful in-service performance.

Supplier Qualifications: Door hardware supplier.

Scheduling Responsibility: Preparation of door hardware and keying schedules.

Handicapped Accessibility: Comply with The Americans with Disabilities Act and local requirements.

Butt Hinges: Standard Weight, Ball Bearing, 5 Knuckle, Steel: Complying with BHMA A156 1 A8112.  
Butt Hinge and Offset Pivot Hinge Quantity: Provide the following, unless otherwise indicated:  
Two Hinges: For doors with heights up to and including 60 inches.  
Three Hinges: For doors with heights of greater than 60 inches to and including 90 inches.  
Four Hinges: For doors with heights greater than 90 inches to and including 120 inches.  
Provide 4 hinges, plus 1 hinge for every 30 inches of door height greater than 120 inches.  
Finish: Match lock and latchset finishes.

Locks and Latchsets: Heavy duty Grade 1 mortise locks with cast lever and rose trim typically throughout. Heavy Duty Grade 1 cylindrical locks with lever and rose only where scheduled. Removable cores and core cylinders throughout. Finishes for lock and latchsets shall be selected by architect. Provide strikes for locks and latchets.

Closers: Overhead surface applied, cast iron body, types meeting BHMA A156 4, Grade 1.  
Finishes: US32D at typical doors.

Accessory Hardware Items (Floor and Wall Stops, Holders, Flushbots, Dustproof Strikes, Push and Pull Plates, Kick and Armor Plates, Hold Open Devices, etc.): Match lock and latch set finishes.

Glass Door Entries:

Trim and Pulls: Heavy duty bar stock trim.

Closers: Overhead concealed closers for doors weighing less than 250 pounds inclusive of glass, rails, and operating trim. Heavy duty floor closers for doors equal to or greater than 250 pounds.  
Finish: US32D for exposed accessories and trim.

Installation

Mounting Heights: Mount door hardware units at the following heights, unless specifically indicated on the Drawings or required to comply with governing regulations.  
Locks and Latches: 38 inches (956 mm) to center of lever from finish floor.  
Door Pulls: As indicated on Drawings.

Butt Hinges: 10 inches (254 mm) to bottom of lowest hinge from finish floor; 5 inches (127 mm) to top of upper hinge from top of door; space intermediate hinges equally between lower and upper hinges.

Cleaning and Protection

Clean adjacent surfaces soiled by door hardware installation. Clean hardware components as necessary to restore proper finish. Provide protection during the progress of the work and maintain conditions that ensure door hardware is in perfect working order and without damage or deterioration at time of Substantial Completion.

#### 08 80 00 Glazing

This Section includes glazing for the following products and applications, including those specified in other Sections where glazing requirements are specified by reference to this Section: Interior borrowed lites.

Submittals: Not required.

Quality Assurance

Installer Qualifications: An experienced installer who has completed glazing similar in material, design, and extent to that indicated for Project and whose work has resulted in construction with a record of successful in-service performance.

Safety Glass: Comply with the applicable requirements of the laws, codes, ordinances and regulations of Federal and Municipal authorities having jurisdiction, wherever requirements conflict the more stringent shall be required. Obtain approvals from all such authorities. As a minimum provide Category II materials complying with testing requirements in 16 CFR 1201 (Consumer Product Safety Commission "Safety Standard for Architectural Glazing Materials," as published in the Code of Federal Regulations) and ANSI Z97.1.

Glazing Publications: Comply with published recommendations of glass product manufacturers and organizations below, unless more stringent requirements are indicated. Refer to these publications for glazing terms not otherwise defined in this Section or in referenced standards.  
GANA Publications: GANA'S "Glazing Manual".

Products

Primary Float Glass  
Float Glass: ASTM C 1036, Type I (transparent glass, flat), Quality g3 (glazing select).

Fully Tempered Glass: Provide glass complying with ASTM C1048 Kind FT and meeting the requirements of ANSI Z97.1. Surface compression shall be equal to or greater than 10,000 psi (69 MPa).

Fabrication Of Glass and Other Glazing Products

Fabricate glass and other glazing products in sizes required to glaze openings indicated for Project, with edge and face clearances, edge and surface conditions, and bite complying with written instructions of product manufacturer and referenced glazing standard, to comply with system performance requirements.

Glazing, General

Comply with combined written instructions of manufacturers of glass, sealants, gaskets, and other glazing materials, unless more stringent requirements are indicated, including those in referenced glazing publications.

Heat Soaking

All glass provided in the scope of work is to be heat soaked in accordance with ASTM C 1048 industry standard for heat treated glass and meeting the requirements of ANSI Z97.1. Surface compression shall be equal to or greater than 10,000 psi.

All glass units shall be installed in accordance with the glass manufacturers recommendations.

Protection and Cleaning

Remove and replace glass that is broken, chipped, cracked, abraded, or damaged in any way and from any source, including natural causes, accidents, and vandalism.

Wash glass on both exposed surfaces in each area of Project not more than four days before date scheduled for inspections that establish date of Substantial Completion. Wash glass as recommended by glass manufacturer.

## SPECIFICATIONS

Project Conditions

Field Measurements: Verify dimensions of supporting structure by field measurements before fabrication so that the all-glass entrance and storefront work will be accurately designed, fabricated and fitted to the structure. Indicate measurements on Shop Drawings. Coordinate fabrication schedule with construction progress to avoid delaying the Work. Use Contractor's lines and benchmarks as a basis for measurements.

Materials

Glass: ASTM C 1048, Kind FT (fully tempered), Condition A (uncoated surfaces), Type I (transparent), tested for surface and edge compression per ASTM C 1049 and for impact strength per 16 CFR 1201 for Category I materials. All glass shall be heat soaked in accordance with Viracon's heat soaking procedures to obtain the specified warranty.

Class 1: Clear.

Thickness: 1/2 inch (13 mm).

Exposed Edges: Flat edge (cut edge of glass is flat and surface edges are slightly arised) with polished finish.

Aluminum: AA Alloy 6063 and ASTM B 221 (ASTM B 221M), with tempering as required to suit performance requirements and finishes specified.  
Stainless-Steel Cladding: ASTM A 666, Type 304.

Stainless-Steel: ASTM A 666, Type 304 for plate and flat bar and ASTM A 276, Type 304 for bars and shapes.

Components

Glass Entrances and Sidelights: Provide and extruded aluminum retained, glass and metal frame and door system fabricated and finished to suit the conditions indicated and specified. System shall be complete with all aluminum framing members, fasteners, anchors, gaskets, washers, glass and glazing, and hardware components. All aluminum members shall be clad with specified metal cladding. Glass door and sidelight framing system shall be similar to the following:

Manufacturers and Systems: One of the following:  
Glassier Door Series 1301; Blumcraft of Pittsburgh.  
Total Vision Concept (TVC) Entrances; Oldcastle Glass, Rosemont, IL.  
Dorma-Glas Entrance Systems; Dorma-Glas, Inc., Upper Marlboro, MD.

Top and Bottom Rails: Fabricate one-piece extruded aluminum rails, retaining 1/2" clear tempered glass materials unless otherwise shown. Provide recessed aluminum headers for door head opening support. Adhesively laminate or mechanically clad rail base metal members, returning cladding around extrusions to eliminate exposed edges. Fabricate rails with continuous bosses, or serrated edges, to receive dry gaskets to secure the glass in the rails in lieu of wet glazing materials. Provide end caps to close off rail ends fabricated from stainless steel.

Sidelight Channels: Recessed aluminum head channels for concealed sidelight head and sill support. Channels shall be fabricated with continuous bosses, or serrated edges, to receive dry gaskets to secure the glass in the channel in lieu of wet glazing materials.

Anchors and Fasteners: Material: Steel.

Anchor and Fastener Metal Alloy Types, Designations and Standards: Alloys as recommended by fabricator for the application(s) indicated.

Spacers, Setting Blocks, Gaskets: Permanent, nonmigrating types of material and in hardness recommended by all-glass storefront and entrance manufacturer and complying with the performance requirements.  
Slip and Separator Gaskets:

Adhesives and Epoxies: As required for laminating cladding to base components.

Hardware, General: Heavy-duty hardware units in sizes, quantities, and types recommended by manufacturer for all-glass entrances indicated. For exposed parts, match cladding metal finish unless scheduled otherwise.

Concealed Overhead Closers, Basis-of-Design: Dorma RTS 88 Series, single-acting, center hung. Bottom Pivots: Rixon Model 370 bottom pivot.  
Push-Pull Set, Basis-of-Design: Rockwood RM 3301, 1-1/4-inch diameter by 36 inches long, US32.  
Overhead Angle Stops: Provide one overhead angle stop per door design.  
Floor Bumper: Provide one floor bumper per door leaf. Cast half dome design with rubber bumper.  
Overhead Magnetic Devices: Where scheduled, provide one surface mounted electromagnetic lock per door leaf.  
Card Readers, Door Releases, and Passive Infrared Detectors: By Owner's security vendor.

Fabrication

General: Fabricate the all-glass entrances and storefronts to the designs, shapes, and sizes shown using the materials, and components, specified and shown to produce assemblies which meet or exceed the performance requirements. To the greatest extent possible complete fabrication, assembly, finishing, hardware applications and other work before shipment to Project site.

Provide holes and cutouts in glass to receive hardware, fittings, rails, and accessories before tempering glass. Drill, countersink, and chamfer holes using tooling, materials and methods which are selected and applied to prevent spalling of the cut glass surfaces at holes and cutouts. The internal surface of holes and cutouts shall be smooth with minimal roughness from drilling operations. Do not cut, drill, or make other alterations to glass after tempering.  
Fully temper glass using horizontal (roller-heat) process and fabricate so, when installed, roll-wave distortion is parallel with bottom edge of door or lite.  
Heat Soaking: After tempering, expose 100% of all fabricated glass units to the heat soaking process, which is based on European Union heat soaking standards, to eliminate inclusion related glass breakage. Factory assemble components and factory install hardware to greatest extent possible.

Fabricate all entrances to accommodate the swing direction shown. Metal components of all-glass entrances and storefronts shall be cut, reinforced, drilled and tapped in strict accordance with the printed door hardware manufacturers templates and instructions. Provide solid carbon steel hardware reinforcements, securely fastened to doors and frames where door hardware is to be attached.

Joints in Metal Work: All exposed metal work shall be carefully fitted and matched to produce continuity of line and design, with all joints, being accurately fitted for hairline contact and rigidly secured. Where additional rigidity or strength is required to satisfy the performance requirements reinforce entrance components with aluminum or carbon steel shapes, bars, and plates.

Shop Assembly: As far as practicable, all fitting and assembly work shall be done in a fabrication shop.

Exposed Fasteners: Not permitted.

Stainless-Steel Finishes

General: Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes.  
Stainless-Steel Finish: No. 4, bright, directional polish.

Installation

General: Comply with manufacturer's written instructions for protecting, handling, and installing all-glass entrance and storefront systems. Do not install damaged components. Fit frame joints to produce hairline joints free of burrs and distortion. Rigidly secure nonmovement joints.

Entrance Doors and Sidelights: Doors and Sidelights shall be securely anchored in place to a straight, plumb and level condition, without distortion. Adjust doors to operate smoothly, without binding, with hardware functioning properly. Hardware movement, shall be field tested and final adjustment, and lubrication, made for proper operation and performance of doors.  
Install surface-mounted hardware according to manufacturer's written instructions using concealed fasteners to greatest extent possible.  
Maintain uniform clearances between adjacent components.

Erection Tolerances

The all-glass entrance and storefront systems shall be fabricated and erected to accommodate the dimensional tolerances of the structural frame, while providing the following as installed tolerances.

Variation from theoretical calculated position as located in plan or elevation in relation to established floors lines, column lines and other fixed elements of the structure, including variations from plumb, level, straight and member size: +/- 1/4 inch (6.4 mm) max. in any 20 foot (6 m) run, column-to-column bay, or floor-to-floor height.

Alignment: Where surfaces abut in line, limit offset from true alignment to 1/16 inch (1.5 mm). Where surfaces meet at corners, limit offset from true alignment to 1/16 inch (1.5 mm).

Variation from plumb: +/- 1/8 inch (3 mm) max. in 10 foot (3 m) run or story height, non-cumulative.

Variation from slope, or level, show: +/- 1/8 inch (3 mm) max. in any 20 foot (6 m) run or column-to-column bay, non-cumulative.