PRE-INSTALLATION SEMINAR: BEFORE HARDWARE INSTALLATION, GENERAL CONTRACTOR / CONSTRUCTION MANAGER SHALL COORDINATE A HARDWARE INSTALLATION SEMINAR WITH A ONE WEEK NOTICE TO ALL PARTIES INVOLVED. THE SEMINAR IS TO BE CONDUCTED ON THE INSTALLATION OF HARDWARE, SPECIFICALLY OF LOCKSETS, CLOSERS, EXIT DEVICES, CONTINUOUS HINGES AND OVERHEAD STOPS.

MANUFACTURER'S REPRESENTATIVE OF THE ABOVE PRODUCTS TO PRESENT SEMINAR. SEMINAR TO BE HELD AT THE JOB SITE AND ATTENDED BY INSTALLERS OF HARDWARE (INCLUDING LOW VOLTAGEHARDWARE) FOR ALUMINUM, HOLLOW METAL, AND WOOD DOORS. TRAINING TO INCLUDE USE OF INSTALLATION MANUALS, HARDWARE SCHEDULE, TEMPLATES AND PHYSICAL PRODUCT SAMPLES. ALL MATERIAL SUPPLIERS SHALL SUPPLY MAINTENANCE MANUALS AND PARTS LIST FOR THEIR RESPECTIVE ITEMS AT THE CONCLUSION OF THE PROJECT(S).

POST INSTALLATION WALK THROUGH: THE HARDWARE SUPPLIER AND MANUFACTURES REPRESENTATIVE (LOCKSETS, CLOSERS, EXIT DEVICES AND OVERHEAD STOPS) SHALL VISIT THE PROJECT AFTER ALL OF THE HARDWARE HAS BEEN INSTALLED AND SHALL NOTIFY THE ARCHITECT IF THERE IS ANY HARDWARE THAT HAS NOT BEEN INSTALLED CORRECTLY. THE CONTRACTOR AND HARDWARE SUPPLIER SHALL FURNISH THE ARCHITECT WITH WRITTEN CERTIFICATION TO THAT EFFECT. AFTER THE HARDWARE IS INSTALLED, THE HARDWARE SUPPLIER AND MANUFACTURERS REPRESENTATIVE SHALL MEET WITH THE OWNER TO EXPLAIN THE FUNCTIONS, USES AND MAINTENANCE OF ALL TYPES OF HARDWARE INSTALLED.

1.1 LOCKSETS
- A. CYLINDRICAL LOCKSETS: SCHLAGE D RHODES SERIES WITH REMOVABLE CORES.
- B. LEVER DESIGN: SCHLAGE D SERIES.

1.2 KEYING
- A. GENERAL: ACCEPTABLE MANUFACTURES AND THEIR RESPECTIVE CATALOG NUMBERS. SCHLAGE (INTERIOR DOORS, CONCESSION AND VENDOR AREAS) SCHLAGE CLASSIC PRIMUS LARGE FORMAT INTERCHANGEABLE CORE, 6-PIN, LEVEL 3, E KEYWAY, OO BITTED. HARDWARE SUPPLIER SHALL INCLUDE IN THEIR BID, CURRENT PRICING PER CYLINDER, RIM OR MORTISE (COST ESTIMATED BY MAC CARPENTRY DEPT. 612-726-5180) THIS AMOUNT INCLUDES SALES TAX. MAC MUST PURCHASE AND RECEIVE DELIVERY ON THESE CYLINDERS. THE HARDWARE SUPPLIER WILL ISSUE A CHECK TO MAC CARPENTRY DEPARTMENT FOR THESE CYLINDERS.
- B. CORES AND CYLINDERS SHALL BE PURCHASED BY GENERAL CONTRACTOR.

1.3 CLOSERS
- A. GENERAL: PROVIDE FULLY ADJUSTABLE CLOSERS COMPLYING WITH APPLICABLE BARRIER FREE REQUIREMENTS
- B. ACCEPTABLE MANUFACTURER: NORTON DOOR CONTROLS, NORTON SERIES 1600 REGULAR ARM.
- C. WARRANTY: 10 YEARS.
- D. FIFTH SCREW REQUIRED ON PA SHOE APPLICATION (4111)

1.4 HINGES
- A. GENERAL: SUBSTITUTIONS OR ALTERNATIVES NOT PERMITTED UNLESS NOTED BELOW. BALL BEARING TYPE, PLATED CONTRACT GRADE MATERIAL, FABRICATED TO TEMPLATE FOR USE WITH METAL DOORS OR FRAMES, WITH FLAT BUTTON TIPS, NON-RISING LOOSE STEEL PINS, AND BEVELED OR NON-BEVELED INNER EDGE.
  1. NON-REMOVABLE LOOSE PIN HINGES FOR ALL OUT-SWING DOORS.
  2. NON-FERROUS BASE METAL FOR EXTERIOR DOORS.
  3. CONCEALED BEARING HINGES OF PROPER SIZE AND WEIGHT FOR LABELED DOORS.
  4. DRILL 5/32-INCH HOLE AND USE NO. 12, 1/14 INCH STEEL THREADED TO THE HEAD WOOD SCREWS FOR HINGES ON WOOD DOORS.
- B. HINGE SIZES:
  1. 1 3/4 INCH DOORS / 4-1/2 INCHES X 4-1/2 INCHES.
  2. 2 1/4 INCH DOORS / 5 INCHES X 5 INCHES.
- C. ACCEPTABLE MANUFACTURERS:
  1. IVES 5BB1 -HM-4.5 X 4.5 - 651
  2. NO THROUGH - WIRE HINGES ACCEPTED
- D. CONTINUOUS HINGES: ACCEPTABLE MANUFACTURES: IVES 700

1.5 FIRE DEPARTMENT LOCK BOX
- A. THE DESIGN CONSULTANT SHOULD INCLUDE AN ALLOWANCE OF $ 250 PER UNIT (INCLUDING SALES TAX) ON THE BID FORM FOR THE PURCHASE OF FIRE DEPARTMENT LOCK BOXES FROM THE FIRE DEPARTMENT AS REQUIRED FOR THE PROJECT. CONTRACTOR WILL ISSUE A CHECK TO THE FIRE DEPARTMENT FOR THESE LOCK BOXES.
- B. AS REQUIRED FOR THE PROJECT THE BOXES WILL BE AS SPECIFIED BY THE LOCAL JURISDICTION.

1.6 FINISHES
- A. GENERAL: THE FOLLOWING FINISHES ARE TYPICAL AT MAC FACILITIES. REVIEW PROPOSED CHANGES WITH MAC PROJECT MANAGER.
  1. ACCEPTABLE MANUFACTURES AND RESPECTIVE CATALOG SCHLAGE #626 SATIN CHROME
  PEEKO US26D
  DOOR-O-MATIC US28 SATIN STAINLESS STEEL (US32D) AND SATIN CHROMIUM PLATED US26D): FINISHES AND BASE METALS, UNLESS OTHERWISE INDICATED.
- B. INTERIOR HINGES: US26D ON STEEL 2 3/4 INCH FIVE KNUCKLE HINGE FOR OVERLAY AND FLUSH HINGES.
- C. FLUSH BOLTS: US26D ON BRASS OR BRONZE HOSPITAL TIPS REQUIRED.
- D. LOCKS: US32D ON STAINLESS STEEL
- E. CLOSERS: SPRAYED ALUMINUM
- F. OVERHEAD STOPS/HOLDERS: US26D ON BRASS OR BRONZE
- G. KICKPLATE: US32D ON STAINLESS STEEL

2.1 KICK PLATES, ARMOR PLATES AND MOP PLATES:
- A. ALL KICK PLATES SHALL BE 12" HIGH AND 2" LDW (LESS DOOR WIDTH)
- B. THICKNESS TO BE (16 GAUGE) 0.050 INCH.
- C. PLATES SHALL HAVE COUNTER SINK HOLES AND BEVELED (ALL FOUR)

2.2 FLOOR STOPS: ACCEPTABLE MANUFACTURES AND RESPECTIVE CATALOG NUMBERS.
- A. HAGAR COMPANY: #243F DOME STOP, US26D

3.1 FINISHES AND BASE MATERIALS
- A. EXCEPT WHERE INDICATED OTHERWISE HARDWARE FINISHES SHALL BE APPLIED TO BASE METALS AS SPECIFIED IN THE FINISH SCHEDULES THAT FOLLOWS.
- B. FINISH SCHEDULE

HARDWARE ITEM MATERIAL	FINISH AND BASE
1. BUTT HINGES INTERIOR	US26D (626 OR 652)
2. CONTINUOUS HINGES	US32D
3. LOCKS AND LATCHES	US26D
4. CLOSERS	POWDER COAT ALUMINUM
5. WALL STOPS AND HOLDERS	US26D

END OF SECTION 08 71 00

SECTION 08 80 00 - GLAZING

PART 1 GENERAL

1.1 SUMMARY
- A. 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:
  1. WOOD DOORS.
  2. HOLLOW METAL DOORS.
  3. ALUMINUM FRAMED STOREFRONTS.
- B. RELATED SECTIONS:
  1. DIVISION 08 SECTION "FLUSH WOOD DOORS."
  2. DIVISION 08 SECTION "HOLLOW METAL DOORS AND FRAMES."

1.2 DEFINITIONS
- A. GLASS MANUFACTURERS: FIRMS THAT PRODUCE PRIMARY GLASS, FABRICATED GLASS, OR BOTH, AS DEFINED IN REFERENCED GLAZING PUBLICATIONS.
- B. GLASS THICKNESSES: INDICATED BY THICKNESS DESIGNATIONS IN MILLIMETERS ACCORDING TO ASTM C 1036.
- C. INTERSPACE: SPACE BETWEEN LITES OF AN INSULATING-GLASS UNIT.

1.3 SUBMITTALS
- A. PRODUCT DATA: FOR EACH GLASS PRODUCT AND GLAZING MATERIAL INDICATED.
- B. GLASS SAMPLES: FOR EACH TYPE OF GLASS PRODUCT OTHER THAN CLEAR MONOLITHIC VISION GLASS; 12 INCHES SQUARE.
- C. GLAZING ACCESSORY SAMPLES: FOR GASKETS, SEALANTS, AND COLORED SPACERS, IN 12 INCHES LENGTHS. INSTALL SEALANT SAMPLES BETWEEN TWO STRIPS OF MATERIAL REPRESENTATIVE IN COLOR OF THE ADJOINING FRAMING SYSTEM.
- D. QUALIFICATION DATA: FOR MANUFACTURERS OF INSULATING-GLASS UNITS WITH SPUTTER-COATED, LOW-E COATINGS.
- E. PRODUCT CERTIFICATES: FOR GLASS AND GLAZING PRODUCTS, FROM MANUFACTURER.

1.4. INSULATING GLASS UNITS
- A. CONFORMANCE WITH ANSI/ASHRAE 90.1-2007.
- B. OUTSIDE GLASS: MATCH EXISTING.
- C. 1/2" AIRSPACE
- D. INSIDE GLASS: 1/4" CLEAR GLASS.
- E. PERFORMANCE
  1. VISIBLE LIGHT: TRANSMISSION NO GREATER THAN 55%
  2. VISIBLE LIGHT: REFLECTANCE NO GREATER THAN 10%
  3. SOLAR HEAT: GAIN COEFFICIENT NO GREATER THAN 0.35
  4. U-VALUE: NO GREATER THAN 0.30.

1.5 QUALITY ASSURANCE
- A. INSTALLER QUALIFICATIONS: A QUALIFIED INSTALLER WHO EMPLOYS GLASS INSTALLERS FOR THIS PROJECT WHO ARE CERTIFIED UNDER THE NATIONAL GLASS ASSOCIATION'S CERTIFIED GLASS INSTALLER PROGRAM.
- B. SOURCE LIMITATIONS FOR GLAZING ACCESSORIES: OBTAIN FROM SINGLE SOURCE FROM SINGLE MANUFACTURER FOR EACH PRODUCT AND INSTALLATION METHOD.
- C. 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.
  1. GANA PUBLICATIONS: GANA'S "LAMINATED GLAZING REFERENCE MANUAL" AND GANA'S "GLAZING MANUAL."
  2. IGMA PUBLICATION FOR INSULATING GLASS: SIGMA TM-3000, "NORTH AMERICAN GLAZING GUIDELINES FOR SEALED INSULATING GLASS UNITS FOR COMMERCIAL AND RESIDENTIAL USE."

1.6 DELIVERY, STORAGE, AND HANDLING
- A. PROTECT GLAZING MATERIALS ACCORDING TO MANUFACTURER'S WRITTEN INSTRUCTIONS. PREVENT DAMAGE TO GLASS AND GLAZING MATERIALS FROM CONDENSATION, TEMPERATURE CHANGES, DIRECT EXPOSURE TO SUN, OR OTHER CAUSES.
- B. COMPLY WITH INSULATING-GLASS MANUFACTURER'S WRITTEN RECOMMENDATIONS FOR VENTING AND SEALING UNITS TO AVOID HERMETIC SEAL RUPTURES DUE TO ALTITUDE CHANGE.

1.7 PROJECT CONDITIONS
- A. ENVIRONMENTAL LIMITATIONS: DO NOT PROCEED WITH GLAZING WHEN AMBIENT AND SUBSTRATE TEMPERATURE CONDITIONS ARE OUTSIDE LIMITS PERMITTED BY GLAZING MATERIAL MANUFACTURERS AND WHEN GLAZING CHANNEL SUBSTRATES ARE WET FROM RAIN, FROST, CONDENSATION, OR OTHER CAUSES.
  1. DO NOT INSTALL GLAZING SEALANTS WHEN AMBIENT AND SUBSTRATE TEMPERATURE CONDITIONS ARE OUTSIDE LIMITS PERMITTED BY SEALANT MANUFACTURER OR BELOW 40 DEG F.

PART 2 PRODUCTS

2.1 GLASS PRODUCTS, GENERAL
- A. THICKNESS: WHERE GLASS THICKNESS IS INDICATED, IT IS A MINIMUM. PROVIDE GLASS LITES IN THICKNESS AS NEEDED TO COMPLY WITH REQUIREMENTS INDICATED.
  1. MINIMUM GLASS THICKNESS FOR EXTERIOR LITES: NOT LESS THAN 6.0 MM PER INDIVIDUAL SECTION PIECE.
- B. STRENGTH: WHERE FLOAT GLASS IS INDICATED, PROVIDE ANNEALED FLOAT GLASS, KIND HS HEAT-TREATED FLOAT GLASS, OR KIND FT HEAT-TREATED FLOAT GLASS AS NEEDED TO COMPLY WITH "PERFORMANCE REQUIREMENTS" ARTICLE. WHERE HEAT-STRENGTHENED GLASS IS INDICATED, PROVIDE KIND HS HEAT-TREATED FLOAT GLASS OR KIND FT HEAT-TREATED FLOAT GLASS AS NEEDED TO COMPLY WITH "PERFORMANCE REQUIREMENTS" ARTICLE. WHERE FULLY TEMPERED GLASS IS INDICATED, PROVIDE KIND FT HEAT-TREATED FLOAT GLASS.
- C. THERMAL AND OPTICAL PERFORMANCE PROPERTIES: PROVIDE GLASS WITH PERFORMANCE PROPERTIES SPECIFIED, AS INDICATED IN MANUFACTURER'S PUBLISHED TEST DATA, BASED ON PROCEDURES INDICATED BELOW:
  1. FOR MONOLITHIC-GLASS LITES, PROPERTIES ARE BASED ON UNITS WITH LITES OF THICKNESS INDICATED.

2.2 GLASS PRODUCTS
- A. FULLY TEMPERED: ASTM C 1048, KIND FT (FULLY TEMPERED), TYPE I, CLASS 1 (CLEAR) UNLESS OTHERWISE INDICATED.

2.3 GLAZING GASKETS
- A. DENSE COMPRESSION GASKETS: MOLDED OR EXTRUDED GASKETS OF PROFILE AND HARDNESS REQUIRED TO MAINTAIN WATERTIGHT SEAL, MADE FROM ONE OF THE FOLLOWING:
  1. NEOPRENE COMPLYING WITH ASTM C 864.
  2. EPDM COMPLYING WITH ASTM C 864.
  3. SILICONE COMPLYING WITH ASTM C 1115.
  4. THERMOPLASTIC POLYOLEFIN RUBBER COMPLYING WITH ASTM C 1115.

2.4 GLAZING SEALANTS
- A. GENERAL:
  1. COMPATIBILITY: PROVIDE GLAZING SEALANTS THAT ARE COMPATIBLE WITH ONE ANOTHER AND WITH OTHER MATERIALS THEY WILL CONTACT, INCLUDING GLASS PRODUCTS, SEALS OF INSULATING-GLASS UNITS, AND GLAZING CHANNEL SUBSTRATES, UNDER CONDITIONS OF SERVICE AND APPLICATION, AS DEMONSTRATED BY SEALANT MANUFACTURER BASED ON TESTING AND FIELD EXPERIENCE.
  2. SUITABILITY: COMPLY WITH SEALANT AND GLASS MANUFACTURERS' WRITTEN INSTRUCTIONS FOR SELECTING GLAZING SEALANTS SUITABLE FOR APPLICATIONS INDICATED AND FOR CONDITIONS EXISTING AT TIME OF INSTALLATION.
  3. COLORS OF EXPOSED GLAZING SEALANTS: AS SELECTED BY ARCHITECT FROM MANUFACTURER'S FULL RANGE.
- B. EXPANDED CELLULAR GLAZING TAPES: CLOSED-CELL, PVC FOAM TAPES; FACTORY COATED WITH ADHESIVE ON BOTH SURFACES; AND COMPLYING WITH AAMA 800 FOR THE FOLLOWING TYPES:
  1. AAMA 810.1, TYPE 1, FOR GLAZING APPLICATIONS IN WHICH TAPE ACTS AS THE PRIMARY SEALANT.
  2. AAMA 810.1, TYPE 2, FOR GLAZING APPLICATIONS IN WHICH TAPE IS USED IN COMBINATION WITH A FULL BEAD OF LIQUID SEALANT.

2.5 MISCELLANEOUS GLAZING MATERIALS
- A. GENERAL: PROVIDE PRODUCTS OF MATERIAL, SIZE, AND SHAPE COMPLYING WITH REFERENCED GLAZING STANDARD, REQUIREMENTS OF MANUFACTURERS OF GLASS AND OTHER GLAZING MATERIALS FOR APPLICATION INDICATED, AND WITH A PROVEN RECORD OF COMPATIBILITY WITH SURFACES CONTACTED IN INSTALLATION.
- B. CLEANERS, PRIMERS, AND SEALERS: TYPES RECOMMENDED BY SEALANT OR GASKET MANUFACTURER.
- C. SETTING BLOCKS: ELASTOMERIC MATERIAL WITH A SHORE, TYPE A DUROMETER HARDNESS OF 85, PLUS OR MINUS 5.
- D. SPACERS: ELASTOMERIC BLOCKS OR CONTINUOUS EXTRUSIONS OF HARDNESS REQUIRED BY GLASS MANUFACTURER TO MAINTAIN GLASS LITES IN PLACE FOR INSTALLATION INDICATED.
- E. EDGE BLOCKS: ELASTOMERIC MATERIAL OF HARDNESS NEEDED TO LIMIT GLASS LATERAL MOVEMENT (SIDE WALKING).
- F. CYLINDRICAL GLAZING SEALANT BACKING: ASTM C 1330, TYPE O (OPEN-CELL MATERIAL), OF SIZE AND DENSITY TO CONTROL GLAZING SEALANT DEPTH AND OTHERWISE PRODUCE OPTIMUM GLAZING SEALANT PERFORMANCE.
- G. PRODUCTS FOR FIRE-RESISTIVE GLAZING: PRODUCT THAT IS APPROVED BY TESTING AGENCY THAT LISTED AND LABELED FIRE-RESISTANT GLAZING PRODUCT WITH WHICH IT IS USED FOR APPLICATION AND FIRE-PROTECTION RATING INDICATED.

2.6 FABRICATION OF GLAZING UNITS
- A. FABRICATE GLAZING UNITS IN SIZES REQUIRED TO FIT 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 PUBLICATIONS, TO COMPLY WITH SYSTEM PERFORMANCE REQUIREMENTS.
- B. CLEAN-CUT OR FLAT-GRIND VERTICAL EDGES OF BUTT-GLAZED MONOLITHIC LITES TO PRODUCE SQUARE EDGES WITH SLIGHT CHAMFERS AT JUNCTIONS OF EDGES AND FACES.
- C. GRIND SMOOTH AND POLISH EXPOSED GLASS EDGES AND CORNERS.

PART 3 EXECUTION

3.1 EXAMINATION
- A. EXAMINE FRAMING, GLAZING CHANNELS, AND STOPS, WITH INSTALLER PRESENT, FOR COMPLIANCE WITH THE FOLLOWING:
  1. MANUFACTURING AND INSTALLATION TOLERANCES, INCLUDING THOSE FOR SIZE, SQUARENESS, AND OFFSETS AT CORNERS.
  2. PRESENCE AND FUNCTIONING OF WEEP SYSTEMS.
  3. MINIMUM REQUIRED FACE AND EDGE CLEARANCES.
  4. EFFECTIVE SEALING BETWEEN JOINTS OF GLASS FRAMING MEMBERS.
- B. PROCEED WITH INSTALLATION ONLY AFTER UNSATISFACTORY CONDITIONS HAVE BEEN CORRECTED.

3.2 PREPARATION
- A. CLEAN GLAZING CHANNELS AND OTHER FRAMING MEMBERS RECEIVING GLASS IMMEDIATELY BEFORE GLAZING. REMOVE COATINGS NOT FIRMLY BONDED TO SUBSTRATES.
- B. EXAMINE GLAZING UNITS TO LOCATE EXTERIOR AND INTERIOR SURFACES. LABEL OR MARK UNITS AS NEEDED SO THAT EXTERIOR AND INTERIOR SURFACES ARE READILY IDENTIFIABLE. DO NOT USE

3.3 GLAZING, GENERAL
- A. 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.
- B. ADJUST GLAZING CHANNEL DIMENSIONS AS REQUIRED BY PROJECT CONDITIONS DURING INSTALLATION TO PROVIDE NECESSARY BITE ON GLASS, MINIMUM EDGE AND FACE CLEARANCES, AND ADEQUATE SEALANT THICKNESS, WITH REASONABLE TOLERANCES.
- C. PROTECT GLASS EDGES FROM DAMAGE DURING HANDLING AND INSTALLATION. REMOVE DAMAGED GLASS FROM PROJECT SITE AND LEGALLY DISPOSE OF OFF PROJECT SITE. DAMAGED GLASS IS GLASS WITH EDGE DAMAGE OR OTHER IMPERFECTIONS THAT, WHEN INSTALLED, COULD WEAKEN GLASS AND IMPAIR PERFORMANCE AND APPEARANCE.
- D. APPLY PRIMERS TO JOINT SURFACES WHERE REQUIRED FOR ADHESION OF SEALANTS, AS DETERMINED BY PRE-CONSTRUCTION TESTING.
- E. INSTALL SETTING BLOCKS IN SILL RABBETS, SIZED AND LOCATED TO COMPLY WITH REFERENCED GLAZING PUBLICATIONS, UNLESS OTHERWISE REQUIRED BY GLASS MANUFACTURER. SET BLOCKS IN THIN COURSE OF COMPATIBLE SEALANT SUITABLE FOR HEEL BEAD.
- F. DO NOT EXCEED EDGE PRESSURES STIPULATED BY GLASS MANUFACTURERS FOR INSTALLING GLASS LITES.
- G. PROVIDE SPACERS FOR GLASS LITES WHERE LENGTH PLUS WIDTH IS LARGER THAN 50 INCHES.
  1. LOCATE SPACERS DIRECTLY OPPOSITE EACH OTHER ON BOTH INSIDE AND OUTSIDE FACES OF GLASS. INSTALL CORRECT SIZE AND SPACING TO PRESERVE REQUIRED FACE CLEARANCES, UNLESS GASKETS AND GLAZING TAPES ARE USED THAT HAVE DEMONSTRATED ABILITY TO MAINTAIN REQUIRED FACE CLEARANCES AND TO COMPLY WITH SYSTEM PERFORMANCE REQUIREMENTS.
  2. PROVIDE 1/8 INCH MINIMUM BITE OF SPACERS ON GLASS AND USE THICKNESS EQUAL TO SEALANT WIDTH. WITH GLAZING TAPE, USE THICKNESS SLIGHTLY LESS THAN FINAL COMPRESSED THICKNESS OF TAPE.
- H. PROVIDE EDGE BLOCKING WHERE INDICATED OR NEEDED TO PREVENT GLASS LITES FROM MOVING SIDEWAYS IN GLAZING CHANNEL, AS RECOMMENDED IN WRITING BY GLASS MANUFACTURER AND ACCORDING TO REQUIREMENTS IN REFERENCED GLAZING PUBLICATIONS.

3.4 TAPE GLAZING
- A. POSITION TAPES ON FIXED STOPS SO THAT, WHEN COMPRESSED BY GLASS, THEIR EXPOSED EDGES ARE FLUSH WITH OR PROTRUDE SLIGHTLY ABOVE SIGHT LINE OF STOPS.
- B. INSTALL TAPES CONTINUOUSLY, BUT NOT NECESSARILY IN ONE CONTINUOUS LENGTH. DO NOT STRETCH TAPES TO MAKE THEM FIT OPENING.
- C. COVER VERTICAL FRAMING JOINTS BY APPLYING TAPES TO HEADS AND SILLS FIRST AND THEN TO JAMBS. COVER HORIZONTAL FRAMING JOINTS BY APPLYING TAPES TO JAMBS AND THEN TO HEADS AND SILLS.
- D. PLACE JOINTS IN TAPES AT CORNERS OF OPENING WITH ADJOINING LENGTHS BUTTED TOGETHER, NOT LAPPED. SEAL JOINTS IN TAPES WITH COMPATIBLE SEALANT APPROVED BY TAPE MANUFACTURER.
- E. DO NOT REMOVE RELEASE PAPER FROM TAPE UNTIL RIGHT BEFORE EACH GLAZING UNIT IS INSTALLED.
- F. APPLY HEEL BEAD OF ELASTOMERIC SEALANT.
- G. CENTER GLASS LITES IN OPENINGS ON SETTING BLOCKS AND PRESS FIRMLY AGAINST TAPE BY INSERTING DENSE COMPRESSION GASKETS FORMED AND INSTALLED TO LOCK IN PLACE AGAINST FACES OF REMOVABLE STOPS. START GASKET APPLICATIONS AT CORNERS AND WORK TOWARD CENTERS OF OPENINGS.
- H. APPLY CAP BEAD OF ELASTOMERIC SEALANT OVER EXPOSED EDGE OF TAPE.

3.5 CLEANING AND PROTECTION
- A. PROTECT GLASS FROM CONTACT WITH CONTAMINATING SUBSTANCES RESULTING FROM CONSTRUCTION OPERATIONS. IF, DESPITE SUCH PROTECTION, CONTAMINATING SUBSTANCES DO COME INTO CONTACT WITH GLASS, REMOVE SUBSTANCES IMMEDIATELY AS RECOMMENDED IN WRITING BY GLASS MANUFACTURER.
- B. EXAMINE GLASS SURFACES ADJACENT TO OR BELOW EXTERIOR CONCRETE AND OTHER MASONRY SURFACES AT FREQUENT INTERVALS DURING CONSTRUCTION, BUT NOT LESS THAN ONCE A MONTH, FOR BUILDUP OF DIRT, SCUM, ALKALINE DEPOSITS, OR STAINS; REMOVE AS RECOMMENDED IN WRITING BY GLASS MANUFACTURER.
- C. REMOVE AND REPLACE GLASS THAT IS BROKEN, CHIPPED, CRACKED, OR ABRADED OR THAT IS DAMAGED FROM NATURAL CAUSES, ACCIDENTS, AND VANDALISM, DURING CONSTRUCTION PERIOD.
- D. 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 IN WRITING BY GLASS MANUFACTURER.

SECTION 08 83 00 - MIRRORS

- A. GENERAL
  1. INSTALL BOBRICK RESTROOM MIRRORS PER MANUFACTURER'S INSTRUCTIONS.
  2. INSTALL CUSTOM SIZE GLASS MIRRORS WHERE INDICATED.
- B. PROTECTION AND CLEANING
  1. PROTECT MIRRORS FROM BREAKAGE AND CONTAMINATING SUBSTANCES RESULTING FROM CONSTRUCTION OPERATIONS. USING CLEANING WARM WATER, CLEAN MIRRORS BY METHODS RECOMMENDED IN REFERENCED GLAZING STANDARDS

SECTION 09 22 16 - NON-STRUCTURAL METAL FRAMING

PART 1 GENERAL

1.1 RELATED DOCUMENTS
- A. DRAWINGS AND GENERAL PROVISIONS OF THE CONTRACT, INCLUDING GENERAL AND SUPPLEMENTARY CONDITIONS AND DIVISION 01 SPECIFICATION SECTIONS, APPLY TO THIS SECTION.

1.2 SUMMARY
- A. SECTION INCLUDES:
  1. NON-LOAD-BEARING STEEL FRAMING SYSTEMS FOR INTERIOR GYPSUM BOARD ASSEMBLIES.
  2. SUSPENSION SYSTEMS FOR INTERIOR GYPSUM CEILINGS, SOFFITS, AND GRID SYSTEMS.

1.3 ACTION SUBMITTALS
- A. PRODUCT DATA: FOR EACH TYPE OF PRODUCT.

PART 2 PRODUCTS

2.1 PERFORMANCE REQUIREMENTS
- A. FIRE-TEST-RESPONSE CHARACTERISTICS: FOR FIRE-RESISTANCE-RATED ASSEMBLIES THAT INCORPORATE NON-LOAD-BEARING STEEL FRAMING, PROVIDE MATERIALS AND CONSTRUCTION IDENTICAL TO THOSE TESTED IN ASSEMBLY INDICATED, ACCORDING TO ASTM E 119 BY AN INDEPENDENT TESTING AGENCY.

2.2 FRAMING SYSTEMS
- A. FRAMING MEMBERS, GENERAL: COMPLY WITH ASTM C 754 FOR CONDITIONS INDICATED.
  1. STEEL SHEET COMPONENTS: COMPLY WITH ASTM C 645 REQUIREMENTS FOR METAL UNLESS OTHERWISE INDICATED.
- B. STUDS AND RUNNERS: ASTM C 645. USE EITHER STEEL STUDS AND RUNNERS OR DIMPLED STEEL STUDS AND RUNNERS.
  1. STEEL STUDS AND RUNNERS:
     - a. MINIMUM BASE-METAL THICKNESS: AS INDICATED ON DRAWINGS
     - b. DEPTH: AS INDICATED ON DRAWINGS
  2. DIMPLED STEEL STUDS AND RUNNERS:
     - a. MINIMUM BASE-METAL THICKNESS: AS INDICATED ON DRAWINGS.
     - b. DEPTH: AS INDICATED ON DRAWINGS.
- C. SLIP-TYPE HEAD JOINTS: WHERE INDICATED, PROVIDE THE FOLLOWING:
  1. DEFLECTION TRACK: STEEL SHEET TOP RUNNER MANUFACTURED TO PREVENT CRACKING OF FINISHES APPLIED TO INTERIOR PARTITION FRAMING RESULTING FROM DEFLECTION OF STRUCTURE ABOVE; IN THICKNESS NOT LESS THAN INDICATED FOR STUDS AND IN WIDTH TO ACCOMMODATE DEPTH OF STUDS.
- D. FLAT STRAP AND BACKING PLATE: STEEL SHEET FOR BLOCKING AND BRACING IN LENGTH AND WIDTH INDICATED.
  1. MINIMUM BASE-METAL THICKNESS: 0.033 INCH (0.84 MM).
- E. COLD-ROLLED CHANNEL BRIDGING: STEEL, 0.053 INCH (1.34 MM) MINIMUM BASE-METAL THICKNESS, WITH MINIMUM 1/2 INCH (13 MM) WIDE FLANGES.
  1. DEPTH: 1-1/2 INCHES (38 MM).
  2. CLIP ANGLE: NOT LESS THAN 1-1/2 BY 1-1/2 INCHES (38 BY 38 MM), 0.068 INCH (1.73 MM) THICK, GALVANIZED STEEL.

2.3 SUSPENSION SYSTEMS
- A. TIE WIRE: ASTM A 641/A 641M, CLASS 1 ZINC COATING, SOFT TEMPER, 0.062-INCH- (1.59-MM-) DIAMETER WIRE, OR DOUBLE STRAND OF 0.048-INCH- (1.21-MM-) DIAMETER WIRE.
- B. HANGER ATTACHMENTS TO CONCRETE:
  1. ANCHORS: FABRICATED FROM CORROSION-RESISTANT MATERIALS WITH HOLES OR LOOPS FOR ATTACHING WIRE HANGERS AND CAPABLE OF SUSTAINING, WITHOUT FAILURE, A LOAD EQUAL TO 5 TIMES THAT IMPOSED BY CONSTRUCTION AS DETERMINED BY TESTING ACCORDING TO ASTM E 488 BY AN INDEPENDENT TESTING AGENCY.
     - a. TYPE: POST INSTALLED, EXPANSION ANCHOR.
- C. WIRE HANGERS: ASTM A 641/A 641M, CLASS 1 ZINC COATING, SOFT TEMPER, 0.16 INCH (4.12 MM) IN DIAMETER.
- D. CARRYING CHANNELS: COLD-ROLLED, COMMERCIAL-STEEL SHEET WITH A BASE-METAL THICKNESS OF 0.053 INCH (1.34 MM) AND MINIMUM 1/2-INCH- (13-MM-) WIDE FLANGES.
  1. DEPTH: 2 INCHES (51 MM).
- E. GRID SUSPENSION SYSTEM FOR GYPSUM BOARD CEILINGS: ASTM C 645, DIRECT-HUNG SYSTEM COMPOSED OF MAIN BEAMS AND CROSS-FURRING MEMBERS THAT INTERLOCK.

2.4 AUXILIARY MATERIALS
- A. GENERAL: PROVIDE AUXILIARY MATERIALS THAT COMPLY WITH REFERENCED INSTALLATION STANDARDS.
  1. FASTENERS FOR METAL FRAMING: OF TYPE, MATERIAL, SIZE, CORROSION RESISTANCE, HOLDING POWER, AND OTHER PROPERTIES REQUIRED TO FASTEN STEEL MEMBERS TO SUBSTRATES.
- B. ISOLATION STRIP AT EXTERIOR WALLS: PROVIDE[ONE OF] THE FOLLOWING:
  1. FOAM GASKET: ADHESIVE-BACKED, CLOSED-CELL VINYL FOAM STRIPS THAT ALLOW FASTENER PENETRATION WITHOUT FOAM DISPLACEMENT, 1/8 INCH (3.2 MM) THICK, IN WIDTH TO SUIT STEEL STUD SIZE.

PART 3 EXECUTION

3.1 EXAMINATION
- A. EXAMINE AREAS AND SUBSTRATES, WITH INSTALLER PRESENT, AND INCLUDING WELDED HOLLOW-METAL FRAMES, CAST-IN ANCHORS, AND STRUCTURAL FRAMING, FOR COMPLIANCE WITH REQUIREMENTS AND OTHER CONDITIONS AFFECTING PERFORMANCE OF THE WORK.
- B. PROCEED WITH INSTALLATION ONLY AFTER UNSATISFACTORY CONDITIONS HAVE BEEN CORRECTED.

3.2 PREPARATION
- A. SUSPENDED ASSEMBLIES: COORDINATE INSTALLATION OF SUSPENSION SYSTEMS WITH INSTALLATION OF OVERHEAD STRUCTURE TO ENSURE THAT INSERTS AND OTHER PROVISIONS FOR ANCHORAGES TO BUILDING STRUCTURE HAVE BEEN INSTALLED TO RECEIVE HANGERS AT SPACING REQUIRED TO SUPPORT THE WORK AND THAT HANGERS WILL DEVELOP THEIR FULL STRENGTH.
  1. FURNISH CONCRETE INSERTS AND OTHER DEVICES INDICATED TO OTHER TRADES FOR INSTALLATION IN ADVANCE OF TIME NEEDED FOR COORDINATION AND CONSTRUCTION.
- B. COORDINATION WITH SPRAYED FIRE-RESISTIVE MATERIALS:
  1. BEFORE SPRAYED FIRE-RESISTIVE MATERIALS ARE APPLIED, ATTACH OFFSET ANCHOR PLATES OR CEILING RUNNERS (TRACKS) TO SURFACES INDICATED TO RECEIVE SPRAYED FIRE-RESISTIVE MATERIALS. WHERE OFFSET ANCHOR PLATES ARE REQUIRED, PROVIDE CONTINUOUS PLATES FASTENED TO BUILDING STRUCTURE NOT MORE THAN 24 INCHES (610 MM) O.C.
  2. AFTER SPRAYED FIRE-RESISTIVE MATERIALS ARE APPLIED, REMOVE THEM ONLY TO EXTENT NECESSARY FOR INSTALLATION OF NON-LOAD-BEARING STEEL FRAMING. DO NOT REDUCE THICKNESS OF FIRE-RESISTIVE MATERIALS BELOW THAT REQUIRED FOR FIRE-RESISTANCE RATINGS INDICATED. PROTECT ADJACENT FIRE-RESISTIVE MATERIALS FROM DAMAGE.

3.3 INSTALLATION, GENERAL
- A. INSTALLATION STANDARD: ASTM C 754.
  1. GYPSUM BOARD ASSEMBLIES: ALSO COMPLY WITH REQUIREMENTS IN ASTM C 840 THAT APPLY TO FRAMING INSTALLATION.
- B. INSTALL SUPPLEMENTARY FRAMING, AND BLOCKING TO SUPPORT FIXTURES, EQUIPMENT SERVICES, HEAVY TRIM, GRAB BARS, TOILET ACCESSORIES, FURNISHINGS, OR SIMILAR CONSTRUCTION.
- C. INSTALL BRACING AT TERMINATIONS IN ASSEMBLIES.
- D. DO NOT BRIDGE BUILDING CONTROL AND EXPANSION JOINTS WITH NON-LOAD-BEARING STEEL FRAMING MEMBERS. FRAME BOTH SIDES OF JOINTS INDEPENDENTLY.

3.4 INSTALLING FRAMED ASSEMBLIES
- A. INSTALL FRAMING SYSTEM COMPONENTS ACCORDING TO SPACING INDICATED, BUT NOT GREATER THAN SPACING REQUIRED BY REFERENCED INSTALLATION STANDARDS FOR ASSEMBLY TYPES.
  1. SINGLE-LAYER APPLICATION: 16 INCHES (406 MM) O.C. UNLESS OTHERWISE INDICATED.
- B. WHERE STUDS ARE INSTALLED DIRECTLY AGAINST EXTERIOR MASONRY WALLS OR DISSIMILAR METALS AT EXTERIOR WALLS, INSTALL ISOLATION STRIP BETWEEN STUDS AND EXTERIOR WALL.
- C. INSTALL STUDS SO FLANGES WITHIN FRAMING SYSTEM POINT IN SAME DIRECTION.
- D. INSTALL TRACKS (RUNNERS) AT FLOORS AND OVERHEAD SUPPORTS. EXTEND FRAMING FULL HEIGHT TO STRUCTURAL SUPPORTS OR SUBSTRATES ABOVE SUSPENDED CEILINGS EXCEPT WHERE PARTITIONS ARE INDICATED TO TERMINATE AT SUSPENDED CEILINGS. CONTINUE FRAMING AROUND DUCTS PENETRATING PARTITIONS ABOVE CEILING.
  1. SLIP-TYPE HEAD JOINTS: WHERE FRAMING EXTENDS TO OVERHEAD STRUCTURAL SUPPORTS, INSTALL TO PRODUCE JOINTS AT TOPS OF FRAMING SYSTEMS THAT PREVENT AXIAL LOADING OF FINISHED ASSEMBLIES.
  2. DOOR OPENINGS: SCREW VERTICAL STUDS AT JAMBS TO JAMB ANCHOR CLIPS ON DOOR FRAMES; INSTALL RUNNER TRACK SECTION (FOR CRIPPLE STUDS) AT HEAD AND SECURE TO JAMB STUDS.
  3. FIRE-RESISTANCE-RATED PARTITIONS: INSTALL FRAMING TO COMPLY WITH FIRE-RESISTANCE-RATED ASSEMBLY INDICATED AND SUPPORT CLOSURES AND TO MAKE PARTITIONS CONTINUOUS FROM FLOOR TO UNDERSIDE OF SOLID STRUCTURE.
- E. INSTALLATION TOLERANCE: INSTALL EACH FRAMING MEMBER SO FASTENING SURFACES VARY NOT MORE THAN 1/8 INCH (3 MM) FROM THE PLANE FORMED BY FACES OF ADJACENT FRAMING.

3.5 INSTALLING SUSPENSION SYSTEMS
- A. INSTALL SUSPENSION SYSTEM COMPONENTS ACCORDING TO SPACING INDICATED, BUT NOT GREATER THAN SPACING REQUIRED BY REFERENCED INSTALLATION STANDARDS FOR ASSEMBLY TYPES.
  1. HANGERS: 48 INCHES (1219 MM) O.C.
  2. CARRYING CHANNELS (MAIN RUNNERS): 48 INCHES (1219 MM) O.C.
- B. ISOLATE SUSPENSION SYSTEMS FROM BUILDING STRUCTURE WHERE THEY ABUT OR ARE PENETRATED BY BUILDING STRUCTURE TO PREVENT TRANSFER OF LOADING IMPOSED BY STRUCTURAL MOVEMENT.
- C. SUSPEND HANGERS FROM BUILDING STRUCTURE AS FOLLOWS:
  1. SPLAY HANGERS ONLY WHERE REQUIRED TO MISS OBSTRUCTIONS AND OFFSET RESULTING HORIZONTAL FORCES BY BRACING, COUNTER SPLAYING, OR OTHER EQUALLY EFFECTIVE MEANS
  2. WHERE WIDTH OF DUCTS AND OTHER CONSTRUCTION WITHIN CEILING PLENUM PRODUCES HANGER SPACINGS THAT INTERFERE WITH LOCATIONS OF HANGERS REQUIRED TO SUPPORT STANDARD SUSPENSION SYSTEM MEMBERS, INSTALL SUPPLEMENTAL SUSPENSION MEMBERS AND HANGERS IN THE FORM OF TRAPEZES OR EQUIVALENT DEVICES.
     - a. SIZE SUPPLEMENTAL SUSPENSION MEMBERS AND HANGERS TO SUPPORT CEILING LOADS WITHIN PERFORMANCE LIMITS ESTABLISHED BY REFERENCED INSTALLATION STANDARDS.
  3. WIRE HANGERS: SECURE BY LOOPING AND WIRE TYING, EITHER DIRECTLY TO STRUCTURES OR TO INSERTS, EYE SCREWS, OR OTHER DEVICES AND FASTENERS THAT ARE SECURE AND APPROPRIATE FOR SUBSTRATE, AND IN A MANNER THAT WILL NOT CAUSE HANGERS TO DETERIORATE OR OTHERWISE FAIL.
  4. DO NOT ATTACH HANGERS TO STEEL ROOF DECK.
  5. DO NOT ATTACH HANGERS TO STEEL-IN HANGER TABS OF COMPOSITE STEEL FLOOR DECK.
  6. DO NOT CONNECT OR SUSPEND STEEL FRAMING FROM DUCTS, PIPES, OR CONDUIT.
- D. FIRE-RESISTANCE-RATED ASSEMBLIES: WIRE TIE FURRING CHANNELS TO SUPPORTS.
- E. GRID SUSPENSION SYSTEMS: ATTACH PERIMETER WALL TRACK OR ANGLE WHERE GRID SUSPENSION SYSTEMS MEET VERTICAL SURFACES. MECHANICALLY JOIN MAIN BEAM AND CROSS-FURRING MEMBERS TO EACH OTHER AND BUTT-CUT TO FIT INTO WALL TRACK.
- F. INSTALLATION TOLERANCES: INSTALL SUSPENSION SYSTEMS THAT ARE LEVEL TO WITHIN 1/8 INCH IN 12 FEET (3 MM IN 3.6 M) MEASURED LENGTHWISE ON EACH MEMBER THAT WILL RECEIVE FINISHES AND TRANSVERSELY BETWEEN PARALLEL MEMBERS THAT WILL RECEIVE FINISHES.

END OF SECTION 09 22 16

SECTION 09 29 00 - GYPSUM BOARD

PART 1 GENERAL

SUMMARY
- A. SECTION INCLUDES:
  1. INTERIOR GYPSUM BOARD.
  2. TILE BACKING PANELS.
- B. RELATED REQUIREMENTS:
  1. SECTION 092216 NON-STRUCTURAL METAL FRAMING FOR NON-STRUCTURAL FRAMING AND SUSPENSION SYSTEMS THAT SUPPORT GYPSUM BOARD PANELS.
  2. SECTION 093013 CERAMIC TILING FOR CEMENTITIOUS BACKER UNITS INSTALLED AS SUBSTRATES FOR CERAMIC TILE.

1.2 ACTION SUBMITTALS
- A. PRODUCT DATA: FOR EACH TYPE OF PRODUCT.
- B. SAMPLES: FOR THE FOLLOWING PRODUCTS:
  1. TRIM ACCESSORIES: FULL-SIZE SAMPLE IN 12-INCH- (300-MM-) LONG LENGTH FOR EACH TRIM ACCESSORY INDICATED.

1.3 DELIVERY, STORAGE AND HANDLING
- A. STORE MATERIALS INSIDE UNDER COVER AND KEEP THEM DRY AND PROTECTED AGAINST WEATHER, CONDENSATION, DIRECT SUNLIGHT, CONSTRUCTION TRAFFIC, AND OTHER POTENTIAL CAUSES OF DAMAGE. STACK PANELS FLAT AND SUPPORTED ON RISERS ON A FLAT PLATFORM TO PREVENT SAGGING.

1.4 FIELD CONDITIONS
- A. ENVIRONMENTAL LIMITATIONS: COMPLY WITH ASTM C 840 REQUIREMENTS OR GYPSUM BOARD MANUFACTURER'S WRITTEN RECOMMENDATIONS, WHICHEVER ARE MORE STRINGENT.
- B. DO NOT INSTALL PAPER-FACED GYPSUM PANELS UNTIL INSTALLATION AREAS ARE ENCLOSED AND CONDITIONED.
- C. DO NOT INSTALL PANELS THAT ARE WET, THOSE THAT ARE MOISTURE DAMAGED, AND THOSE THAT ARE MOLD DAMAGED.
  1. INDICATIONS THAT PANELS ARE WET OR MOISTURE DAMAGED INCLUDE, BUT ARE NOT LIMITED TO, DISCOLORATION, SAGGING, OR IRREGULAR SHAPE.
  2. INDICATIONS THAT PANELS ARE MOLD DAMAGED INCLUDE, BUT ARE NOT LIMITED TO, FUZZY OR SPLOTCHY SURFACE CONTAMINATION AND DISCOLORATION.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS
- A. FIRE-RESISTANCE-RATED ASSEMBLIES: FOR FIRE-RESISTANCE-RATED ASSEMBLIES, PROVIDE MATERIALS AND CONSTRUCTION IDENTICAL TO THOSE TESTED IN ASSEMBLY INDICATED ACCORDING TO ASTM E 119 BY AN INDEPENDENT TESTING AGENCY.

2.2 GYPSUM BOARD, GENERAL
- A. RECYCLED CONTENT OF GYPSUM PANEL PRODUCTS: POST CONSUMER RECYCLED CONTENT PLUS ONE-HALF OF PRE-CONSUMER RECYCLED CONTENT NOT LESS THAN 5 PERCENT. PRODUCT TO BE MANUFACTURED WITHIN 500 MILES OF JOB SITE.
- B. SIZE: PROVIDE MAXIMUM LENGTHS AND WIDTHS AVAILABLE THAT WILL MINIMIZE JOINTS IN EACH AREA AND THAT CORRESPOND WITH SUPPORT SYSTEM INDICATED.

2.3 INTERIOR GYPSUM BOARD
- A. MANUFACTURERS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, AVAILABLE MANUFACTURERS OFFERING PRODUCTS THAT MAY BE INCORPORATED INTO THE WORK INCLUDE, BUT ARE NOT LIMITED TO, THE FOLLOWING]:
  1. AMERICAN GYPSUM.
  2. CERTAINTEED CORP.
  3. NATIONAL GYPSUM COMPANY.
  4. USG CORPORATION.
- B. GYPSUM BOARD, TYPE X: ASTM C 1396/C 1396M.
  1. THICKNESS: 5/8 INCH (15.9 MM).
  2. LONG EDGES: TAPERED.
- C. MOLD-RESISTANT CORE AND PAPER SURFACES.
  1. CORE:5/8 INCH (15.9 MM), TYPE X.
  2. LONG EDGES: TAPERED.
  3. MOLD RESISTANCE: ASTM D 3273, SCORE OF 10 AS RATED ACCORDING TO ASTM D 3274.

2.4 TILE BACKING PANELS
- A. CEMENTITIOUS BACKER UNITS: ANSI A118.9 AND ASTM C 1288 OR 1325, WITH MANUFACTURER'S STANDARD EDGES.
  1. PRODUCTS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, AVAILABLE PRODUCTS THAT MAY BE INCORPORATED INTO THE WORK INCLUDE, BUT ARE NOT LIMITED TO, THE FOLLOWING:
     - a. CERTAINTEED CORP.; FIBERCEMENT BACKERBOARD.
     - b. NATIONAL GYPSUM COMPANY, PERMABASE CEMENT BOARD.
     - c. USG CORPORATION; DUROCK CEMENT BOARD.
  2. THICKNESS: [5/8 INCH (15.9 MM).
  3. MOLD RESISTANCE: ASTM D 3273, SCORE OF 10 AS RATED ACCORDING TO ASTM D 3274.
- B. WATER-RESISTANT GYPSUM BACKING BOARD: ASTM C 1396/C 1396M, WITH MANUFACTURER'S STANDARD EDGES.
  1. MANUFACTURERS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, AVAILABLE MANUFACTURERS OFFERING PRODUCTS THAT MAY BE INCORPORATED INTO THE WORK INCLUDE, BUT ARE NOT LIMITED TO, THE FOLLOWING:
     - a. AMERICAN GYPSUM.
     - b. CERTAINTEED CORP.
     - c. USG CORPORATION.
  2. CORE: 5/8 INCH (15.9 MM), TYPE X.

2.5 TRIM ACCESSORIES
- A. INTERIOR TRIM: ASTM C 1047.
  1. MATERIAL: GALVANIZED OR ALUMINUM-COATED STEEL SHEET, ROLLED ZINC, PLASTIC, OR PAPER-FACED GALVANIZED STEEL SHEET
  2. SHAPES:
     - a. CORNERBEAD.
     - b. BULLNOSE BEAD.
     - c. LC-BEAD: J-SHAPED; EXPOSED LONG FLANGE RECEIVES JOINT COMPOUND.
     - d. L-BEAD: L-SHAPED; EXPOSED LONG FLANGE RECEIVES JOINT COMPOUND.
     - e. U-BEAD: J-SHAPED; EXPOSED SHORT FLANGE DOES NOT RECEIVE JOINT COMPOUND.
     - f. EXPANSION (CONTROL) JOINT.
- B. ALUMINUM TRIM: EXTRUDED ACCESSORIES OF PROFILES AND DIMENSIONS INDICATED.
  1. MANUFACTURERS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, AVAILABLE MANUFACTURERS OFFERING PRODUCTS THAT MAY BE INCORPORATED INTO THE WORK INCLUDE, BUT ARE NOT LIMITED TO, THE FOLLOWING:
     - a. FRY REGLET CORP.
     - b. GORDON, INC.
     - c. PITTCON INDUSTRIES.
  2. ALUMINUM: ALLOY AND TEMPER WITH NOT LESS THAN THE STRENGTH AND DURABILITY PROPERTIES OF ASTM B 221 (ASTM B 221M), ALLOY 6063-T5.

2.6 JOINT TREATMENT MATERIALS
- A. GENERAL: COMPLY WITH ASTM C 475/C 475M.
- B. JOINT TAPE:
  1. INTERIOR GYPSUM BOARD: PAPER.
  2. TILE BACKING PANELS: AS RECOMMENDED BY PANEL MANUFACTURER.
- C. JOINT COMPOUND FOR INTERIOR GYPSUM BOARD: FOR EACH COAT USE FORMULATION THAT IS COMPATIBLE WITH OTHER COMPOUNDS APPLIED ON PREVIOUS OR FOR SUCCESSIVE COATS.
  1. PREFILLING: AT OPEN JOINTS, ROUNDED OR BEVELED PANEL EDGES, AND DAMAGED SURFACE AREAS, USE SETTING-TYPE TAPING COMPOUND.
  2. EMBEDDING AND FIRST COAT: FOR EMBEDDING TAPE AND FIRST COAT ON JOINTS, FASTENERS, AND TRIM FLANGES, USE DRYING-TYPE, ALL-PURPOSE COMPOUND.
     - a. USE SETTING-TYPE COMPOUND FOR INSTALLING PAPER-FACED METAL TRIM ACCESSORIES.
  3. FILL COAT: FOR SECOND COAT, USE SETTING-TYPE, SANDABLE TOPPING COMPOUND.
  4. FINISH COAT: FOR THIRD COAT, USE SETTING-TYPE, SANDABLE TOPPING COMPOUND.
  5. SKIM COAT: FOR FINAL COAT OF LEVEL 5 FINISH, USE SETTING-TYPE, SANDABLE TOPPING COMPOUND.
- D. JOINT COMPOUND FOR TILE BACKING PANELS:
  1. CEMENTITIOUS BACKER UNITS: AS RECOMMENDED BY BACKER UNIT MANUFACTURER.
  2. WATER-RESISTANT GYPSUM BACKING BOARD: USE SETTING-TYPE TAPING COMPOUND AND SETTING-TYPE, SANDABLE TOPPING COMPOUND.

2.7 AUXILIARY MATERIALS
- A. GENERAL: PROVIDE AUXILIARY MATERIALS THAT COMPLY WITH REFERENCED INSTALLATION STANDARDS AND MANUFACTURER'S WRITTEN RECOMMENDATIONS.
- B. LAMINATING ADHESIVE: ADHESIVE OR JOINT COMPOUND RECOMMENDED FOR DIRECTLY ADHERING GYPSUM PANELS TO CONTINUOUS SUBSTRATE.
  1. LAMINATING ADHESIVE
- C. STEEL DRILL SCREWS: ASTM C 1002, UNLESS OTHERWISE INDICATED.
  1. USE SCREWS COMPLYING WITH ASTM C 954 FOR FASTENING PANELS TO STEEL MEMBERS FROM 0.033 TO 0.112 INCH (0.84 TO 2.84 MM) THICK.
  2. FOR FASTENING CEMENTITIOUS BACKER UNITS, USE SCREWS OF TYPE AND SIZE RECOMMENDED BY PANEL MANUFACTURER.
- D. 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.
  1. FIRE-RESISTANCE-RATED ASSEMBLIES: COMPLY WITH MINERAL-FIBER REQUIREMENTS OF ASSEMBLY.
- E. ACOUSTICAL JOINT SEALANT: MANUFACTURER'S STANDARD NONSAG, PAINTABLE, NONSTAINING LATEX SEALANT COMPLYING WITH ASTM C 834. PRODUCT EFFECTIVELY REDUCES AIRBORNE SOUND TRANSMISSION THROUGH PERIMETER JOINTS AND OPENINGS IN BUILDING CONSTRUCTION AS DEMONSTRATED BY TESTING REPRESENTATIVE ASSEMBLIES ACCORDING TO ASTM E 90.
  1. PRODUCTS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, AVAILABLE PRODUCTS THAT MAY BE INCORPORATED INTO THE WORK INCLUDE, BUT ARE NOT LIMITED TO, THE FOLLOWING:
     - a. ACCUMETRIC LLC; BOSS 824 ACOUSTICAL SOUND SEALANT.
     - b. GRABBER CONSTRUCTION PRODUCTS; ACOUSTICAL SEALANT GSC.
     - c. USG CORPORATION; SHEETROCK ACOUSTICAL SEALANT.
  2. ACOUSTICAL JOINT SEALANT SHALL HAVE A VOC CONTENT OF [250] <INSERT VALUE> G/L OR LESS WHEN CALCULATED ACCORDING TO 40 CFR 59, SUBPART D (EPA METHOD 24).

PART 3 - EXECUTION

3.1 EXAMINATION
- A. EXAMINE AREAS AND SUBSTRATES INCLUDING WELDED HOLLOW-METAL FRAMES AND FRAMING, WITH INSTALLER PRESENT, FOR COMPLIANCE WITH REQUIREMENTS AND OTHER CONDITIONS AFFECTING PERFORMANCE.
- B. EXAMINE PANELS BEFORE INSTALLATION. REJECT PANELS THAT ARE WET, MOISTURE DAMAGED, AND MOLD DAMAGED.
- C. PROCEED WITH INSTALLATION ONLY AFTER UNSATISFACTORY CONDITIONS HAVE BEEN CORRECTED.

3.2 APPLYING AND FINISHING PANELS, GENERAL
- A. COMPLY WITH ASTM C 840.
- B. 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.
- C. INSTALL PANELS WITH FACE SIDE OUT. BUTT PANELS TOGETHER FOR A LIGHT CONTACT AT EDGES AND ENDS WITH NOT MORE THAN 1/16 INCH (1.5 MM) OF OPEN SPACE BETWEEN PANELS. DO NOT FORCE INTO PLACE.
- D. LOCATE EDGE AND END JOINTS OVER SUPPORTS, EXCEPT IN CEILING APPLICATIONS WHERE INTERMEDIATE SUPPORTS OR GYPSUM BOARD BACK-BLOCKING IS PROVIDED BEHIND END JOINTS. DO NOT PLACE TAPERED EDGES AGAINST CUT EDGES OR ENDS. STAGGER VERTICAL JOINTS ON OPPOSITE SIDES OF PARTITIONS. DO NOT MAKE JOINTS OTHER THAN CONTROL JOINTS AT CORNERS OF FRAMED OPENINGS.
- E. FORM CONTROL AND EXPANSION JOINTS WITH SPACE BETWEEN EDGES OF ADJOINING GYPSUM PANELS.
- F. COVER BOTH FACES OF SUPPORT FRAMING WITH GYPSUM PANELS IN CONCEALED SPACES (ABOVE CEILINGS, ETC.), EXCEPT IN CHASES BRACED INTERNALLY.
  1. UNLESS CONCEALED APPLICATION IS INDICATED OR REQUIRED FOR SOUND, FIRE, AIR, OR SMOKE RATINGS, COVERAGE MAY BE ACCOMPLISHED WITH SCRAPS OF NOT LESS THAN 8 SQ. FT. (0.7 SQ. M) IN AREA.
  2. FIT GYPSUM PANELS AROUND DUCTS, PIPES, AND CONDUITS.
  3. WHERE PARTITIONS INTERSECT STRUCTURAL MEMBERS PROJECTING BELOW UNDERSIDE OF FLOOR/ROOF SLABS AND DECKS, CUT GYPSUM PANELS TO FIT PROFILE FORMED BY STRUCTURAL MEMBERS; ALLOW 1/4- TO 3/8-INCH- (6.4- TO 9.5-MM-) WIDE JOINTS TO INSTALL SEALANT.
- G. ATTACHMENT TO STEEL FRAMING: ATTACH PANELS SO LEADING EDGE OR END OF EACH PANEL IS ATTACHED TO OPEN (UNSUPPORTED) EDGES OF STUD FLANGES FIRST.
- H. INSTALL SOUND ATTENUATION BLANKETS BEFORE INSTALLING GYPSUM PANELS UNLESS BLANKETS ARE READILY INSTALLED AFTER PANELS HAVE BEEN INSTALLED ON ONE SIDE.

3.3 APPLYING INTERIOR GYPSUM BOARD
- A. INSTALL INTERIOR GYPSUM BOARD IN THE FOLLOWING LOCATIONS:
  1. WALLBOARD TYPE: AS INDICATED ON DRAWINGS.
  2. TYPE X: AS INDICATED ON DRAWINGS.
  3. MOISTURE- AND MOLD-RESISTANT TYPE: INSTALL IN AS INDICATED ON DRAWINGS AND IN RESTROOMS, JANITORS CLOSET, AND ALL WET AREAS OR DESIGNATED BY P.M.
- B. SINGLE-LAYER APPLICATION:
  1. ON CEILINGS, APPLY GYPSUM PANELS BEFORE WALL/PARTITION BOARD APPLICATION TO GREATEST EXTENT POSSIBLE AND AT RIGHT ANGLES TO FRAMING UNLESS OTHERWISE INDICATED.
  2. ON PARTITIONS/WALLS, APPLY GYPSUM PANELS VERTICALLY (PARALLEL TO FRAMING) UNLESS OTHERWISE INDICATED OR REQUIRED BY FIRE-RESISTANCE-RATED ASSEMBLY, AND MINIMIZE END JOINTS.
     - a. STAGGER ABUTTING END JOINTS NOT LESS THAN ONE FRAMING MEMBER IN ALTERNATE COURSES OF PANELS.
  3. FASTENING METHODS: APPLY GYPSUM PANELS TO SUPPORTS WITH STEEL DRILL SCREWS.

3.4 INSTALLING TRIM ACCESSORIES
- A. GENERAL: 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.
- B. CONTROL JOINTS: INSTALL CONTROL JOINTS ACCORDING TO ASTM C 840 AND IN SPECIFIC LOCATIONS APPROVED BY ARCHITECT FOR VISUAL EFFECT.
- C. INTERIOR TRIM: INSTALL IN THE FOLLOWING LOCATIONS:
  1. CORNERBEAD: USE AT OUTSIDE CORNERS UNLESS OTHERWISE INDICATED.
  2. LC-BEAD: USE AT EXPOSED PANEL EDGES.
  3. U-BEAD: USE AT EXPOSED PANEL EDGES.
  4. CURVED-EDGE CORNERBEAD: USE AT CURVED OPENINGS.
- D. ALUMINUM TRIM: INSTALL IN LOCATIONS INDICATED ON DRAWINGS.

3.5 FINISHING GYPSUM BOARD
- A. GENERAL: TREAT GYPSUM BOARD JOINTS, INTERIOR ANGLES, EDGE TRIM, CONTROL JOINTS, PENETRATIONS, FASTENER HEADS, SURFACE DEFECTS, AND ELSEWHERE AS REQUIRED TO PREPARE GYPSUM BOARD SURFACES FOR DECORATION. PROMPTLY REMOVE RESIDUAL JOINT COMPOUND FROM ADJACENT SURFACES.
- B. PREFILL OPEN JOINTS[, ROUNDED OR BEVELED EDGES,] AND DAMAGED SURFACE AREAS.
- C. APPLY JOINT TAPE OVER GYPSUM BOARD JOINTS, EXCEPT FOR TRIM PRODUCTS SPECIFICALLY INDICATED AS NOT INTENDED TO RECEIVE TAPE.
- D. GYPSUM BOARD FINISH LEVELS: FINISH PANELS TO LEVELS INDICATED BELOW AND ACCORDING TO ASTM C 840:
  1. LEVEL 5: ON ALL WALLS.
     - a. PRIMER AND ITS APPLICATION TO SURFACES ARE SPECIFIED IN SECTION 099123 "INTERIOR PAINTING."
- E. CEMENTITIOUS BACKER UNITS: FINISH ACCORDING TO MANUFACTURER'S WRITTEN INSTRUCTIONS.

3.6 PROTECTION
- A. PROTECT ADJACENT SURFACES FROM DRYWALL COMPOUND AND PROMPTLY REMOVE FROM FLOORS AND OTHER NON-DRYWALL SURFACES. REPAIR SURFACES STAINED, MARRED, OR OTHERWISE DAMAGED DURING DRYWALL APPLICATION.
- B. PROTECT INSTALLED PRODUCTS FROM DAMAGE FROM WEATHER, CONDENSATION, DIRECT SUNLIGHT, CONSTRUCTION, AND OTHER CAUSES DURING REMAINDER OF THE CONSTRUCTION PERIOD.
- C. REMOVE AND REPLACE PANELS THAT ARE WET, MOISTURE DAMAGED, AND MOLD DAMAGED.
  1. INDICATIONS THAT PANELS ARE WET OR MOISTURE DAMAGED INCLUDE, BUT ARE NOT LIMITED TO, DISCOLORATION, SAGGING, OR IRREGULAR SHAPE.
  2. INDICATIONS THAT PANELS ARE MOLD DAMAGED INCLUDE, BUT ARE NOT LIMITED TO, FUZZY OR SPLOTCHY SURFACE CONTAMINATION AND DISCOLORATION.

3.7 APPLYING AND FINISHING GYPSUM BOARD PANELS: COMPLY WITH ASTM C840 AND GA 216 APPLICATION AND FINISH STANDARDS.
- A. INSTALL CEILING BOARD PANELS ACROSS FRAMING TO MINIMIZE THE NUMBER OF ABUTTING END JOINTS AND TO AVOID ABUTTING END JOINTS IN CENTRAL AREAS OF CEILINGS. BUTT PANELS TOGETHER FOR LIGHT CONTACT AT EDGES OF ADJACENT PANELS. LOCATE JOINTS OVER SUPPORTS. SPACE FASTENERS IN GYPSUM PANEL ACCORDING TO REFERENCED STANDARDS AND MANUFACTURER'S WRITTEN RECOMMENDATIONS.
- B. INSTALL TRIM AT CORNERS, END BEAD, REVEAL AND SIMILAR CONDITIONS.

3.8 FINISHING GYPSUM BOARD ASSEMBLIES: TREAT GYPSUM BOARD JOINTS, INTERIOR ANGLES, EDGE TRIM, CONTROL JOINTS, PENETRATIONS, FASTENER HEADS, SURFACE DEFECTS AND ELSEWHERE AS REQUIRED TO PREPARE GYPSUM BOARD SURFACES FOR DECORATION. APPLY JOINT TAPE OVER JOINTS EXCEPT THOSE WITH TRIM HAVING FLANGES NOT INTENDED FOR TAPE.
- A. FINISH PANELS IN ACCORDANCE WITH ASTM C 840 FOR LOCATIONS INDICATED:
  1. LEVEL 5:
     - a. ALL WALLS.

END OF SECTION 09 29 00

SECTION 09 31 00 - CERAMIC TILE

PART 1 GENERAL

1.1 UNLOADING, RECEIVING, STORAGE AND HANDLING OF CERAMIC TILE AT THE PROJECT SITE SHALL BE PERFORMED BY THE CONTRACTOR.

PART 2 PRODUCTS

2.1 SALES AREA TILE:
- A. TILE: AS INDICATED IN STANDARD INTERIOR FINISHES SCHEDULE.
- B. LATEX PORTAND CEMENT MORTAR (THIN SET): LATICRETE #317 MORTAR MIX WITH WATER (INTERIOR).
- C. GROUT SHALL BE BOSTIK #S119 (SAM) 'HYDROMENT' (SANDED), COLOR: TBD.
- D. WATERPROOF MEMBRANE (IF REQUIRED): URETHANE WATERPROOFING AND TILE-SETTING ADHESIVE: ONE-PART, LIQUID-APPLIED URETHANE, WITH A VOC CONTENT OF 65 G/L OR LESS WHEN CALCULATED ACCORDING TO 40 CFR 59, SUBPART D (EPA METHOD 24), IN A CONSISTENCY SUITABLE FOR TROWEL APPLICATION AND INTENDED FOR USE AS BOTH WATERPROOFING AND TILE-SETTING ADHESIVE IN A TWO-STEP PROCESS.
  1. PRODUCTS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, AVAILABLE PRODUCTS THAT MAY BE INCORPORATED INTO THE WORK INCLUDE, BUT ARE NOT LIMITED TO, THE FOLLOWING:
     - a. BOSTIK, INC.; DURABOND D-200.
- E. ELASTOMERIC SEALANTS
  1. GENERAL: PROVIDE SEALANTS, PRIMERS, BACKER RODS, AND OTHER SEALANT ACCESSORIES THAT COMPLY WITH THE FOLLOWING REQUIREMENTS AND WITH THE APPLICABLE REQUIREMENTS IN SECTION 079200 "JOINT SEALANTS."
  2. SEALANTS SHALL HAVE A VOC CONTENT OF [250] <INSERT VALUE> G/L OR LESS WHEN CALCULATED ACCORDING TO 40 CFR 59, SUBPART D (EPA METHOD 24).
  3. USE PRIMERS, BACKER RODS, AND SEALANT ACCESSORIES RECOMMENDED BY SEALANT MANUFACTURER.

PART 3 EXECUTION

3.1 EXAMINE SUBSTRATES, AREAS AND CONDITIONS WHERE TILE WILL BE INSTALLED FOR COMPLIANCE WITH REQUIREMENTS FOR INSTALLATION TOLERANCES AND OTHER CONDITIONS AFFECTING PERFORMANCE.
- A. INSTALL CERAMIC TILE AND GROUT USING SPACING AS INDICATED ON THE DRAWINGS.
- B. THE CERAMIC TILE IS PROVIDED IN SHEETS WITH A PATTERN. TILE SHALL BE INSTALLED TO MEET OWNER'S REPRESENTATIVE CRITERIA.

3.2 ANSI TILE INSTALLATION STANDARDS: COMPLY WITH PARTS OF ANSI A 108 SERIES "SPECIFICATIONS FOR INSTALLATION OF CERAMIC TILE" THAT APPLY TO TYPES OF SETTING AND GROUTING MATERIALS AND TO METHODS INDICTED. COMPLY WITH TCA'S "HANDBOOK FOR CERAMIC TILE INSTALLATION" METHODS INDICATED.

3.3 FLOOR TILE INSTALLATION:
- A. INTERIOR FLOOR TILE:
  1. CONCRETE SUBSTRATE: TCA F 113 AND ANSI A 108.5, INSTALLATION ON CONCRETE, THIN SET MORTAR.
  2. WOOD SUBSTRATE: TCA F 144 AND ANSI A 108.5, INSTALLATION ON CEMENTITIOUS BACKER BOARD OVER STRUCTURALLY SOUND WOOD SUBSTRATE, THIN SET MORTAR.
  3. THIN SET MORTAR: PORTLAND CEMENT MORTAR.
  4. GROUT: SANDED PORTLAND CEMENT.
- B. BASE: TCA THIN-LIP.
- C. EXPANSION JOINT: TCA EJ 171.
- D. SEALANT: 1/2 INCH SEALANT DEPTH WITH CONTINUOUS BACKER ROD.
- E. CLEANING AND PROTECTION: ON COMPLETION OF PLACEMENT AND GROUTING, CLEAN ALL CERAMIC TILE SURFACES SO THEY ARE FREE OF FOREIGN MATTER. REMOVE GROUT RESIDUE FROM TILE AS SOON AS POSSIBLE. CLEAN GROUT SMEARS AND HAZE FROM TILE ACCORDING TO TILE AND GROUT MANUFACTURER'S RECOMMENDATIONS.

3.4 WATERPROOFING INSTALLATION
- A. INSTALL WATERPROOFING TO COMPLY WITH ANSI A108.13 AND MANUFACTURER'S WRITTEN INSTRUCTIONS TO PRODUCE WATERPROOF MEMBRANE OF UNIFORM THICKNESS AND BONDED SECURELY TO SUBSTRATE.
- B. DO NOT INSTALL TILE OR SETTING MATERIALS OVER WATERPROOFING UNTIL WATERPROOFING HAS CURED AND BEEN TESTED TO DETERMINE THAT IT IS WATERTIGHT.

SECTION 09 51 13 - ACOUSTICAL PANEL CEILINGS

PART 1 - GENERAL

1.1 THIS SECTION INCLUDES
- A. SALES AREAS METAL PANELS CEILING SYSTEM PROVIDED BY CONTRACTOR INCLUDING PANELS AND SUSPENSION SYSTEMS.
- B. NON SALES AREAS ACOUSTICAL PANEL CEILING SYSTEMS PROVIDED BY CONTRACTOR INCLUDING PANELS AND SUSPENSION SYSTEMS.

PART 2 - PRODUCTS

2.1 SEE FINISH SCHEDULE FOR A LIST OF ACOUSTICAL PANEL CEILING PRODUCTS
- A. ADDITIONAL PANEL CRITERIA:
  1. DIMENSIONAL STABILITY: HUMIGUARD PLUS - TEMPERATURE IS BETWEEN 32°F (0° C) AND 120°F (49° C). IT IS NOT NECESSARY FOR THE AREA TO BE ENCLOSED OR FOR HVAC SYSTEMS TO BE FUNCTIONING. ALL WET WORK (PLASTERING, CONCRETE, ETC) MUST BE COMPLETE AND DRY.
  2. PROVIDE ANTIMICROBIAL PROTECTION: BIOBLOCK PLUS - RESISTANCE AGAINST THE GROWTH OF MOLD/MILDEW AND GRAM POSITIVE AND GRAM NEGATIVE ODOR AND STAIN CAUSING BACTERIA.

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