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SECTION 32 3113- FENCING

- 2.1 MATERIALS
- A. CHAIN LINK FENCE:
- 8 FOOT HIGH 9 GAUGE GALVANIZED CHAIN LINK FENCE SYSTEM WITH GATES AS INDICATED.
  - POSTS: 2-3/8 INCH O.D. GALVANIZED STEEL CORNER AND LINE POSTS AT 8 FOOT O.C. MAX. 1-1/16 INCH O.D. GALVANIZED TOP RAIL. CORE POSTS INTO SLAB AND SET IN 8 INCH DIAMETER X 18 INCH DEEP CONCRETE FOOTINGS.

SECTION 04 2000 – UNIT MASONRY

- 1.1 SUBMITTALS
- A. PROVIDE TWO (2) SAMPLES OF EACH TYPE OF SPECIFIED BLOCK TO THE HEB DESIGN ARCHITECT. INCLUDE SILL PIECE.
- 1.2 PROJECT CONDITIONS
- A. PROTECTION OF MASONRY: DURING ERECTION, COVER TOPS OF WALLS, PROJECTIONS, AND SILLS WITH WATERPROOF SHEETING AT END OF EACH DAYS WORK. COVER PARTIALLY COMPLETED MASONRY WHEN CONSTRUCTION IS NOT IN PROGRESS.

- 2.1 CONCRETE MASONRY UNITS
- A. INTEGRALLY COLORED CONCRETE MASONRY UNITS: ASTM C 90 AND AS FOLLOWS:
- MANUFACTURER AND COLORS: AS INDICATED ON DRAWINGS.
  - WEIGHT CLASSIFICATION: MEDIUM WEIGHT (ABOVE GRADE) AND NORMAL WEIGHT (BELOW GRADE).
  - SIZE: NOMINAL SIZES AS INDICATED ON DRAWINGS.
  - FINISH: EXPOSED FACES MATCHING COLOR, PATTERN, AND TEXTURE OF APPROVED SAMPLES.

- 2.2 MORTAR AND GROUT MATERIALS
- A. PORTLAND CEMENT: ASTM C 150, TYPE I OR II. PROVIDE NATURAL COLOR OR WHITE CEMENT AS REQUIRED TO PRODUCE MORTAR COLOR TO MATCH MASONRY UNITS.
- B. MASONRY CEMENT: ASTM C91.
- C. HYDRATED LIME: ASTM C 207, TYPE S.
- D. PORTLAND CEMENT-LIME MIX: PACKAGED BLEND OF PORTLAND CEMENT COMPLYING WITH ASTM C 150, TYPE I OR TYPE III, AND HYDRATED LIME COMPLYING WITH ASTM C 207.
- E. AGGREGATE FOR MORTAR: ASTM C 144; EXCEPT FOR JOINTS LESS THAN 1/4 INCH, USE AGGREGATE GRADED WITH 100 PERCENT PASSING THE NO. 16 SEIVE.
- F. AGGREGATE FOR GROUT: ASTM C 404.
- G. ADMIXTURES: NOT PERMITTED.
- H. WATER: POTABLE.

- 2.3 REINFORCING STEEL
- A. STEEL REINFORCING BARS: BILLET STEEL COMPLYING WITH ASTM A 615.
- 2.4 JOINT REINFORCEMENT
- A. GENERAL: PROVIDE JOINT REINFORCEMENT FORMED FROM THE FOLLOWING:
- GALVANIZED CARBON-STEEL WIRE, COATING CLASS AS FOLLOWS: ASTM A 153, CLASS B-2, FOR EXTERIOR WALLS.

- B. DESCRIPTION: WELDED-WIRE UNITS PREFABRICATED WITH DEFORMED CONTINUOUS SIDE RODS AND PLAN CROSS RODS INTO STRAIGHT LENGTHS OF NOT LESS THAN 10 FEET, WITH PREFABRICATED CORNER AND TIE UNITS.
- C. PROVIDE LADDER TYPE DESIGN WITH SINGLE PAIR OF SIDE RODS AND PERPENDICULAR CROSS RODS SPACED NOT MORE THAN 16 INCHES O.C. WIRE DIAMETER FOR SIDE RODS AND CROSS RODS: 6.1483 INCH.

- 2.5 MORTAR AND GROUT MIXES
- A. GENERAL: DO NOT USE ADMIXTURES, AIR-ENTRAINING AGENTS, ACCELERATORS, RETARDERS, WATER-REPELLENT AGENTS, ANTIFREEZE COMPOUNDS, OR OTHER ADMIXTURES, UNLESS OTHERWISE INDICATED.
- DO NOT USE CALCIUM CHLORIDE IN MORTAR OR GROUT.
- B. MORTAR FOR UNIT MASONRY: COMPLY WITH ASTM C 270, PROPORTION SPECIFICATION, FOR TYPE S. THOROUGHLY MIX MORTAR INGREDIENTS IN ACCORDANCE WITH ASTM C270, IN QUANTITIES NEEDED FOR IMMEDIATE USE.
- MAINTAIN SAND UNIFORMLY DAMP IMMEDIATELY BEFORE THE MIXING PROCESS.
  - PROVIDE UNIFORMITY OF MIX AND COLORATION.
  - IF WATER IS LOST BY EVAPORATION, RETEMPER ONLY WITHIN 2 HOURS OF MIXING. DO NOT RETEMPER MORTAR MORE THAN 2 HOURS AFTER MIXING.
- C. GROUT FOR UNIT MASONRY: COARSE GROUT (3/8" DIAMETER (MAX) AGGREGATE), IN ACCORDANCE WITH ASTM C476.
- COMPRESSIVE STRENGTH: 2000 PSI (MIN) AT 28 DAYS, AS DETERMINED IN ACCORDANCE WITH ASTM C1019.
  - SUMP: 8 INCHES, MINIMUM; 10 INCHES, MAXIMUM, TAKEN IN ACCORDANCE WITH ASTM C143.

SECTION 06 1000 – ROUGH CARPENTRY

- 2.1 MATERIALS
- A. WOOD PRESERVATIVE TREATED MATERIALS: WHERE LUMBER OR PLYWOOD IS INDICATED AS PRESERVATIVE TREATED, COMPLY WITH APPLICABLE AFWA 09 (P LY WOOD). MARK EACH TREATED ITEM WITH THE QUALITY MARK REQUIREMENTS OF AN INSPECTION AGENCY APPROVED BY ALSO'S BOARD OF REVIEW.
- B. PRESSURE TREAT ABOVE GROUND ITEMS WITH WATERBOURNE PRESERVATIVES TO A MINIMUM RETENTION OF 0.25 LB/CUBIC FEET. AFTER TREATMENT: KILN DRY LUMBER AND PLYWOOD TO A MAXIMUM MOISTURE CONTENT OF 19 AND 15 PERCENT RESPECTIVELY. TREAT INDICATED ITEMS AND THE FOLLOWING:
- WOOD SILLS, SLEEPERS, BLOCKING, FURRING STRIPPING, AND SIMILAR MEMBERS IN CONTACT WITH MASONRY OR CONCRETE.
- C. PRESERVATIVE TREATMENT BY PRESSURE PROCESS: AFWA C2, EXCEPT THAT LUMBER THAT IS NOT IN CONTACT WITH THE GROUND AND IS CONTINUOUSLY PROTECTED FROM LIQUID WATER MAY BE TREATED ACCORDING TO AFWA C31 WITH INORGANIC BORON (SBX).
- PRESERVATIVE CHEMICALS: ACCEPTABLE TO AUTHORITIES HAVING JURISDICTION AND CONTAINING NO ARSENIC OR CHROMIUM.
- D. PROVIDE FIRE RETARDANT TREATED BLOCKING AT LOCATIONS ON THE INTERIOR OF THE BUILDING.
- 2.3 FASTENERS
- A. GENERAL: PROVIDE FASTENERS OF SIZE AND TYPE INDICATED THAT COMPLY WITH REQUIREMENTS SPECIFIED IN THIS ARTICLE OR MATERIAL AND MANUFACTURER. WHERE ROUGH CARPENTRY IS EXPOSED TO WEATHER, IN GROUND CONTACT OR IN AN AREA OF HIGH RELATIVE HUMIDITY, PROVIDE FASTENERS WITH A HOT-DIP ZINC COATING PER ASTM A153 OR OF TYPE 304 STAINLESS STEEL.
- B. NAILS, WIRE, BRADS AND STAPLES: FS FF-N-105.
- C. POWER DRIVEN FASTENERS: CABO NER-272.
- D. WOOD SCREWS: ASME B18.6.1.
- E. LAG BOLTS: ASME B18.2.1.
- F. BOLTS: STEEL BOLTS COMPLYING WITH ASTM A 307, GRADE A WITH ASTM A563 HEX NUTS AND FLAT WASHERS.

- 3.1 INSTALLATION
- A. SET ROUGH CARPENTRY TO REQUIRED LEVELS AND LINES, WITH MEMBERS PLUMB, TRUE TO LINE, CUT, AND FITTED.
- B. FIT ROUGH CARPENTRY TO OTHER CONSTRUCTION, SCRIBE AND COPE AS REQUIRED FOR ACCURATE FIT. CORRELATE LOCATION OF FURRING, NAILERS, BLOCKING, GROUNDS, AND SIMILAR SUPPORTS TO ALLOW ATTACHMENT OF OTHER CONSTRUCTION.
- C. SECURELY ATTACH ROUGH CARPENTRY TO SUBSTRATE Y ANCHORING AND FASTENING AS INDICATED, COMPLYING WITH THE FOLLOWING:
- CABO NER-272 FOR POWER DRIVEN STAPLES, P-NAILS, AND ALLIED FASTENERS.
  - PUBLISHED REQUIREMENTS OF METAL FRAMING ANCHOR MANUFACTURER.
  - "RECOMMENDED NAILING SCHEDULE" (IF REFERENCED FRAMING STANDRAD AND WITH THE AFWA'S "NATIONAL DESIGN SPECIFICATIONS FOR WOOD CONSTRUCTION".
  - "TABLE 2305.2 -FASTENING SCHEDULE" OF THE BOCA NATIONAL BUILDING CODE.
- D. USE COMMON WIRE NAILS, UNLESS OTHERWISE INDICATED. USE FINISHING NAILS FOR FINISH WORK. SELECT FASTENERS OF SIZE THAT WILL NOT FULLY PENETRATE MEMBERS WHERE OPPOSITE SIDE WILL BE EXPOSED TO VIEW OR WILL RECEIVE FINISH MATERIALS. MAKE TIGHT CONNECTIONS BETWEEN MEMBERS. INSTALL FASTENERS WITHOUT SPLITTING WOOD. PREDRILL AS REQUIRED.

SECTION 06 4023 – INTERIOR ARCHITECTURAL WOODWORK

- 2.1 MATERIALS
- A. PROVIDE MATERIALS THAT COMPLY WITH REQUIREMENTS OF THE AWI QUALITY STANDARD FOR CUSTOM GRADE FOR EACH TYPE OF WOODWORK INDICATED:
- PLASTIC LAMINATES:
    - COLOR AND PATTERN: AS INDICATED ON DRAWINGS.
  - HARDWOOD VENEER:
    - SELECT RED OAK (ALL SAWWOOD), PLAN SAWN OR SLICED TO MATCH VENEER OF FLUSH WOOD DOORS.
    - VENEER MATCHING: BOOK MATCHED VENEER LEAVES AND CENTER-BALANCE MATCH WITHIN PANEL FACE.
  - HARDWARE: ALL EXPOSED HARDWARE FINISH TO MATCH DOOR HARDWARE FINISH, NON EXPOSED HARDWARE TO BE US26D, UNLESS OTHERWISE NOTED.
    - DRAWER AND DOOR PULLS: METAL BALL TYPE, 4" SCREW CENTERS WITH 1" PROJECTION AS MANUFACTURED BY STANLEY NO. 484-26D.
    - CABINET LOCKS: KEYS CYLINDER, TWO KEYS PER LOCK, MASTER KEYED.
    - CATCHES: MAGNETIC, STANLEY SP-45 AND SP-46. PROVIDE OTHER TYPES REQUIRED FOR SPECIAL CONDITIONS.
    - DRAWER SLIDES: BLUM METABOX "C" 320 SERIES DRAWER GUIDES. HEIGHT TO MATCH CABINET FACE. COLOR: WHITE.
    - HINGES: BLUM MODEL 170, CONCEALED HINGE WITH 170 DEGREE OPENING OR GRASS SYSTEM 1200 (176 DEGREE OPENING) SELF CLOSING WITH 100-80 BASE PLATE.
- 3.1 INSTALLATION
- A. INSTALL FINISH CARPENTRY WORK PLUMB, LEVEL, TRUE, AND STRAIGHT WITH NO DISTORTIONS. SHIM AS REQUIRED USING CONCEALED SHIMS. SCRIBE AND CUT FINISH CARPENTRY ITEMS TO FIT ADJOINING WORK. PERFORM WORK IN ACCORDANCE WITH AWI CUSTOM GRADE QUALITY.
- B. INSTALL FINISH CARPENTRY WITH MINIMUM NUMBER OF JOINTS AS POSSIBLE, USING FULL LENGTH FROM MAXIMUM LENGTH OF MATERIALS AVAILABLE.
- C. REFINISH CUT SURFACES OR REPAIR DAMAGED FINISH AT CUTS.
- D. ANCHOR FINISH CARPENTRY TO ANCHORS OR BLOCKING BUILT IN OR DIRECTLY ATTACHED TO SUBSTRATES. SECURE TO GROUNDS, STRIPPING AND BLOCKING WITH COUNTERSUNK, CONCEALED FASTENERS AND BLIND NAILING AS REQUIRED FOR COMPLETE INSTALLATION. USE FINISHING NAILS FOR EXPOSED NAILING. ALL COUNTERSUNK FASTENERS SHALL BE FILLED WITH FLUSH AND SHALL MATCH FINAL FINISH WHERE TRANSPARENT FINISH IS REQUIRED.
- E. PAINT, STAIN, AND SEALER: SAND FINISH ALL EXPOSED WOOD SURFACES TO RECEIVE PAINT, STAIN, OR SEALER. APPLY PAINT, STAIN, OR SEALER IN STRICT ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. PROVIDE TWO (2) COATS MINIMUM ON ALL WOOD USED IN MILLWORK CONSTRUCTION INCLUDING TOE-KICKS AND SCRIBES.

SECTION 07 2100 - THERMAL INSULATION

- 1.1 SUBMITTALS
- A. PRODUCT TEST REPORTS.
- B. RESEARCH/EVALUATION REPORTS FOR FOAM-PLASTIC INSULATION.

- 2.1 MATERIALS
- A. BATT INSULATION: TO ACHIEVE A DESIGN R VALUE OF 19, UNFACED FIBERGLASS COMPLYING WITH ASTM C 665, OF WIDTHS TO COMPLETELY FILL VOID FORMED BY FRAMING MEMBERS.
- B. SILL GASKET: AMOCO SILL SEALER BY TENNECO BUILDING PRODUCTS (800) 241-4402.
- C. SOUND ATTENUATION BATTS: 3-1/2 INCHES UNFACED. WIDTHS TO COMPLETELY FILL VOIDS FORMED BY FRAMING MEMBERS.
- 3.1 INSTALLATION
- A. BATT INSULATION: FIT INSULATION SNUGLY BETWEEN FRAMING WITH A FRICTION FIT. LEAVE NO VOIDS. INSTALL THERMAL INSULATION AT EXTERIOR WALLS WHERE INDICATED.
- EXTEND INSULATION FULL THICKNESS OVER ENTIRE SURFACE TO BE INSULATED TO PROVIDE AN UNINTERRUPTED THERMAL BARRIER.
  - INSULATE IRREGULARLY SHAPED AREAS BETWEEN CLOSELY SPACED FRAMING MEMBERS WITH CUT-TO-FIT INSULATION.
- B. SILL-SEALER GASKETS: GLASS-FIBER-RESILIENT INSULATION, FABRICATED IN STRIP FORM, FOR USE AS A SILL SEALER, 1-INCH NOMINAL THICKNESS, COMPRESSIBLE TO 1/32 INCH; SELECTED FROM MANUFACTURER'S STANDARD WIDTHS TO SUIT WIDTH OF SILL MEMBERS INDICATED.
- C. PRIOR TO CLOSING-IN OF INSULATED ASSEMBLIES, OR PRIOR TO SUBSTANTIAL COMPLETION FOR INSULATION THAT WILL REMAIN EXPOSED IN THE BUILDING, REFIT, REINSTALL, AND/OR REPLACE DAMAGED AND DISPLACED INSULATION.

SECTION 07 4113 – ROOF PANELS

- 1.1 SUBMITTALS
- A. PRODUCT DATA AND SAMPLES: FOR EACH COLOR AND FINISH TYPE OF METAL ROOF PANEL AND ACCESSORY INDICATED.
- 1.2 WARRANTY
- A. SPECIAL WARRANTY: MANUFACTURER'S STANDARD FORM IN WHICH MANUFACTURER AGREES TO REPAIR OR REPLACE COMPONENTS OF METAL ROOF PANEL ASSEMBLIES THAT FAIL IN MATERIALS OR WORKMANSHIP WITHIN SPECIFIED WARRANTY PERIOD.
- FAILURES INCLUDE, BUT ARE NOT LIMITED TO, THE FOLLOWING:
    - STRUCTURAL FAILURES, INCLUDING RUPTURING, CRACKING, OR PUNCTURING.
    - DETERIORATION OF METALS, METAL FINISHES, AND OTHER MATERIALS BEYOND NORMAL WEATHERING.
  - WARRANTY PERIOD: ONE YEAR FROM DATE OF SUBSTANTIAL COMPLETION.
- B. SPECIAL WARRANTY ON PANEL FINISHES: MANUFACTURER'S STANDARD FORM IN WHICH MANUFACTURER AGREES TO REPAIR FINISH OR REPLACE METAL ROOF PANELS THAT SHOW EVIDENCE OF DETERIORATION OF FACTORY-APPLIED FINISHES WITHIN SPECIFIED WARRANTY PERIOD.
- FLUOROPOLYMER FINISH WARRANTY PERIOD: 20 YEARS FROM DATE OF SUBSTANTIAL COMPLETION.

- 2.1 METAL ROOF PANELS
- A. METAL ROOF PANELS: FACTORY-FORMED EXPOSED FASTENER, LAP SEAM WALL PANELS DESIGNED TO BE FIELD ASSEMBLED BY LAPPING EDGES OF ADJACENT PANELS AND MECHANICALLY ATTACHING PANELS TO SUPPORTS USING EXPOSED PANEL FASTENERS IN SIDE LAPS. INCLUDE ACCESSORIES REQUIRED FOR WEATHERTIGHT INSTALLATION.
- STEEL PANEL SYSTEMS: COMPLY WITH ASTM E 1514, MBCI PBC ROOF PANEL.
  - TYPE: VERTICAL RIB, SEALED JOINT AS INDICATED ON DRAWINGS.
  - MATERIAL: METALLIC COATED STEEL SHEET, 24 GAUGE
    - EXTERIOR FINISH: FLUOROPOLYMER.
    - COLOR: TO BE SELECTED BY ARCHITECT FROM MANUFACTURER'S STANDARD COLOR OFFERING
  - PANEL FASTENERS: DESIGNED TO WITHSTAND DESIGN LOADS.
    - MATERIAL: SELF TAPPING SCREWS WITH HEADS MATCHING COLOR OF METAL WALL PANELS BY MEANS OF PLASTIC CAPS OR FACTORY-APPLIED COATING. PROVIDE EPDM, PVC, OR NEOPRENE SEALING WASHERS.
  - JOINT TYPE: AS STANDARD WITH MANUFACTURER.
  - PANEL COVERAGE: 32 INCH.
  - PANEL HEIGHT: 7/8 INCH.
  - UPLIFT RATING: COMPLY WITH UL580 FOR WIND-UPLIFT. RESISTANCE CLASS UL90.
  - SOLAR REFLECTANCE INDEX (SRI) EQUAL TO OR GREATER THAN 29.
  - LOCATION: AS INDICATED ON DRAWINGS.
  - FINISH: AS INDICATED ON DRAWINGS.

- 3.1 INSTALLATION
- A. INSTALL PER MANUFACTURER'S WRITTEN INSTRUCTIONS.
- SECTION 07 6200 - SHEET METAL FLASHING AND TRIM

- 2.1 MATERIALS
- A. PROVIDE GALVANIZED SHEET METAL, NECESSARY TO COMPLETE THE FOLLOWING WORK:
- FLASHING AND COUNTER FLASHING, 24 GAUGE, OR AS OTHERWISE INDICATED ON DRAWINGS.
- 3.1 INSTALLATION
- A. COMPLY WITH THE LATEST EDITION OF SHEET METAL AND AIR CONDITIONING CONTRACTORS' NATIONAL ASSOCIATION (SMACNA) ARCHITECTURAL SHEET METAL MANUAL AND SELECTED ROOFING MANUFACTURER'S REQUIREMENT.

SECTION 07 8413 - PENETRATION FIRESTOPPING

- PART 1 - GENERAL
- 1.1 SUMMARY
- A. SECTION INCLUDES:
  - PENETRATIONS IN FIRE-RESISTANCE-RATED WALLS.
  - PENETRATIONS IN HORIZONTAL ASSEMBLIES.
  - PENETRATIONS IN SMOKE BARRIERS.
- 1.2 SUBMITTALS
- A. PRODUCT DATA: FOR EACH TYPE OF PRODUCT INDICATED.
- B. PRODUCT TEST REPORTS
- 1.3 QUALITY ASSURANCE
- A. INSTALLER QUALIFICATIONS: A FIRM THAT HAS BEEN APPROVED BY FM GLOBAL ACCORDING TO FM GLOBAL 4991, "APPROVAL OF FIRESTOP CONTRACTORS," OR BEEN EVALUATED BY UL AND FOUND TO COMPLY WITH ITS "QUALIFIED FIRESTOP CONTRACTOR PROGRAM REQUIREMENTS".
- B. FIRE-TEST-RESPONSE CHARACTERISTICS: PENETRATION FIRESTOPPING SHALL COMPLY WITH THE REQUIREMENTS OF FIRESTOPPING TESTS PERFORMED BY UL.
- PART 2 - PRODUCTS
- 2.1 MANUFACTURERS
- 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:
  - GRACE CONSTRUCTION PRODUCTS
  - HILTI INC.
  - 3M FIRE PROTECTION PRODUCTS
  - USO CORPORATION.
- 2.2 PENETRATIO FIRESTOPPING
- A. PROVIDE PENETRATION FIRESTOPPING THAT IS PRODUCED AND INSTALLED TO RESIST SPREAD OF FIRE ACCORDING TO REQUIREMENTS INDICATED, RESIST PASSAGE OF SMOKE AND OTHER GASES, AND MAINTAIN ORIGINAL FIRE-RESISTANCE RATING OF CONSTRUCTION PENETRATED. PENETRATION FIRESTOPPING SYSTEMS SHALL BE COMPATIBLE WITH ONE ANOTHER, WITH THE SUBSTRATES FORMING OPENINGS, AND WITH PENETRATING ITEMS IF ANY.
- B. PENETRATIONS IN FIRE-RESISTANCE-RATED WALLS: RATING DETERMINED PER ASTM E 814 OR UL 1479, BASED ON TESTING AT A POSITIVE PRESSURE DIFFERENTIAL OF 0.01-INCH WG
  - F-RATING: NOT LESS THAN THE FIRE-RESISTANCE RATING OF CONSTRUCTIONS PENETRATED.
- C. PENETRATIONS IN HORIZONTAL ASSEMBLIES: RATING DETERMINED PER ASTM E 814 OR UL 1479, BASED ON TESTING A POSITIVE PRESSURE DIFFERENTIAL OF 0.01-INCH WG.
  - F-RATING: AT LEAST 1 HOUR, BUT NOT LESS THAN THE FIRE-RESISTANCE RATING OF CONSTRUCTIONS PENETRATED.
- D. PENETRATIONS IN SMOKE BARRIERS: PROVIDE PENETRATION FIRESTOPPING WITH RATINGS DETERMINED PER UL 1479.
  - L-RATING: NOT EXCEEDING 5.0 CFM/SQ. FT. OF PENETRATION OPENING AT 0.30-INCH WGAT BOTH AMBIENT AND ELEVATED TEMPERATURES.
- E. EXPOSED PENETRATION FIRESTOPPING: PROVIDE PRODUCTS WITH FLAME-SPREAD AND SMOKE DEVELOPED INDEXES OF LESS THAN 26 AND 450, RESPECTIVELY, AS DETERMINED PER ASTM E 84.
- F. ACCESSORIES: PROVIDE COMPONENTS FOR EACH PENETRATION FIRESTOPPING SYSTEM THAT ARE NEEDED TO INSTALL FIRE-RATED DOORS AND WINDOWS. PROVIDE ACCESSORIES: ASSEMBLIES COMPLYING WITH NFPA 80 THAT ARE LISTED AND LABELED BY A QUALIFIED TESTING AGENCY, FOR FIRE-PROTECTION RATINGS INDICATED, BASED ON TESTING AT POSITIVE PRESSURE ACCORDING TO NFPA 252.
- PART 3 - EXECUTION
- 3.1 INSTALLATION
- A. EXAMINE SUBSTRATES AND CONDITIONS, WITH INSTALLER PRESENT, FOR COMPLIANCE WITH REQUIREMENTS FOR OPENING CONFIGURATIONS, PENETRATING ITEMS, SUBSTRATES, AND OTHER CONDITIONS AFFECTING PERFORMANCE OF THE WORK.
- B. INSTALL PENETRATION FIRESTOPPING TO COMPLY WITH MANUFACTURER'S WRITTEN INSTALLATION INSTRUCTIONS AND PUBLISHES DRAWINGS FOR PRODUCTS AND APPLICATIONS INDICATED
- C. INSTALL FORMING MATERIALS AND OTHER ACCESSORIES OF TYPES REQUIRED TO SUPPORT FILL MATERIALS DURING THEIR APPLICATION AND IN THE POSITION NEEDED TO PRODUCE CROSS-SECTIONAL SHAPES AND DEPTHS REQUIRED TO ACHIEVE FIRE RATINGS INDICATED.
  - AFTER INSTALLING FILL MATERIALS AND ALLOWING THEM TO FULLY CURE, REMOVE COMBUSTIBLE FORMING MATERIALS AND OTHER ACCESSORIES NOT INDICATED AS PERMANENT COMPONENTS OF FIRESTOPPING.
- D. INSTALL FILL MATERIALS FOR FIRESTOPPING BY PROVEN TECHNIQUES TO PRODUCE THE FOLLOWING RESULTS:
  - FILL VOIDS AND CAVITIES FORMED BY OPENINGS, FORMING MATERIALS, ACCESSORIES, AND PENETRATING ITEMS AS REQUIRED TO ACHIEVE FIRE-RESISTANCE RATINGS INDICATED.
  - APPLY MATERIALS SO THEY CONTACT AND ADHERE TO SUBSTRATES FORMED BY OPENINGS AND PENETRATING ITEMS
  - FOR FILL MATERIALS THAT WILL REMAIN EXPOSED AFTER COMPLETING THE WORK, FINISH TO PRODUCE SMOOTH, UNIFORM SURFACES THAT ARE FLUSH WITH ADJOINING FINISHES.

- 3.2 IDENTIFICATION
- A. IDENTIFY PENETRATION FIRESTOPPING WITH REPRINTED METAL OR PLASTIC LABELS. ATTACH LABELS PERMANENTLY TO SURFACES ADJACENT TO AND WITHIN 6 INCHES OF FIRESTOPPING EDGE SO LABELS WILL BE VISIBLE TO ANYONE SEEKING TO REMOVE PENETRATING ITEMS OR FIRESTOPPING. USE MECHANICAL FASTENERS OR SELF-ADHERING-TYPE LABELS WITH ADHESIVES CAPABLE OF PERMANENTLY BONDING LABELS TO SURFACES ON WHICH LABELS ARE PLACED. INCLUDE THE FOLLOWING INFORMATION ON LABELS:
  - THE WORDS "WARNING - PENETRATION FIRESTOPPING. DO NOT DISTURB. NOTIFY BUILDING MANAGEMENT OF ANY DAMAGE."
  - CONTRACTOR'S NAME, ADDRESS AND PHONE NUMBER
  - DESIGNATION OF APPLICABLE TESTING AND INSPECTING AGENCY.
  - DATE OF INSTALLATION.
  - MANUFACTURER'S NAME.
  - INSTALLER'S NAME.

SECTION 07 8446 – FIRE RESISTIVE JOINT SYSTEMS

- PART 1 - GENERAL
- 1.1 SUMMARY
- A. SECTION INCLUDES:
  - JOINTS IN OR BETWEEN FIRE-RESISTANCE-RATED CONSTRUCTIONS.
- 1.2 SUBMITTALS
- A. PRODUCT DATA: FOR EACH TYPE OF PRODUCT INDICATED.
- B. PRODUCT TEST REPORTS.
- 1.3 QUALITY ASSURANCE
- A. INSTALLER QUALIFICATIONS: A FIRM THAT HAS BEEN APPROVED BY FM GLOBAL ACCORDING TO FM GLOBAL 4991, "APPROVAL OF FIRESTOP CONTRACTORS," OR BEEN EVALUATED BY UL AND FOUND TO COMPLY WITH UL'S "QUALIFIED FIRESTOP CONTRACTOR PROGRAM REQUIREMENTS."
- B. FIRE-TEST-RESPONSE CHARACTERISTICS: FIRE-RESISTIVE JOINT SYSTEMS SHALL COMPLY WITH THE REQUIREMENTS OF FIRE-RESISTIVE JOINT SYSTEM TESTS PERFORMED BY UL.
- PART 2 - PRODUCTS
- 2.1 FIRE-RESISTIVE JOINT SYSTEMS
- A. WHERE REQUIRED, PROVIDE FIRE-RESISTIVE JOINT SYSTEMS THAT ARE PRODUCED AND INSTALLED TO RESIST SPREAD OF FIRE ACCORDING TO REQUIREMENTS INDICATED, RESIST PASSAGE OF SMOKE AND OTHER GASES, AND MAINTAIN ORIGINAL FIRE-RESISTANCE RATING OF ASSEMBLIES IN OR BETWEEN WHICH FIRE-RESISTIVE JOINT SYSTEMS ARE INSTALLED. FIRE-RESISTIVE JOINT SYSTEMS SHALL ACCOMMODATE BUILDING MOVEMENTS WITHOUT IMPAIRING THEIR ABILITY TO RESIST THE PASSAGE OF FIRE AND HOT GASES.
- B. JOINTS IN OR BETWEEN FIRE-RESISTANCE-RATED CONSTRUCTION: RATINGS DETERMINED PER ASTM E 1966 OR UL 2079:
  - FIRE-RESISTANCE RATING: EQUAL TO OR EXCEEDING THE FIRE-RESISTANCE RATING OF CONSTRUCTION THEY WILL JOIN.
  - 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:
    - GRACE CONSTRUCTION PRODUCTS.
    - HILTI, INC.
    - JOHNS MANVILLE.
    - TREMCO, INC.; TREMCO FIRE PROTECTION SYSTEMS GROUP.
    - USO CORPORATION.
- C. EXPOSED FIRE-RESISTIVE JOINT SYSTEMS: PROVIDE PRODUCTS WITH FLAME-SPREAD AND SMOKE-DEVELOPED INDEXES OF LESS THAN 25 AND 450, RESPECTIVELY, AS DETERMINED PER ASTM E 84.
- D. ACCESSORIES: PROVIDE COMPONENTS OF FIRE-RESISTIVE JOINT SYSTEMS, INCLUDING PRIMERS AND FORMING MATERIALS, THAT ARE NEEDED TO INSTALL FILL MATERIALS AND TO MAINTAIN RATINGS REQUIRED. USE ONLY COMPONENTS SPECIFIED BY FIRE-RESISTIVE JOINT SYSTEM MANUFACTURER AND APPROVED BY THE QUALIFIED TESTING AGENCY FOR SYSTEMS INDICATED.

- PART 3 - EXECUTION
- 3.1 INSTALLATION
- A. EXAMINE SUBSTRATES AND CONDITIONS, WITH INSTALLER PRESENT, FOR COMPLIANCE WITH REQUIREMENTS FOR JOINT CONFIGURATIONS, SUBSTRATES, AND OTHER CONDITIONS AFFECTING PERFORMANCE OF THE WORK.
- B. INSTALL FIRE-RESISTIVE JOINT SYSTEMS TO COMPLY WITH MANUFACTURER'S WRITTEN INSTALLATION INSTRUCTIONS AND PUBLISHED DRAWINGS FOR PRODUCTS AND APPLICATIONS INDICATED.
- C. INSTALL FORMING MATERIALS AND OTHER ACCESSORIES OF TYPES REQUIRED TO SUPPORT FILL MATERIALS DURING THEIR APPLICATION AND IN POSITION NEEDED TO PRODUCE CROSS-SECTIONAL SHAPES AND DEPTHS REQUIRED TO ACHIEVE FIRE RATINGS INDICATED.
  - AFTER INSTALLING FILL MATERIALS AND ALLOWING THEM TO FULLY CURE, REMOVE COMBUSTIBLE FORMING MATERIALS AND OTHER ACCESSORIES NOT INDICATED AS PERMANENT COMPONENTS OF FIRE-RESISTIVE JOINT SYSTEM.
- D. INSTALL FILL MATERIALS FOR FIRE-RESISTIVE JOINT SYSTEMS BY PROVEN TECHNIQUES TO PRODUCE THE FOLLOWING RESULTS:
  - FILL VOIDS AND CAVITIES FORMED BY JOINTS AND FORMING MATERIALS AS REQUIRED TO ACHIEVE FIRE-RESISTANCE RATINGS INDICATED.
  - APPLY FILL MATERIALS SO THEY CONTACT AND ADHERE TO SUBSTRATES FORMED BY JOINTS.
  - FOR FILL MATERIALS THAT WILL REMAIN EXPOSED AFTER COMPLETING THE WORK, FINISH TO PRODUCE SMOOTH, UNIFORM SURFACES THAT ARE FLUSH WITH ADJOINING FINISHES.
- 3.2 IDENTIFICATION
- A. IDENTIFY FIRE-RESISTIVE JOINT SYSTEMS WITH REPRINTED METAL OR PLASTIC LABELS. ATTACH LABELS PERMANENTLY TO SURFACES ADJACENT TO AND WITHIN 6 INCHES OF JOINT. EDGE SO LABELS WILL BE VISIBLE TO ANYONE SEEKING TO REMOVE OR PENETRATE JOINT SYSTEM. USE MECHANICAL FASTENERS OR SELF-ADHERING-TYPE LABELS WITH ADHESIVES CAPABLE OF PERMANENTLY BONDING LABELS TO SURFACES ON WHICH LABELS ARE PLACED. INCLUDE THE FOLLOWING INFORMATION ON LABELS:
  - THE WORDS "WARNING - FIRE-RESISTIVE JOINT SYSTEM - DO NOT DISTURB."
  - CONTRACTOR'S NAME, ADDRESS, AND PHONE NUMBER.
  - DESIGNATION OF APPLICABLE TESTING AGENCY.
  - DATE OF INSTALLATION.
  - MANUFACTURER'S NAME.
  - INSTALLER'S NAME.

- 3.3 FIELD QUALITY CONTROL
- A. WHERE DEFICIENCIES ARE FOUND OR FIRE-RESISTIVE JOINT SYSTEMS ARE DAMAGED OR REMOVED DUE TO TESTING, REPAIR OR REPLACE FIRE-RESISTIVE JOINT SYSTEMS SO THEY COMPLY WITH REQUIREMENTS.
- B. PROCEED WITH ENCLOSING FIRE-RESISTIVE JOINT SYSTEMS WITH OTHER CONSTRUCTION ONLY AFTER INSPECTION REPORTS ARE ISSUED AND INSTALLATIONS COMPLY WITH REQUIREMENTS.

SECTION 07 9200 - JOINT SEALANTS

- 2.1 MATERIALS
- A. MOISTURE BARRIER: 6-MIL POLYETHYLENE SHEET MEMBRANE. PROVIDE MOISTURE BARRIER WITH 73% MINIMUM RECYCLE CONTENT, UNLESS OTHERWISE NOTED.
- B. FLEXIBLE BASE FLASHING: 20-MIL SHEET VINYL, WATER BARRIER.
- C. FLASHING ADHESIVE: STIFF FIBERED MASTIC COMPATIBLE WITH FLEXIBLE MEMBRANE FLASHING.
- D. JOINT BACKING: PROVIDE CLOSED CELL COMPRESSIBLE, NON-STAINING, NON-ROTTING JOINT BACKING PER SEALANT MANUFACTURER'S RECOMMENDATION.
- E. CLOSED CELL EXPANDED RUBBER: MM SYSTEMS ELASTOPRENE CLOSED CELL EXPANDED RUBBER FOR USE AT WIDE GAPS WHERE INDICATED ON DRAWINGS.
- F. MANUFACTURERS:
  - FLEXIBLE FLASHING: B.F. GOODRICH OR APPROVED EQUAL.
  - FLASHING ADHESIVE: PHILIP CAREY DUK-BAK #107.
  - SEALANTS FOR EXTERIOR AND INTERIOR EXPANSION AND CONTROL JOINTS: SONNEBORN NP-2 OR APPROVED EQUAL.
  - OTHER INTERIOR JOINT SEALANTS: DAP OR APPROVED EQUAL.

- 3.1 INSTALLATION
- A. PROVIDE SEALANT FOR ALL EXTERIOR AND INTERIOR EXPANSION AND CONTROL JOINTS, WINDOW, CURTAINWALL, AND STOREFRONT SYSTEMS, AND MASONRY AND PRECAST CONSTRUCTION.
- B. PROVIDE SEALANT ALONGS PERIMETER OF ALL DOOR FRAMES, WINDOWS AND STOREFRONT.
- C. PROVIDE CONTINUOUS MANUFACTURER RECOMMENDED EPOXY ANCHORING FOR APPLICATION OF CLOSED CELL EXPANDED RUBBER.

SECTION 08 1113– HOLLOW METAL DOORS AND FRAMES

- 1.1 SUBMITTALS
- A. PROVIDE MANUFACTURER'S DOOR AND FRAME PRODUCT DATA.
- B. INDICATE LOCATION, ELEVATION, SIZE, HAND OF EACH DOOR, AND LOCATION OF MORTISES AND HOLES FOR HARDWARE, ZINC.
- 1.3 QUALITY ASSURANCE
- A. FIRE-RATED DOORS AND WINDOWS: ASSEMBLIES COMPLYING WITH NFPA 80 THAT ARE LISTED AND LABELED BY A QUALIFIED TESTING AGENCY, FOR FIRE-PROTECTION RATINGS INDICATED, BASED ON TESTING AT POSITIVE PRESSURE ACCORDING TO NFPA 252.
- 2.1 MATERIALS
- A. DOORS:
  - SEAMLESS DESIGN, 1½ INCH THICK 18 GAUGE FLUSH COLD-ROLLED SHEET, FLUSH STEEL PANELS, FACTORY PRIMED FOR FIELD PAINTING.
  - EXTERIOR DOORS GALVANIZED.
- B. FRAMES:
  - FABRICATE FRAMES WITH MITERED OR COPED CORNERS, CONTINUOUSLY WELDED, 2 INCH THICK 16 GAUGE COLD-ROLLED STEEL SHEET.
- 2.2 FABRICATION
- A. EXPOSED FASTENERS: UNLESS OTHERWISE INDICATED, PROVIDE COUNTERSUNK FLAT OR OVAL HEADS FOR EXPOSED SCREWS AND BOLTS.

SECTION 08 1416– FLUSH WOOD DOORS

- 1.1 SUBMITTALS
- A. PROVIDE MANUFACTURER'S DOOR PRODUCT DATA.
- B. INDICATE LOCATION, ELEVATION, SIZE, HAND OF EACH DOOR, LOCATION OF MORTISES AND HOLES FOR HARDWARE, AND FINISHES.
- 2.1 MATERIALS
- A. HOLLOW CORE DOORS:
  - CONSTRUCTION: STANDARD HOLLOW CORE.
  - GRADE: CUSTOM (GRADE A FACES)
  - SPECIES: WHITE OAK
  - CUT: PLAN SLICED (FLAT SLICED)
- B. MATCH BETWEEN VENEER LEAVES: BOOK MATCH
- C. ASSEMBLY OF VENEER LEAVES ON DOOR FACES: CENTER-BALANCE MATCH
- D. PAIR AND SET MATCH: PROVIDE FOR DOORS HUNG IN SAME OPENING.
- CONSTRUCTION: SEVEN PILES.
- 2.2 FACTORY FINISH
- A. MATCH EXISTING DOORS FINISH.

SECTION 08 4113 - ALUMINUM ENTRANCES AND STOREFRONTS

- 2.1 MANUFACTURERS
- A. KAWNEER, EFCO, OLD CASTLE ARCHITECTURAL PRODUCTS; PPG ARCHITECTURAL METALS; TUBELITE; OR EQUAL.
- PRODUCT SYSTEM: MATCH EXISTING PROFILE AND COLOR
- B. DESIGN ALUMINUM STOREFRONT WINDOW SYSTEM TO WITHSTAND FM DESIGN WINDLOADS.
- 2.2 ACCESSORIES
- A. BRACKETS AND REINFORCEMENTS: PROVIDE MANUFACTURER'S STANDARD BRACKETS AND REINFORCEMENTS THAT ARE COMPATIBLE WITH ADJACENT MATERIALS. PROVIDE NON-STAINING, NONFERROUS SHIMS FOR ALIGNING SYSTEM COMPONENTS.
- B. FASTENERS AND ACCESSORIES: MANUFACTURER'S STANDARD CORROSION-RESISTANT, NON-STAINING, NONBLEEDING FASTENERS AND ACCESSORIES COMPATIBLE WITH ADJACENT MATERIALS.
- C. CONCEALED FLASHING: MANUFACTURER'S STANDARD CORROSION-RESISTANT, NON-STAINING, NONBLEEDING FLASHING, COMPATIBLE WITH ADJACENT MATERIALS, AND OF TYPE RECOMMENDED BY MANUFACTURER. PROVIDE RECEIVER SILLS AS RECOMMENDED BY MANUFACTURER.
- D. HARDWARE: PER MANUFACTURER'S STANDARD AS FOLLOWS:
  - DOOR CLOSURES: KAWNEER LCN 4040 SUPER SMOOTHEE SURFACE MOUNTED OVERHEAD ADJUSTABLE CLOSER.
  - PIVOTS/BUTTS: MANUFACTURER'S STANDARD.
  - WEATHERSTRIPPING: MANUFACTURER'S STANDARD.
- 2.3 FABRICATION
- A. FABRICATE COMPONENTS THAT, WHEN ASSEMBLED, WILL HAVE ACCURATELY FITTED JOINTS WITH ENDS COPED OR MITERED TO PRODUCE HAIRLINE JOINTS FREE OF BURRS AND DISTORTION.
- B. FORMING: FORM SHAPES WITH SHARP PROFILES, STRAIGHT AND FREE OF DEFECTS OR DEFORMATIONS, BEFORE FINISHING.
- C. PREPARE COMPONENTS TO RECEIVE CONCEALED FASTENERS AND ANCHOR AND CONNECTION DEVICES.
- D. FABRICATE COMPONENTS TO DRAIN WATER PASSING JOINTS AND CONDENSATION AND MOISTURE OCCURRING OR MIGRATING WITHIN THE SYSTEM TO THE EXTERIOR.
- E. WELDING: WELD COMPONENTS TO COMPLY WITH AWS STANDARDS. WELD BEFORE FINISHING COMPONENTS TO GREATEST EXTENT POSSIBLE. WELD IN CONCEALED LOCATIONS TO GREATEST EXTENT POSSIBLE TO MINIMIZE DISTORTION OR DISCOLORATION OF FINISH. REMOVE WELD SPATTER AND WELDING OXIDES FROM EXPOSED SURFACES BY DESCALING OR GRINDING.
- F. GLAZING CHANNELS: PROVIDE MINIMUM CLEARANCES FOR THICKNESS AND TYPE OF GLASS INDICATED ACCORDING TO FGMA'S GLAZING MANUAL.
- G. METAL PROTECTION: WHERE ALUMINUM WILL CONTACT DISSIMILAR METALS, PROTECT AGAINST GALVANIC ACTION BY PAINTING CONTACT SURFACES WITH PRIMER OR BY APPLYING SEALANT OR TAPE RECOMMENDED BY MANUFACTURER FOR THIS PURPOSE. WHERE ALUMINUM WILL CONTACT CONCRETE OR MASONRY, PROTECT AGAINST CORROSION BY PAINTING CONTACT SURFACES WITH BITUMINOUS PAINT.
- H. FABRICATE FRAMING IN PROFILES INDICATED. FACTORY-ASSEMBLE COMPONENTS TO GREATEST EXTENT POSSIBLE. DISASSEMBLE COMPONENTS ONLY AS NECESSARY FOR SHIPMENT AND INSTALLATION.
- 2.4 ALUMINUM FINISHES
- A. CLASS II, ANODIZED BRONZE, TO MATCH EXISTING
- 3.1 INSTALLATION
- A. FIELD MEASUREMENTS: VERIFY DIMENSIONS BY FIELD MEASUREMENTS BEFORE FABRICATION AND INDICATE MEASUREMENTS ON RECORD DRAWINGS.
- B. FIT FRAME JOINTS TO PRODUCE HAIRLINE JOINTS FREE OF BURRS AND DISTORTION. RIGIDLY SECURE NON-MOVEMENT JOINTS. SEAL JOINTS WATERTIGHT.
- C. METAL PROTECTION: WHERE ALUMINUM WILL CONTACT DISSIMILAR METALS, PROTECT AGAINST GALVANIC ACTION BY PAINTING CONTACT SURFACES WITH PRIMER OR BY APPLYING SEALANT OR TAPE RECOMMENDED BY MANUFACTURER FOR THIS PURPOSE. WHERE ALUMINUM WILL CONTACT CONCRETE OR MASONRY, PROTECT AGAINST CORROSION BY PAINTING CONTACT SURFACES WITH BITUMINOUS PAINT.
- D. INSTALL COMPONENTS TO DRAIN WATER PASSING JOINTS AND CONDENSATION AND MOISTURE OCCURRING OR MIGRATING WITHIN THE SYSTEM TO THE EXTERIOR.
- E. SET CONTINUOUS SILL MEMBERS AND FLASHING IN A FULL SEALANT BED TO PROVIDE WEATHERTIGHT CONSTRUCTION.
- F. INSTALL GLAZING TO COMPLY WITH STOREFRONT MANUFACTURER'S INSTRUCTIONS, AND AS INDICATED.
- G. INSTALL PERIMETER SEALANT TO COMPLY WITH STOREFRONT MANUFACTURER'S INSTRUCTIONS, AND AS INDICATED.

SECTION 08 7100 – DOOR HARDWARE

- 2.1 MATERIALS
- A. RELOCATED HARDWARE
- 3.1 INSTALLATION
- A. ADJUST FOR SMOOTH OPERATION

SECTION 08 8000 - GLAZING

- 2.1 MATERIALS
- A. GLAZING SCHEDULE, UNLESS OTHERWISE INDICATED ON DRAWINGS:
  - G1: INSULATED TINTED TEMPERED FLOAT GLASS
    - THICKNESS: 1 INCH
    - PROVIDE SAFETY GLAZING LABELING
    - TINT TO MATCH EXISTING
  - G2: 1/4 INCH TEMPERED GLASS, CLEAR

SECTION 09 2900 – WALLBOARD

- PART 1 - GENERAL
- 1.1 SUMMARY
- A. SECTION INCLUDES:
  - INTERIOR GYPSUM BOARD.
  - PANEL BACKING PANELS.
  - SOUND ATTENUATION INSULATION.
- 1.2 ACTION SUBMITTALS
- A. PRODUCT DATA: FOR EACH TYPE OF PRODUCT.
- PART 2 - PRODUCTS
- 2.1 INTERIOR GYPSUM BOARD
- A. MANUFACTURERS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE PRODUCTS BY ONE OF THE FOLLOWING :
  - GEORGIA-PACIFIC GYPSUM LLC.
  - NATIONAL GYPSUM COMPANY.
  - TEMPLE-INLAND.
  - USO CORPORATION.
- B. GYPSUM WALLBOARD: ASTM C 1396/C 1396M AND AS FOLLOWS:
  - REGULAR FOR VERTICAL SURFACES UNLESS OTHERWISE INDICATED.
  - TYPE X WHERE REQUIRED FOR FIRE-RESISTANCE-RATED ASSEMBLIES.
  - SAC RESISTANT TYPE FOR CEILING SURFACES.
  - MOISTURE AND MOLD RESISTANT WHEN USED IN RESTROOMS, JANITOR ROOMS, KITCHENS, AND WHEN USED ADJACENT TO RECENTLY LAID MASONRY WHERE MORTAR AND GROUTS MAY CONTAIN MOISTURE.
  - EDGES: TAPERED; SQUARE AT MULTI LAYER APPLICATIONS.
  - THICKNESS: 1/2 INCH UNLESS OTHERWISE INDICATED.
- 2.2 TILE BACKING PANELS
- A. GLASS-MAT, WATER-RESISTANT BACKING BOARD: ASTM C 1178/C 1178M, WITH MANUFACTURER'S STANDARD EDGES. FOR USE BEHIND ALL WALL TILE AND PLASTIC PANELING INSTALLATIONS UNLESS NOTED OTHERWISE.
- PRODUCTS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE ONE OF THE FOLLOWING :
    - CERTAINTED CORP.; GLASROC TILE BACKER.
    - GEORGIA-PACIFIC GYPSUM LLC; DENS-SHIELD TILE BACKER.
    - TEMPLE INLAND, GREENGLASS, FIBERGLASS FACED GYPSUM BOARD.
  - THICKNESS: 5/8 INCH UNLESS OTHERWISE INDICATED.
  - MOLD RESISTANCE: ASTM D 3273, SCORE OF 10.

- 2.3 TRIM ACCESSORIES
- A. INTERIOR AND EXTERIOR TRIM: ASTM C 1047.
  - MATERIAL: GALVANIZED OR ALUMINUM-COATED STEEL SHEET OR ROLLED ZINC.
  - CONTROL JOINTS: NATIONAL GYPSUM 0.0