

# ARCHITECTURAL SPECIFICATIONS:

## SECTION 08111 STANDARD STEEL DOORS

### QUALITY ASSURANCE

- A. FURNISH DOORS COMPLYING WITH STEEL DOOR INSTITUTE "RECOMMENDED SPECIFICATIONS: STANDARD STEEL DOORS AND FRAMES" (ANSI/SDI A250.8-2003 (R2008)).
- B. WHERE FIRE-RATED DOOR ASSEMBLIES ARE INDICATED OR REQUIRED, PROVIDE FIRE-RATED DOORS THAT BEAR "UL" LABELS FOR THE REQUIRED HOUR RATINGS OR LABEL OF A NATIONALLY RECOGNIZED INDEPENDENT TESTING AND INSPECTION AGENCY ACCEPTABLE TO AUTHORITIES HAVING JURISDICTION.

### PRODUCTS

- A. FULL FLUSH TYPE 1-3/4" THICK HOLLOW METAL DOORS, WITHOUT FACE JOINTS OR FACE SEAMS, FABRICATED FROM MINIMUM 18 GAUGE STEEL.
- CLOSE TOP AND BOTTOM EDGES FLUSH TO THE DOOR FACE SHEETS
  - PREPARE DOORS TO RECEIVE 1-1/2" PAIR OF HINGES, SIZE 4-1/2" x 4-1/2"
  - PROVIDE ASTRAGALS ON ACTIVE LEAF OF PAIRS OF EXTERIOR DOORS AND AS REQUIRED FOR LABELED DOORS.
  - FACTORY PREPARES DOORS FOR GLAZING AND LOUVERS.
  - PREPARE TO RECEIVE FEDERAL SPECIFICATIONS SERIES 180 OR 161
  - LOCKS WITH 2-3/4" BACK SET, OR SERIES 86 MORTISE LOCKS WHERE SCHEDULED IN HARDWARE SETS.
  - PROVIDE MANUFACTURER'S STANDARD FOAM OR BATT TYPE SOUND DEADENING INSULATION INSIDE DOORS.
  - CHECK FLOOR FINISHES AND DOOR SCHEDULE FOR UNDERCUTTING AND OTHER SPECIAL REQUIREMENTS. IF UNDERCUTTING IS REQUIRED, UNDERCUT DOORS DURING FABRICATION.
  - EXTERIOR DOORS SHALL BE GALVANIZED STEEL.

- B. LOUVERS SHALL BE, SIZES AS SCHEDULED, INVERTED "Y" OR "Y" TYPE WITH 50% FREE AREA. LOUVERS SHALL BE FACTORY INSTALLED WITH TAMPER PROOF FASTENERS.

### MANUFACTURERS

#### A. DOORS:

- AMWELD, 17L SERIES
- STEELCRAFT, "L20" SERIES
- CURRIES, "707" SERIES
- CECO, "REGENT" SERIES
- WINDSOR REPUBLIC, "DE" SERIES
- MESKER, "N" SERIES

### HARDWARE

- A. TEMPLATES FOR HARDWARE WILL BE SHIPPED TO THE FACTORY FOR FABRICATION BY THE DOOR AND FRAME MANUFACTURER.
- REINFORCE, DRILL AND TAP DOORS TO RECEIVE MORTISED HARDWARE. SURFACE APPLIED HARDWARE SHALL HAVE REINFORCING AS REQUIRED FOR DRILLING AND TAPPING BY INSTALLER.

### EXECUTION

- DOOR INSTALLATION
- A. PLACE FIRE-RATED DOORS WITH CLEARANCES AS SPECIFIED IN NFPA STANDARD NO. 80.

### LOUVER INSTALLATION

- A. INSTALL LOUVERS WITH MANUFACTURERS STANDARD STOPS. SECURE STOPS WITH TAMPER PROOF OVAL HEAD, COUNTERSUNK MACHINE SCREWS, APPROXIMATELY 9" O.C.

## SECTION 08112 STANDARD STEEL FRAMES

### PRODUCTS

#### A. MATERIALS

- A. HOLLOW METAL DOOR FRAMES
- HOLLOW METAL DOOR FRAMES SHALL BE FORMED FROM 18 GAUGE STEEL. FRAMES SHALL BE FLUSH DOUBLE RABBIT TYPE WITH 5/8" DEEP STOPS AND 2" FACE. PROVIDE CASED OPENING (WITHOUT RABBIT STOP) WHERE SCHEDULED.
  - FRAMES, IN MASONRY PARTITIONS, SHALL BE 18 GAUGE, SET UP UNIT TYPE WITH CORNERS MITERED, ARC WELDED AND GROUND SMOOTH. PROVIDE SILL ANCHORS, SPREADERS, JAMB ANCHORS AT 2'-0" O.C.
  - FRAMES IN STUD PARTITIONS SHALL BE "DRYWALL TYPE" FRAMES DESIGNED TO BE INSTALLED AFTER WALL IS UP. FRAMES SHALL HAVE MITERED INTERLOCKING CORNERS, COMPRESSION TYPE JAMB ANCHORS, SILL ANCHORS AND DOUBLE RETURN ON THE BACK BEND TO GRIP AND CAP WALL.
  - FRAMES FOR DOUBLE ACTING SERVICE DOORS SHALL BE UNIT TYPE WITH 12 GAUGE STEEL REINFORCEMENT (HEAD AND JAMBS), BUMPERS, THREE (3) PER STRIKE JAMB AND TWO (2) PER HEAD FOR PAIR OF DOORS.
  - EXTERIOR DOOR FRAMES SHALL BE GALVANIZED STEEL.

### MANUFACTURERS

#### A. STEEL FRAMES

- AMWELD
- STEELCRAFT
- CURRIES
- CECO
- WINDSOR REPUBLIC
- MESKER

### FINISH

- A. AFTER THOROUGHLY CLEANING AND CHEMICALLY TREATING SURFACES, APPLY ONE COAT OF MANUFACTURER'S STANDARD PRIME BAKED ON.

## SECTION 08710 FINISH HARDWARE

### GENERAL REQUIREMENTS

- A. ALL APPLICABLE PORTIONS OF DIVISION 1 - GENERAL REQUIREMENTS ARE TO BE CONSIDERED AS INCLUDED WITH THIS SECTION.

### DESCRIPTION

- A. FURNISH ALL MATERIALS, LABOR, EQUIPMENT, SERVICE, ETC., NECESSARY AND INCIDENTAL FOR THE COMPLETION OF ALL FINISH HARDWARE WORK AS SHOWN ON THE DRAWINGS AND AS SPECIFIED HEREIN.

### QUALITY ASSURANCE

- A. REQUIREMENTS OF REGULATORY AGENCIES:
- FURNISH FINISH HARDWARE TO COMPLY WITH THE REQUIREMENTS OF LAWS, CODES, ORDINANCES, AND REGULATIONS OF THE GOVERNMENTAL AUTHORITIES HAVING JURISDICTION WHERE SUCH REQUIREMENTS EXCEED THE REQUIREMENTS OF THE SPECIFICATIONS.
  - HARDWARE TO HAZARDOUS AREAS SHALL COMPLY WITH THE REQUIREMENTS OF THE REGULATIONS FOR PUBLIC BUILDING ACCOMMODATIONS FOR PHYSICALLY HANDICAPPED PERSONS OF THE GOVERNMENTAL AUTHORITY HAVING JURISDICTION.

### TEMPLATES AND HARDWARE LOCATION

- A. FURNISH HARDWARE MADE TO TEMPLATE. SUPPLY REQUIRED TEMPLATES AND HARDWARE LOCATIONS TO THE DOOR AND FRAME MANUFACTURERS.

### CYLINDERS AND KEYING

- A. ALL HARDWARE COMPONENTS CAPABLE OF BEING LOCKED SHALL BE PROVIDED WITH A CYLINDER AS LISTED BELOW.
- FURNISH CYLINDERS FACTORY MASTER KEYPED TO A BEST SEVEN PIN SYSTEM AS DESCRIBED BELOW.
  - THE CYLINDERS SCHEDULED FOR THE EXTERIOR ENTRANCE DOOR ARE TO RECEIVE A BEST PEAKS PATENT CORE. ALL OTHER DOORS ARE TO RECEIVE A STANDARD BEST CORE.

### PRODUCTS

#### A. MATERIALS

- B. FURNISH EACH CATEGORY WITH THE PRODUCTS OF ONLY ONE MANUFACTURER; THIS REQUIREMENT IS MANDATORY WHETHER VARIOUS MANUFACTURERS ARE LISTED OR NOT.

- C. HINGES: FURNISH CLASS AS SPECIFIED IN HARDWARE SETS IN SIZE 4-1/2" X 4-1/2" INCHES FOR 1-3/4" DOORS. FURNISH NON-REMOVABLE PINS (NRP) FOR HINGES ON EXTERIOR OUT SWINGING DOORS.

	HAGER	LAWRENCE	MCKINNEY	STANLEY
H-1	1279	LH604PB	T2714	F179
H-2	B91279	LH603BB	TA2714	FBB179

#### D. FLUSH BOLTS:

- MANUAL:
  - ANY MEMBER OF B.H.M.A.
- DUST PROOF STRIKES:
  - INCLUDE FLAT, RECTANGULAR MOUNTING PLATES AND FURNISH WITH ALL FLUSH BOLTS, EXCEPT AT OPENINGS HAVING THRESHOLDS.
  - ANY MEMBER OF B.H.M.A.

#### D. LOCK SETS AND LATCH SETS:

- MORTISE SERIES AND FUNCTION DESIGNATIONS ARE BEST (NO SUBSTITUTION).

MANUFACTURER	SERIES	DESIGN
BEST	40H	15H

- BEST HEAVY DUTY CYLINDRICAL: SERIES AND FUNCTION DESIGNATIONS ARE BEST (NO SUBSTITUTION).

MANUFACTURER	SERIES	DESIGN
BEST	9K	15D

#### E. DOOR VIEWER: IVES U896

#### F. EXIT DEVICES

- BUILDING - FURNISH LEVER OUTSIDE TRIM.

#### CORBIN-RUSSWIN

ED-1  
ED5000 SERIES

MONARCH  
25 SERIES

SARGENT  
2828

VON DUPRIN  
98 SERIES

YALE  
7100

#### I. PUSH AND PULL HARDWARE

- PUSH PLATES: PLAIN DESIGN, WROUGHT IRON 3 x 18 x 0.050 INCHES, SQUARE CORNERS, AND BEVELLED EDGES. IF SILE WIDTHS WILL NOT ACCEPT 6 KNOTS, FURNISH WITH STRIP WITH LESS THAN 1/2 INCHES.
- PULL PLATES: PLAIN DESIGN WITH TROUGH PLATE 4 x 18 x 0.050 INCHES, SQUARE CORNERS, BEVELLED EDGES, 3/4 INCH WROUGHT IRON STRAIGHT GRIP, WITH 3/4 INCH CENTERS. FURNISH PUSH AND PULL HARDWARE FROM ANY MEMBER OF B.H.M.A.

#### J. COORDINATORS

- STOP MOUNTED: FURNISH FILLERS FOR FULL JAMB CORNERS AND MOUNTING BRACKET'S FOR STOP APPLIED HARDWARE.
- DOOR CONTROLS INTERNATIONAL 600  
LYNN-JOHNSON COR  
IVES COR

- CARRY BARS: FURNISH AT PAIRS OF DOORS EQUIPPED WITH EXIT DEVICES.

#### K. CLOSER

- FURNISH WITH BACKCHECK AND SIZE PER MANUFACTURERS SELECTOR CHART. NUMBERS SPECIFIED ARE LCN.
- OPERATING PRESSURE SHALL BE A MAXIMUM OF 5 POUNDS PRESSURE FOR INTERIOR DOORS AND 8.5 POUNDS PRESSURE FOR EXTERIOR DOORS.

LCN	C-1	C-2
NORTON	1281	1461
	8500	7500

## SECTION 09260 GYPSUM WALLBOARD ASSEMBLIES

### QUALITY ASSURANCE

- A. APPLICATION AND FINISHING OF ALL GYPSUM WALLBOARD MATERIALS AND ACCESSORIES SHALL BE IN CONFORMANCE WITH THE "APPLICATION AND FINISHING OF GYPSUM PANEL PRODUCTS", DOCUMENT GA-218-2010, BY THE GYPSUM ASSOCIATION.
- B. FIRE-RESISTANCE RATINGS, WHERE INDICATED, FURNISH MATERIALS AND CONSTRUCTION WHICH ARE IDENTICAL TO THOSE OF ASSEMBLIES WHOSE FIRE RESISTANCE RATING COMPLIES WITH REQUIREMENTS OF UNDERWRITERS LABORATORIES (UL).

### PRODUCTS

#### A. MATERIALS

- METAL GYPSUM WALLBOARD STUDS:
- A. DRYWALL SCREW TYPE STUDS:
- LIGHT GAUGE STEEL STUDS COMPLYING WITH ASTM C 845, MINIMUM GAUGE: 26 UNLESS OTHERWISE NOTED.
  - SHAPE: ROLL-FORMED "CS" STUD, WITH RETURNED FLANGE EDGES, UNLESS NOTED OTHERWISE ON DRAWINGS. FACES OF FLANGES SHALL BE SCREW TYPE, KNURLED TO FACILITATE THE USE OF SELF-DRILLING TAPPING FASTENERS.
  - STEEL: ASTM A 591, CLASS B (33,000 PSI YIELD STRENGTH).
  - FINISH: INTERIOR STUDS SHALL HAVE EITHER AN ELECTROLYTIC ZINC COATING COMPLYING WITH ASTM A 591, CLASS B.
  - WHERE STUDS EXTEND FULL HEIGHT TO THE UNDERSTRUCTURE ABOVE, PROVIDE A SELF-ADJUSTING TOP TRACK FABRICATED FROM THE SAME GAUGE STEEL AS THE STUDDING, HAVING VERTICAL SLOTS FOR FASTENERS AND ALLOWING A MINIMUM OF 3/4" MOVEMENT BETWEEN THE TOPS OF STUDS AND THE UNDERSTRUCTURE ABOVE.
- GYPSUM MATERIALS AND ACCESSORIES:
- A. GYPSUM WALLBOARD: ASTM C 38. 5/8" ARDS SHALL BE PAPER COVERED, WITH TAPERED EDGES.
- PROVIDE FIRE RATED BOARD TYPE "C" OR "X" AS REQUIRED FOR ASSEMBLY RATING WHERE FIRE RESISTIVE RATED WORK IS INDICATED.
  - GYPSUM BOARD FOR WALLS SHALL BE 5/8" THICK GYPSUM PANELS.
  - GYPSUM BOARD FOR CEILINGS SHALL BE 5/8" THICK GYPSUM PANELS.
  - MOISTURE AND MOLD RESISTANT GYPSUM BOARD SHALL BE USED IN ALL HUMID AREAS; GYPSUM CORE PANEL WITH ENHANCED CORE FORMULATED FOR RESISTANCE TO MOISTURE AND MOLD; SURFACED WITH MOISTURE/MOLD RESISTANT PAPER ON FRONT, BACK, AND LONG EDGES. COMPLYING WITH ASTM C 896.
  - EXTERIOR TYPE GYPSUM BOARD SHALL BE 5/8" THICK AND SHALL BE DESIGNATED FOR EXTERIOR APPLICATIONS.
- B. JOINT TAPE AND COMPOUND: CONFORMING TO ASTM C 175. C. SCREWS:
- METAL STUDS: SCREWS FOR ATTACHMENT OF GYPSUM WALLBOARD TO LIGHT GAUGE METAL FRAMING SHALL COMPLY WITH THE REQUIREMENTS OF ASTM C 846, TYPE S; 1-1/2" x 1/4" FOR ATTACHMENT TO HEAVY GAUGE STUDS OR JOISTS.
  - WHERE WALLBOARD WILL BE ATTACHED TO WOOD FRAMING, USE TYPE 17 SCREWS, COMPLYING WITH ASTM C 894.
  - USE ASTM C 1178.
  - ADDITIONS: ASTM C 557, AS RECOMMENDED BY THE GYPSUM WALLBOARD MANUFACTURER FOR THE INSTALLATION CONDITIONS INVOLVED.
  - CORNER BEADS, CONTROL JOINTS AND EDGE TRIM: ITEMS TO BE MANUFACTURED FROM CORROSION PROTECTED COATED STEEL.

- Q. WALL STOPS: B.H.M.A. L21201. WROUGHT, FORGED, OR CAST. APPROXIMATELY 2-1/2" DIAMETER, CONVEX OR CONCAVE RUBBER CENTER, CONCEALED FASTENERS.

- P. WEATHER-STRIPPING AND SOUND SEALS: APPLY TO HEAD AND JAMB STOPS WITH NO CUTOUTS FOR STOP APPLIED HARDWARE.
- NATIONAL GUARD 700N  
PEMCO 290AV  
REESE 755

- Q. BOTTOM SWEEP AT BOTTOM OF EXTERIOR DOORS: SHALL BE NYLON BRUSH, DEPTH TO SUIT CONDITIONS.
- NATIONAL GUARD C907A  
PEMCO 18052CNB  
REESE 964C

- R. THRESHOLDS: COPE AT JAMBS.
- NATIONAL GUARD 424  
REESE S204A
- FURNISH FULL WALL OPENING WIDTH WHEN FRAMES ARE RECESSED.

- S. THRESHOLD HOLDERS: FURNISH WITH EACH THRESHOLD.
- NATIONAL GUARD 720  
REESE 270

- T. FASTENERS: FURNISH FASTENERS OF THE PROPER TYPE, SIZE, QUANTITY, AND FINISH. USE MACHINE SCREWS AND EXPANSION SHIELDS FOR ATTACHING HARDWARE TO CONCRETE OR MASONRY, AND WALL GRIP INSERTS AT HOLLOW WALL CONSTRUCTION. ATTACH CLOSER WITH WOOD OR MACHINE SCREWS.

- U. FINISHES: EXTERIOR HINGES, PRIME COAT, USP, OVER MANUFACTURERS RUST RESISTING BASE; HAGER OF LAWRENCE POWDER COAT PRIME, MCKINNEY P, STANLEY K. INTERIOR HINGES, ALUMINUM LACQUER; HAGER L.S, LAWRENCE US26D, MCKINNEY AP, STANLEY LA. DOOR SPRINGS, MANUFACTURERS STANDARD. FLUSH BOLTS, LOCK SET, EXIT DEVICES, ELECTRIC STRIKES, CARRY BARS, DULL CHROME, US26D. PUSH AND PULL HARDWARE, KICK PLATES, FLOOR STOPS, WALL STOPS AND HOLDERS, WEATHER-STRIPPING, ANODIZED ALUMINUM, US28. EXIT CONTROL LOCKS, MANUFACTURERS STANDARD ENAMEL COORDINATORS, PRIME COAT, USP. THRESHOLDS, EXTRUDED ALUMINUM, MILL FINISH. CLOSER, SPRAYED ALUMINUM. AT EXTERIOR DOORS, PROTECT ALL CLOSER CYLINDERS (IF FERROUS), ARMS AND PLATES WITH SPECIAL RUST INHIBITING (SRI) FINISH PRIOR TO FINAL SPRAY ALUMINUM. SEE ALSO DOOR HARDWARE NOTES.

- V. KEY PAD ENTRY DEVICE: ALARM LOCK, TRILOG, 7000C WITH KEY BY-PASS BY BEST.
- ASSURE PROPER ALIGNMENT OF STRIKE PLATE. INSTALLATION PER MANUFACTURERS RECOMMENDATIONS.

- X. SURFACE BOLTS: STANLEY #800 "T" WITH MORTISE STRIKE

- Y. DRIP STRIP: EXTERIOR DOOR FRAMES SHALL BE SUPPLIED WITH A CLEAR ANODIZED DRIP STRIP, 1/2" EXTENSION OF LIP AND 4" GREATER THAN DOOR WIDTH.
- NATIONAL GUARD PRODUCTS #16A  
PEMCO #346  
REESE #R201

### EXECUTION

- A. INSTALL HARDWARE ACCORDING TO MANUFACTURER'S PRINTED INSTRUCTIONS AND TO TEMPLATE DIMENSIONS.

### LOOKS

- A. DIMENSIONS ARE FROM FINISH FLOOR TO CENTER LINE OF ITEMS.

### B. INCLUDE THIS LIST:

CATEGORY	DIMENSION
HINGES	DOOR MANUFACTURER'S
STANDARD FLUSH BOLT LEVERS	72" AND 12"
STANDARD LEVERS	DOOR MANUFACTURER'S
STANDARD EXIT DEVICE PUSH PADDLES	MANUFACTURER'S TEMPLATE
PUSH PLATES	52"
PULL PLATES	42"
WALL STOPS AND HOLDERS	AT HEAD

### QUANTITIES

- A. PROVIDE ONE HINGE FOR EACH 30 INCHES OF DOOR HEIGHT OR FRACTION THEREOF.

- B. PROVIDE EXIT DEVICES, WEATHER-STRIPPING, BOTTOM SWEEP, DRIP STRIP, PUSH AND PULL HARDWARE, CLOSER, KICK PLATES, STOPS AND WALL STOPS AND HOLDERS FOR BOTH LEAVES OF PAIRS UNLESS SPECIFIED OTHERWISE.

### FINAL ADJUSTMENT

- A. PROVIDE THE SERVICES OF A REPRESENTATIVE TO INSPECT MATERIAL FURNISHED AND ITS INSTALLATION AND ADJUSTMENT, TO MAKE FINAL HARDWARE ADJUSTMENT, AND TO INSTRUCT THE OWNER'S PERSONNEL IN ADJUSTMENT, CARE, AND MAINTENANCE OF THE HARDWARE.

## SECTION 09300 CERAMIC TILE

### QUALITY ASSURANCE

- A. TILE SHALL BE QUALITY CERTIFIED BY THE TILE COUNCIL OF AMERICA, INC. (TCA) TO EQUAL OR EXCEED STANDARD GRADE REQUIREMENTS. CERTIFICATION MARK SHALL APPEAR ON EACH LABEL OR TILE CARTON.
- B. UNLESS OTHERWISE SPECIFIED, MATERIALS, METHODS OF INSTALLATION, WORKMANSHIP, CLEANING, AND PROTECTION OF CERAMIC TILE SHALL CONFORM TO APPLICABLE PORTIONS OF THE FOLLOWING PUBLICATIONS:
- AMERICAN NATIONAL STANDARD SPECIFICATION FOR CERAMIC TILE, A137-1.
  - "HANDBOOK FOR CERAMIC TILE INSTALLATION" CURRENT EDITION, PUBLISHED BY TCA.

### PRODUCTS

#### A. MATERIALS

- DRYWALL SCREW TYPE STUDS:
- LIGHT GAUGE STEEL STUDS COMPLYING WITH ASTM C 845, MINIMUM GAUGE: 26 UNLESS OTHERWISE NOTED.
  - SHAPE: ROLL-FORMED "CS" STUD, WITH RETURNED FLANGE EDGES, UNLESS NOTED OTHERWISE ON DRAWINGS. FACES OF FLANGES SHALL BE SCREW TYPE, KNURLED TO FACILITATE THE USE OF SELF-DRILLING TAPPING FASTENERS.
  - STEEL: ASTM A 591, CLASS B (33,000 PSI YIELD STRENGTH).
  - FINISH: INTERIOR STUDS SHALL HAVE EITHER AN ELECTROLYTIC ZINC COATING COMPLYING WITH ASTM A 591, CLASS B.
  - WHERE STUDS EXTEND FULL HEIGHT TO THE UNDERSTRUCTURE ABOVE, PROVIDE A SELF-ADJUSTING TOP TRACK FABRICATED FROM THE SAME GAUGE STEEL AS THE STUDDING, HAVING VERTICAL SLOTS FOR FASTENERS AND ALLOWING A MINIMUM OF 3/4" MOVEMENT BETWEEN THE TOPS OF STUDS AND THE UNDERSTRUCTURE ABOVE.

- GYPSUM MATERIALS AND ACCESSORIES:
- A. GYPSUM WALLBOARD: ASTM C 38. 5/8" ARDS SHALL BE PAPER COVERED, WITH TAPERED EDGES.
- PROVIDE FIRE RATED BOARD TYPE "C" OR "X" AS REQUIRED FOR ASSEMBLY RATING WHERE FIRE RESISTIVE RATED WORK IS INDICATED.
  - GYPSUM BOARD FOR WALLS SHALL BE 5/8" THICK GYPSUM PANELS.
  - GYPSUM BOARD FOR CEILINGS SHALL BE 5/8" THICK GYPSUM PANELS.
  - MOISTURE AND MOLD RESISTANT GYPSUM BOARD SHALL BE USED IN ALL HUMID AREAS; GYPSUM CORE PANEL WITH ENHANCED CORE FORMULATED FOR RESISTANCE TO MOISTURE AND MOLD; SURFACED WITH MOISTURE/MOLD RESISTANT PAPER ON FRONT, BACK, AND LONG EDGES. COMPLYING WITH ASTM C 896.
  - EXTERIOR TYPE GYPSUM BOARD SHALL BE 5/8" THICK AND SHALL BE DESIGNATED FOR EXTERIOR APPLICATIONS.

- B. JOINT TAPE AND COMPOUND: CONFORMING TO ASTM C 175. C. SCREWS:
- METAL STUDS: SCREWS FOR ATTACHMENT OF GYPSUM WALLBOARD TO LIGHT GAUGE METAL FRAMING SHALL COMPLY WITH THE REQUIREMENTS OF ASTM C 846, TYPE S; 1-1/2" x 1/4" FOR ATTACHMENT TO HEAVY GAUGE STUDS OR JOISTS.
  - WHERE WALLBOARD WILL BE ATTACHED TO WOOD FRAMING, USE TYPE 17 SCREWS, COMPLYING WITH ASTM C 894.
  - USE ASTM C 1178.
  - ADDITIONS: ASTM C 557, AS RECOMMENDED BY THE GYPSUM WALLBOARD MANUFACTURER FOR THE INSTALLATION CONDITIONS INVOLVED.
  - CORNER BEADS, CONTROL JOINTS AND EDGE TRIM: ITEMS TO BE MANUFACTURED FROM CORROSION PROTECTED COATED STEEL.

- GYPSUM BOARD SUBSTRATE FOR APPLICATION OF CERAMIC TILE:
- GLASS MAT GYPSUM TILE BACKER SHALL BE 5/8" THICK, FULLY EMBEDDED GLASS MAT GYPSUM TILE BACKER MEETING THE REQUIREMENTS OF ASTM C 1178.
  - FASTENERS: STEEL DRILL SCREWS COMPLYING WITH ASTM C 954 OR ASTM C 1002 AS RECOMMENDED BY TILE BACKER MANUFACTURER, WITH ORGANIC-POLYMER OR OTHER CORROSION-PROTECTIVE COATING.

- CEILING SUSPENSION SYSTEM:
- A. FURNISH COMPONENTS WHICH COMPLY WITH ASTM C754 FOR MATERIALS AND SIZES, UNLESS OTHERWISE INDICATED.
- B. FURNISH CEILING SUSPENSION SYSTEM CONSISTING OF 1-1/2 INCH, COLD ROLLED, RUNNER CHANNELS, DRYWALL FURRING CHANNELS, 1/2 GAUGE GALVANIZED HANGER WIRE, 18 GAUGE GALVANIZED TIE WIRE, ANCHORS, CLIPS, TRIM, SCREWS, AND OTHER ACCESSORIES REQUIRED FOR A COMPLETE INSTALLATION.

- EXECUTION
- INSTALLATION OF METAL STUD SYSTEM:
- SET STUDS PLUMB, EXCEPT AS NEEDED FOR DIAGONAL BRACING OR REQUIRED FOR NON-PLUMB WALLS OR WARPED SURFACES AND SIMILAR REQUIREMENTS.
  - INSTALL SUPPLEMENTARY FRAMING, BLOCKING, AND BRACING IN THE METAL STUD SYSTEM, WHEREVER WALLS OR PARTITIONS ARE INDICATED TO SUPPORT FLOOR, EQUIPMENT, SERVICES, CASEWORK, HEAVY TRIM AND FURNISHINGS, AND ALL SIMILAR WORK REQUIRING ATTACHMENT TO THE WALL OR PARTITION.

- INSTALLATION OF GYPSUM WALLBOARD MATERIALS:
- A. FASTENING: FASTEN WALLBOARD TO SUBSTRATES IN COMPLIANCE WITH THE REQUIREMENTS OF DOCUMENT GA-218.
- B. EDGE TRIM SHALL BE INSTALLED AT ALL LOCATIONS WHERE WALLBOARD TERMINATES AGAINST ANOTHER MATERIAL.
- C. CORNER BEADS SHALL BE INSTALLED AT ALL EXTERIOR ANGLE CORNERS OF WALLBOARD.
- D. SEALING AT WATER RESISTANT GYPSUM BOARD: SEAL ALL CUT OR EXPOSED PANEL EDGES AT UTILITY HOLES AND JOINTS, INCLUDING THOSE AT WALL INTERSECTIONS.
- E. FIRESTOPPING: PROVIDE AT ALL PENETRATIONS AS REQUIRED BY THE APPLICABLE BUILDING CODES.

- INSTALLATION OF GLASS MAT GYPSUM TILE BACKER:
- A. COMPLY WITH GA-218, ASTM C 840, TCA HANDBOOK FOR CERAMIC TILE INSTALLATION AND MANUFACTURER'S WRITTEN INSTRUCTIONS.

- INSTALLATION OF CEILING SUSPENSION SYSTEM:
- A. SPACE RUNNER AND FURRING CHANNELS, HANGERS, AND OTHER COMPONENTS OF SUPPORTING SYSTEM TO FORM RIGID, LEVEL SURFACES. PROVIDE ADDITIONAL SUPPORTS AT CUTOUTS, LIGHT FRAMES, TROFFERS, AND SIMILAR ITEMS.
- B. DO NOT ATTACH HANGERS TO METAL DECK TABS OR METAL ROOF DECK.
- C. DO NOT ATTACH HANGERS TO UNDERSIDE OF CONCRETE SLABS WITH POWDER ACTUATED FASTENERS.
- D. DO NOT CONNECT OR SUSPEND STEEL FRAMING FROM DUCTS, PIPES, CONDUIT OR METAL ROOF DECK. KEEP HANGERS AND BRACES TWO INCHES CLEAR OF DUCTS, PIPES AND CONDUITS.
- E. INSTALL SUSPENDED STEEL FRAMING COMPONENTS IN SIZES AND AT SPACINGS INDICATED BUT NOT LESS THAN THAT REQUIRED BY REFERENCED STEEL FRAMING INSTALLATION STANDARD.
- F. INSTALLATION TOLERANCES: INSTALL STEEL FRAMING COMPONENTS OR SUSPENDED CEILINGS SO THAT CROSS FURRING MEMBERS OR GRID SUSPENSION MEMBERS ARE LEVEL TO WITHIN 1/8" IN 12 FT. AS MEASURED BOTH LENGTHWISE ON EACH MEMBER AND TRANSVERSELY BETWEEN PARALLEL MEMBERS.
- G. WIRE-TIE OR CLIP FURRING MEMBERS TO MAIN RUNNERS.

## SECTION 09300 CERAMIC TILE

### QUALITY ASSURANCE

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- B. UNLESS OTHERWISE SPECIFIED, MATERIALS, METHODS OF INSTALLATION, WORKMANSHIP, CLEANING, AND PROTECTION OF CERAMIC TILE SHALL CONFORM TO APPLICABLE PORTIONS OF THE FOLLOWING PUBLICATIONS:
- AMERICAN NATIONAL STANDARD SPECIFICATION FOR CERAMIC TILE, A137-1.
  - "HANDBOOK FOR CERAMIC TILE INSTALLATION" CURRENT EDITION, PUBLISHED BY TCA.

### PRODUCTS

#### A. MATERIALS

- DRYWALL SCREW TYPE STUDS:
- LIGHT GAUGE STEEL STUDS COMPLYING WITH ASTM C 845, MINIMUM GAUGE: 26 UNLESS OTHERWISE NOTED.
  - SHAPE: ROLL-FORMED "CS" STUD, WITH RETURNED FLANGE EDGES, UNLESS NOTED OTHERWISE ON DRAWINGS. FACES OF FLANGES SHALL BE SCREW TYPE, KNURLED TO FACILITATE THE USE OF SELF-DRILLING TAPPING FASTENERS.
  - STEEL: ASTM A 591, CLASS B (33,000 PSI YIELD STRENGTH).
  - FINISH: INTERIOR STUDS SHALL HAVE EITHER AN ELECTROLYTIC ZINC COATING COMPLYING WITH ASTM A 591, CLASS B.
  - WHERE STUDS EXTEND FULL HEIGHT TO THE UNDERSTRUCTURE ABOVE, PROVIDE A SELF-ADJUSTING TOP TRACK FABRICATED FROM THE SAME GAUGE STEEL AS THE STUDDING, HAVING VERTICAL SLOTS FOR FASTENERS AND ALLOWING A MINIMUM OF 3/4" MOVEMENT BETWEEN THE TOPS OF STUDS AND THE UNDERSTRUCTURE ABOVE.

- GYPSUM MATERIALS AND ACCESSORIES:
- A. GYPSUM WALLBOARD: ASTM C 38. 5/8" ARDS SHALL BE PAPER COVERED, WITH TAPERED EDGES.
- PROVIDE FIRE RATED BOARD TYPE "C" OR "X" AS REQUIRED FOR ASSEMBLY RATING WHERE FIRE RESISTIVE RATED WORK IS INDICATED.
  - GYPSUM BOARD FOR WALLS SHALL BE 5/8" THICK GYPSUM PANELS.
  - GYPSUM BOARD FOR CEILINGS SHALL BE 5/8" THICK GYPSUM PANELS.
  - MOISTURE AND MOLD RESISTANT GYPSUM BOARD SHALL BE USED IN ALL HUMID AREAS; GYPSUM CORE PANEL WITH ENHANCED CORE FORMULATED FOR RESISTANCE TO MOISTURE AND MOLD; SURFACED WITH MOISTURE/MOLD RESISTANT PAPER ON FRONT, BACK, AND LONG EDGES. COMPLYING WITH ASTM C 896.
  - EXTERIOR TYPE GYPSUM BOARD SHALL BE 5/8" THICK AND SHALL BE DESIGNATED FOR EXTERIOR APPLICATIONS.

- B. JOINT TAPE AND COMPOUND: CONFORMING TO ASTM C 175. C. SCREWS:
- METAL STUDS: SCREWS FOR ATTACHMENT OF GYPSUM WALLBOARD TO LIGHT GAUGE METAL FRAMING SHALL COMPLY WITH THE REQUIREMENTS OF ASTM C 846, TYPE S; 1-1/2