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# **ADDENDUM - 2**

08/08/2025

Project:
Virginia Credit Union
202 N. MAIN ST.
Blacksburg, VA
ARCH PROJECT No.: 240506

To: All Plan Holders

The following Addendum supplements and amends the Bid Documents issued 07/14/2025 and shall be taken into account in preparing proposals on the subject project. Receipt of this Addendum must be noted within the Bid Form.

REASON FOR ADDENDUM: Door Hardware Clarification Revision 2

#### DRAWINGS INCLUDED WITH THIS ADDENDUM: A6.1, AS.5

## ITEM 1: Sheet A6.1 - Door and Hardware and Borrowed Light Schedules and Details

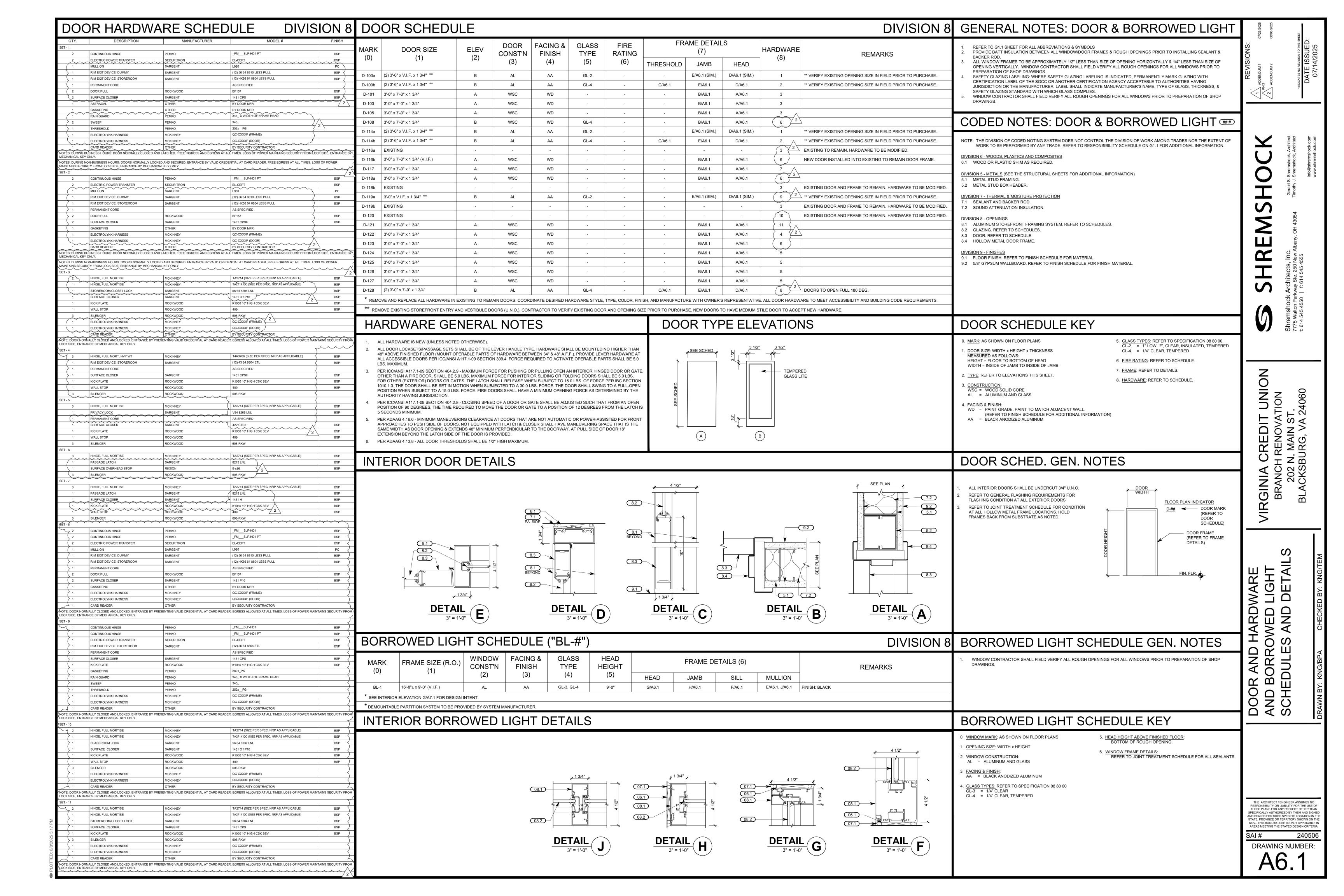
- A. Door Schedule: Hardware (8): Updated hardware set label for Doors D-108, D-116a, D-116b, D-118a, D-119a, D-120, D-121, D-122, D-123, and D-128.
- B. Door Hardware Schedule: Schedule has been replaced.

#### ITEM 2: Sheet AS.5 - Architectural Specifications

A. Section 08 71 00 – Door Hardware: Subsection 2.6.D.2.a updated.

### **END OF ADDENDUM 2**

INITIALS: kng (Arch)



ELSEWHERE INDICATE HARDWARE FINISHES COMPLYING WITH ANSI/BHMA A156.18, INCLUDING COORDINATION WITH TRADITIONAL U. FINISHES INDICATED BY CERTAIN MANUFACTURERS FOR THEIR PROVIDE QUALITY OF FINISH, INCLUDING THICKNESS OF PLATING OR COMPLYING WITH MANUFACTURER'S STANDARDS, BUT IN NO CASE LES IAN SPECIFIED BY REFERENCED STANDARDS FOR THE APPLICABLE UNITS OF HARDWARE

FAIL-SECURE THAT OPERATES FROM 12-24VDC. e. FIVE-YEAR LIMITED WARRANTY FOR ELECTROMECHANICAL FEATURES.

MANUFACTURERS: a. SARGENT MANUFACTURING (SA) - 80 SERIES.

A. ALL DOOR CLOSERS SPECIFIED HEREIN SHALL MEET OR EXCEED THE FOLLOWING CRITERIA: GENERAL: DOOR CLOSERS TO BE FROM ONE MANUFACTURER, PREPARATIONS AND TEMPLATES REGARDLESS OF APPLICATION O SPRING SIZE. CLOSERS TO BE NON-HANDED WITH FULL SIZED

STANDARDS: CLOSERS TO COMPLY WITH UL-10C FOR POSITIVE PRESSURE FIRE TEST AND BE U.L. LISTED FOR USE OF FIRE RATED

SIZE OF UNITS: COMPLY WITH MANUFACTURER'S WRITTEN RECOMMENDATIONS FOR SIZING OF DOOR CLOSERS DEPENDING ON SIZE OF DOOR, EXPOSURE TO WEATHER, AND ANTICIPATED FREQUENCY OF USE. WHERE CLOSERS ARE INDICATED FOR DOOR REQUIRED TO BE ACCESSIBLE TO THE AMERICANS WITH DISABILITIES ACT, PROVIDE UNITS COMPLYING WITH ANSI

4. CLOSER ARMS: PROVIDE HEAVY DUTY, FORGED STEEL CLOSER ARMS UNLESS OTHERWISE INDICATED IN HARDWARE SETS. CLOSERS SHALL NOT BE INSTALLED ON EXTERIOR OR CORRIDOR SIDE OF DOORS; WHERE POSSIBLE INSTALL CLOSERS ON DOOR FOR OPTIMUM AESTHETICS.

POWER ADJUSTMENT, SIZES 1 THRU 6; AND FULLY OPERATIONAL

CLOSER ACCESSORIES: PROVIDE DOOR CLOSER ACCESSORIES INCLUDING CUSTOM TEMPLATES, SPECIAL MOUNTING BRACKETS SPACERS AND DROP PLATES AS REQUIRED FOR PROPER INSTALLATION, PROVIDE THROUGH-BOLT AND SECURITY TYPE FASTENERS AS SPECIFIED IN THE HARDWARE SETS. DOOR CLOSERS, SURFACE MOUNTED (CAM ACTION): ANSI/BHMA 156.4 GRADE 1 CERTIFIED PRODUCTS DIRECTORY (CPD) LISTED SURFACE MOUNTED, HIGH EFFICIENCY DOOR CLOSERS WITH COMPLETE SPRING

ADJUSTABLE ACCORDING TO DOOR SIZE FREQUENCY OF USE AND OPENING FORCE. CLOSERS TO BE OF THE CAM AND ROLLER DESIGN, O PIECE CAST ALUMINUM SILICON ALLOY BODY WITH ADJUSTABLE BACKCHECK AND INDEPENDENTLY CONTROLLED VALVES FOR CLOSING MANUFACTURERS: a. CORBIN RUSSWIN (RU) - DC5000 SERIES.

b. NORTON RIXSON (NO) - 2800ST SERIES.

c. SARGENT MANUFACTURING (SA) - 422 SERIES.

DOOR CLOSERS, SURFACE MOUNTED (COMMERCIAL DUTY): ANSI/BHN

MOUNTED, INSTITUTIONAL GRADE DOOR CLOSERS WITH COMPLETE

PRING POWER ADJUSTMENT, SIZES 1 THRU 6: AND FULLY OPERATION

ADJUSTABLE ACCORDING TO DOOR SIZE, FREQUENCY OF USE, AND

a. CORBIN RUSSWIN HARDWARE (RU) - DC6000 SERIES.

CAST IRON OR ALUMINUM ALLOY BODY CONSTRUCTION, WITH

c. SARGENT MANUFACTURING (SA) - 1431 SERIES.

VALVES. PROVIDE NON-HANDED UNITS STANDARD.

b. NORTON RIXSON (NO) - 8500 SERIES.

BE AS SPECIFIED IN THE HARDWARE SETS.

REQUIREMENTS FOR SIZE AND APPLICATIONS.

1 MANUFACTURERS:

2 ARCHITECTURAL TRIM

A. DOOR PROTECTIVE TRIM

6. MANUFACTURERS:

3 DOOR STOPS AND HOLDERS

FUNCTION.

4 ARCHITECTURAL SEALS

MANUFACTURERS:

a. ROCKWOOD (RO)

TYPE STOPS AND HOLDERS.

ROCKWOOD (RO).

a. NORTON RIXSON (RF).

SARGENT MANUFACTURING (SA).

b. ROCKWOOD (RO).

LABELED OPENINGS.

OF DOOR ASSEMBLIES.

SPECIFIED HEREIN.

DISCHARGE.

PROTECTION

MANUFACTURERS:

APPLICATION INTENDED.

PEMKO (PE).

5 ELECTRONIC ACCESSORIES

MANUFACTURERS:

SPECIFIED BELOW OR IN THE HARDWARE SETS.

156.4 GRADE 1 CERTIFIED PRODUCTS DIRECTORY (CPD) LISTED SURFAC

NING FORCE, CLOSERS TO BE RACK AND PINION TYPE, ONE PIECI

ADJUSTABLE BACKCHECK, CLOSING SWEEP, AND LATCH SPEED CONTRO

GENERAL: DOOR PROTECTIVE TRIM UNITS TO BE OF TYPE AND

SIZE: FABRICATE PROTECTION PLATES (KICK, ARMOR, OR MOP) NO

MORE THAN 2" LESS THAN DOOR WIDTH (LDW) ON STOP SIDE OF

SINGLE DOORS AND 1" LDW ON STOP SIDE OF PAIRS OF DOOR

AND NOT MORE THAN 1" LESS THAN DOOR WIDTH ON PULL SIDE

REQUIRED WHERE CONFLICTING HARDWARE DICTATES. HEIGHT T

OF THE PLATE MORE THAN 16" ABOVE THE BOTTOM OF THE DOOR

MANUFACTURER'S CATALOG AND TEMPLATE BOOK FOR SPECIFIC

OORDINATE AND PROVIDE PROPER WIDTH AND HEIGHT AS

3. WHERE PLATES ARE APPLIED TO FIRE RATED DOORS WITH THE TO

PROTECTION PLATES: ANSI/BHMA A156.6 PROTECTION PLATES

(KICK, ARMOR, OR MOP), FABRICATED FROM THE FOLLOWING

DESIGNATED FASTENER TYPE AS SPECIFIED IN THE HARDWARE

PROVIDE PLATES COMPLYING WITH NFPA 80. CONSULT

a. STAINLESS STEEL: 300 GRADE, 050-INCH THICK.

OPTIONS AND FASTENERS: PROVIDE MANUFACTURER'S

A. GENERAL: DOOR STOPS AND HOLDERS TO BE OF TYPE AND DESIGN A

B DOOR STOPS AND BUMPERS: ANSI/BHMA A156 16 GRADE 1 DOOR STOP:

AND WALL BUMPERS. PROVIDE WALL BUMPERS, EITHER CONVEX OR

CONCAVE TYPES WITH ANCHORAGE AS INDICATED, UNLESS FLOOR OR

OTHER TYPES OF DOOR STOPS ARE SPECIFIED IN HARDWARE SETS. DO

NOT MOUNT FLOOR STOPS WHERE THEY WILL IMPEDE TRAFFIC. WHEF

OVERHEAD DOOR STOPS AND HOLDERS: ANSI/BHMA A156.8. GRADE 1

CERTIFIED PRODUCTS DIRECTORY (CPD) LISTED OVERHEAD STOPS AN

CONSTRUCTED OF EXTRUDED BRONZE AND SHOCK ABSORBER SPRIN

OF HEAVY TEMPERED STEEL. PROVIDE NON-HANDED DESIGN WITH

MOUNTING BRACKETS AS REQUIRED FOR PROPER OPERATION AND

A. GENERAL: THRESHOLDS, WEATHERSTRIPPING, AND GASKET SEALS TO

AND PROVIDE SMOKE, LIGHT, OR SOUND GASKETING ON INTERIOR

NON-CORROSIVE FASTENERS AND ELSEWHERE WHERE INDICATED

SMOKE LABELED GASKETING: ASSEMBLIES COMPLYING WITH NEPA 10

ACCEPTABLE TO AUTHORITIES HAVING JURISDICTION, FOR SMOKE

CONTROL RATINGS INDICATED, BASED ON TESTING ACCORDING TO

THAT ARE LISTED AND LABELED BY A TESTING AND INSPECTING AGENC

PROVIDE SMOKE LABELED PERIMETER GASKETING AT ALL SMOKE

FIRE LABELED GASKETING: ASSEMBLIES COMPLYING WITH NFPA 80 THAT

ACCEPTABLE TO AUTHORITIES HAVING JURISDICTION, FOR FIRE RATING

ARE LISTED AND LABELED BY A TESTING AND INSPECTING AGENCY.

PROVIDE INTUMESCENT SEALS AS INDICATED TO MEET UL100

STANDARD FOR POSITIVE PRESSURE FIRE TESTS OF DOOR

SOLIND-RATED GASKETING: ASSEMBLIES THAT ARE LISTED AND LABELEI

BY A TESTING AND INSPECTING AGENCY, FOR SOUND RATINGS

REPLACEABLE SEAL STRIPS: PROVIDE ONLY THOSE UNITS WHERE

INTELLIGENT SWITCHING POWER SUPPLIES: PROVIDE THE LEAST

ELECTRIFIED HARDWARE AND ACCESS CONTROL EQUIPMENT.

NUMBER OF POWER SUPPLIES AT THE APPROPRIATE AMPERAGE LEVE

SUFFICIENT TO EXCEED THE REQUIRED TOTAL DRAW FOR THE SPECIFIED

POWER SUPPLIES SHALL MEET ALL FUNCTIONS AND FEATURES AS

a. UL LISTED DUAL VOLTAGE 12 OR 24 VDC FIELD SELECTABLE

b. DEDICATED FAST CHARGER TO PROLONG BATTERY LIFE WITH

SEPARATE, DEDICATED BATTERY CHARGING CIRCUIT TO KEE

APPLYING INCORRECT VOLTAGES TO THE POWER SUPPLY.

c. ENHANCED SURGE IMMUNITY FOR INPUT/OUTPUT

e. DUAL-COLOR LED VISUAL NOTIFICATION TO PREVENT

f. INSTANT AUTO-SWITCH TO BATTERY ON AC LOSS.

g. EXPANDABLE UP TO 16 OUTPUTS IN THE STANDARD

h. INTEGRATED FIRE ALARM INTERFACE TO ALLOW MAIN

BASIS WHEN USING AN R8 OUTPUT MODULE.

FASTENERS: PROVIDE DOOR HARDWARE MANUFACTURED TO COMPI

WITH PUBLISHED TEMPLATES GENERALLY PREPARED FOR MACHINE,

WOOD, AND SHEET METAL SCREWS, PROVIDE SCREWS ACCORDING T

PROTECT MECHANICAL FINISHES ON EXPOSED SURFACES FROM DAMAGE

BY APPLYING A STRIPPABLE, TEMPORARY PROTECTIVE COVERING

COMPLIANCE WITH REQUIREMENTS FOR INSTALLATION TOLERANCES

ONSTRUCTION, AND OTHER CONDITIONS AFFECTING PERFORMANCE

LABELED FIRE DOOR ASSEMBLY CONSTRUCTION, WALL AND FLOOR

NOTIFY ARCHITECT OF ANY DISCREPANCIES OR CONFLICTS BETWEEN

THE DOOR SCHEDULE, DOOR TYPES, DRAWINGS AND SCHEDULED

HARDWARE. PROCEED ONLY AFTER SUCH DISCREPANCIES OR

A. HOLLOW METAL DOORS AND FRAMES: COMPLY WITH ANSI/DHI A115

A. INSTALL EACH ITEM OF MECHANICAL AND ELECTROMECHANICA

HARDWARE AND ACCESS CONTROL EQUIPMENT TO COMPLY WITH

MANUFACTURER'S WRITTEN INSTRUCTIONS AND ACCORDING TO

INSTALLERS ARE TO BE TRAINED AND CERTIFIED BY THE

MOUNTING HEIGHTS: MOUNT DOOR HARDWARE UNITS AT HEIGHTS

INDICATED IN FOLLOWING APPLICABLE PUBLICATIONS, UNLESS

. WHERE INDICATED TO COMPLY WITH ACCESSIBILITY

MANUFACTURER ON THE PROPER INSTALLATION AND ADJUSTMEN

IANGING DEVICES; LOCKING DEVICES; CLOSING DEVICES; AND

OF FIRE, LIFE SAFETY, AND SECURITY PRODUCTS INCLUDING:

PECIFICALLY INDICATED OR REQUIRED TO COMPLY WITH GOVERNING

STANDARD STEEL DOORS AND FRAMES: DHI'S "RECOMMENDED

2. DHI TDH-007-20: INSTALLATION GUIDE FOR DOORS AND HARDWAR

LOCATIONS FOR ARCHITECTURAL HARDWARE FOR STANDARD

CONFLICTS HAVE BEEN RESOLVED IN WRITING.

B. WOOD DOORS: COMPLY WITH ANSI/DHI A115-W SERIES.

STEEL DOORS AND FRAMES."

REGULATIONS:

A. EXAMINE SCHEDULED OPENINGS, WITH INSTALLER PRESENT, FOR

MANUFACTURERS RECOGNIZED INSTALLATION STANDARDS FOR

MODULE ON NETWORK MODELS.

a. LIFE SAFETY POWER (LP).

b. SECURITRON (SU) - AQL SERIES.

i. NETWORK READY AND REMOTELY MANAGE LOCKS AND

LOW BATTERY CUTOFF TO PROTECT BATTERIES FROM DEEP

RESILIENT OR FLEXIBLE SEAL STRIPS ARE FASILY REPLACEABLE AND

READILY AVAILABLE FROM STOCKS MAINTAINED BY MANUFACTURER.

ASSEMBLIES, AND NFPA 252, STANDARD METHODS OF FIRE TESTS

INDICATED, BASED ON TESTING ACCORDING TO UL-10C.

OORS WHERE INDICATED. AT EXTERIOR APPLICATIONS PROVID

OF TYPE AND DESIGN AS SPECIFIED BELOW OR IN THE HARDWARE SETS

HOLDERS TO BE SURFACE OR CONCEALED TYPES AS INDICATED IN

HARDWARE SETS. TRACK, SLIDE, ARM AND JAMB BRACKET TO BE

FLOOR OR WALL BUMPERS ARE NOT APPROPRIATE, PROVIDE OVERHEAD

DESIGN AS SPECIFIED BELOW OR IN THE HARDWARE SETS.

PROVIDE BLOCKING IN DRYWALL PARTITIONS WHERE WALL STOP OR OTHER WALL MOUNTED HARDWARE IS LOCATED. RETROFITTING: INSTALL DOOR HARDWARE TO COMPLY WITH MANUFACTURER'S PUBLISHED TEMPLATES AND WRITTEN INSTRUCTION WHERE CUTTING AND FITTING ARE REQUIRED TO INSTALL DOOR HARDWARE ONTO OR INTO SURFACES THAT ARE LATER TO BE PAINTEI OR FINISHED IN ANOTHER WAY, COORDINATE REMOVAL, STORAGE, AND REINSTALLATION OF SURFACE PROTECTIVE TRIM UNITS WITH FINISHING WORK SPECIFIED IN DIVISION 9 SECTIONS. DO NOT INSTALL SURFACE-MOUNTED ITEMS UNTIL FINISHES HAVE BEEN COMPLETED ON SUBSTRATES INVOLVED.

GUIDELINES FOR BUILDINGS AND FACILITIES."

REQUIREMENTS COMPLY WITH ANSI A117.1 "ACCESSIBILITY

PUSH PLATES AND DOOR PULLS: WHEN THROUGH-BOLT FASTENERS AR IN THE SAME LOCATION AS A PUSH PLATE, COUNTERSINK THE FASTENERS FLUSH WITH THE DOOR FACE ALLOWING THE PUSH PLATE T SIT FLAT AGAINST THE DOOR. THRESHOLDS: SET THRESHOLDS FOR EXTERIOR AND ACQUISTICAL

DOORS IN FULL BED OF SEALANT COMPLYING WITH REQUIREMENTS SPECIFIED IN DIVISION 7 SECTION "JOINT SEALANTS." STORAGE: PROVIDE A SECURE LOCK UP FOR HARDWARE DELIVERED. THE PROJECT BUT NOT YET INSTALLED. CONTROL THE HANDLING AND NSTALLATION OF HARDWARE ITEMS SO THAT THE COMPLETION OF THE WORK WILL NOT BE DELAYED BY HARDWARE LOSSES BEFORE AND AFTER INSTALLATION. FIELD QUALITY CONTROL

A. FIELD INSPECTION (PUNCH REPORT): REFERENCE DIVISION 01 SECTION "CLOSEOUT PROCÈDURES". PRODUĆE PROJECT PUNCH REPORT FOI EACH INSTALLED DOOR OPENING INDICATING COMPLIANCE WITH APPROVED SUBMITTALS AND VERIFICATION HARDWARE IS PROPERL INSTALLED, OPERATING AND ADJUSTED, INCLUDE LIST OF ITEMS TO B COMPLETED AND CORRECTED, INDICATING THE REASONS OR DEFICIENCIES CAUSING THE WORK TO BE INCOMPLETE OR REJECTED ORGANIZATION OF LIST: INCLUDE SEPARATE DOOR OPENING AND DEFICIENCIES AND CORRECTIVE ACTION LISTS ORGANIZED BY MARK, OPENING REMARKS AND COMMENTS, AND RELATED OPENING IMAGES AND VIDEO RECORDINGS.

A. INITIAL ADJUSTMENT: ADJUST AND CHECK EACH OPERATING ITEM OF DOOR HARDWARE AND EACH DOOR TO ENSURE PROPER OPERATION O FUNCTION OF EVERY UNIT. REPLACE UNITS THAT CANNOT BE ADJUSTE TO OPERATE AS INTENDED, ADJUST DOOR CONTROL DEVICES TO COMPENSATE FOR FINAL OPERATION OF HEATING AND VENTILATING EQUIPMENT AND TO COMPLY WITH REFERENCED ACCESSIBILITY 6 CLEANING AND PROTECTION

ON DOORS DURING THE CONSTRUCTION PHASE. INSTALL ANY AND ALL HARDWARE AT THE LATEST POSSIBLE TIME FRAME CLEAN ADJACENT SURFACES SOILED BY DOOR HARDWARE CLEAN OPERATING ITEMS AS NECESSARY TO RESTORE PROPER FINISH PROVIDE FINAL PROTECTION AND MAINTAIN CONDITIONS THAT ENSURE DOOR HARDWARE IS WITHOUT DAMAGE OR DETERIORATION AT TIME OF

A. PROTECT ALL HARDWARE STORED ON CONSTRUCTION SITE IN A

OWNER OCCUPANCY A. INSTRUCT OWNER'S MAINTENANCE PERSONNEL TO ADJUST, OPERATE AND MAINTAIN MECHANICAL AND ELECTROMECHANICAL DOOR

DOOR HARDWARE SETS A THE HARDWARE SETS REPRESENT THE DESIGN INTENT AND DIRECTION OF THE OWNER AND ARCHITECT. THEY ARE A GUIDELINE ONLY AND SHOULD NOT BE CONSIDERED A DETAILED HARDWARE SCHEDULE DISCREPANCIES, CONFLICTING HARDWARE AND MISSING ITEMS SHOULD BE BROUGHT TO THE ATTENTION OF THE ARCHITECT WITH CORRECT! MADE PRIOR TO THE BIDDING PROCESS. OMITTED ITEMS NOT INCLUDE N A HARDWARE SET SHOULD BE SCHEDULED WITH THE APPROPRIAT ADDITIONAL HARDWARE REQUIRED FOR PROPER APPLICATION AND

. QUANTITIES LISTED ARE FOR EACH PAIR OF DOORS, OR FOR EACH SINGLE DOOR THE SUPPLIER IS RESPONSIBLE FOR HANDING AND SIZING ALL PRODUCTS. 3. WHERE MULTIPLE OPTIONS FOR A PIECE OF HARDWARE ARE GIVE IN A SINGLE LINE ITEM, THE SUPPLIER SHALL PROVIDE THE APPROPRIATE APPLICATION FOR THE OPENING. AT EXISTING OPENINGS WITH NEW HARDWARE THE SUPPLIER SHALL FIELD INSPECT EXISTING CONDITIONS PRIOR TO THE SUBMITTAL STAGE TO VERIFY THE SPECIFIED HARDWARE WI WORK AS REQUIRED. PROVIDE ALTERNATE SOLUTIONS AND

MANUFACTURER'S ABBREVIATIONS: 1. MK - MCKINNEY 2. PE - PEMKO 3. SU - SECURITRON 4. SA - SARGENT RO - ROCKWOOD 6. RF - RIXSON 7. NO - NORTON 8. OT - OTHER

PROPOSALS AS NEEDED.

END OF SECTION 08 71 00 <u>SECTION 08 80 00 - GLAZING</u>

RELATED DOCUMENTS GENERAL AND SUPPLEMENTARY CONDITIONS AND DIVISION 01 SPECIFICATION SECTIONS, APPLY TO THIS SECTION.

 SECTION INCLUDES GLAZING FOR THE FOLLOWING PRODUCTS AND APPLICATIONS INCLUDING THOSE SPECIFIED IN OTHER SECTIONS WHERE GLAZING REQUIREMENTS ARE SPECIFIED BY REFERENCE TO TH SECTION: WINDOWS.

2. DOORS. 3. INTERIOR BORROWED LITES DEFINITIONS A. GLASS MANUFACTURERS: FIRMS THAT PRODUCE PRIMARY GLASS

FABRICATED GLASS, OR BOTH, AS DEFINED IN REFERENCED GLAZING GLASS THICKNESSES: INDICATED BY THICKNESS DESIGNATIONS IN MILLIMETERS ACCORDING TO ASTM C 1036. C. INTERSPACE: SPACE BETWEEN LITES OF AN INSULATING-GLASS UNIT

PERFORMANCE REQUIREMENTS A. GENERAL: INSTALLED GLAZING SYSTEMS SHALL WITHSTAND NORMA OUTPUT SHUTDOWN OR DISCONNECT ON A PER OUTPUT THERMAL MOVEMENT AND WIND AND IMPACT LOADS (WHERE APPLICABLE) WITHOUT FAILURE, INCLUDING LOSS OR GLASS BREAKAGE ATTRIBUTABLE TO THE FOLLOWING: DEFECTIVE MANUFACTURE NECTED DEVICES WHEN USING AN M8 MANAGED OUTPU FABRICATION, OR INSTALLATION; FAILURE OF SEALANTS OR GASKETS REMAIN WATERTIGHT AND AIRTIGHT; DETERIORATION OF GLAZING j. LIFETIME REPLACEMENT, NO-FAULT, NO QUESTIONS ASKED MATERIALS; OR OTHER DEFECTS IN CONSTRUCTION.

DELEGATED DESIGN: DESIGN GLASS, INCLUDING COMPREHENSIVE ENGINEERING ANALYSIS ACCORDING TO ASTM E 1300 BY A QUALIFIED PROFESSIONAL ENGINEER, USING THE FOLLOWING DESIGN CRITERIA 1. DESIGN WIND PRESSURES: AS INDICATED ON DRAWINGS. . VERTICAL GLAZING: FOR GLASS SURFACES SLOPED 15 DEGREES OR LESS FROM VERTICAL, DESIGN GLASS TO RESIST DESIGN WIND PRESSURE BASED ON GLASS TYPE FACTORS FOR

SHORT-DURATION LOAD. MAXIMUM LATERAL DEFLECTION: FOR GLASS SUPPORTED ON ALI FOUR EDGES. LIMIT CENTER-OF-GLASS DEFLECTION AT DESIGN LENGTH OR 1 INCH (25 MM), WHICHEVER IS LESS. 4. DIFFERENTIAL SHADING: DESIGN GLASS TO RESIST THERMAL

STRESSES INDUCED BY DIFFERENTIAL SHADING WITHIN INDIVIDUA THERMAL MOVEMENTS: ALLOW FOR THERMAL MOVEMENTS FROM AMBIENT AND SURFACE TEMPERATURE CHANGES ACTING ON GLASS FRAMING MEMBERS AND GLAZING COMPONENTS. 1. TEMPERATURE CHANGE: 120 DEG F (67 DEG C), AMBIENT; 180 DEG

(100 DEG C), MATERIAL SURFACES.

A. PRODUCT DATA: FOR EACH GLASS PRODUCT AND GLAZING MATERIAL INDICATED. B. GLASS SAMPLES: FOR EACH TYPE OF THE FOLLOWING PRODUCTS; 12 INCHES (300 MM) SQUARE INSULATING GLASS

LAMINATED GLASS. SPANDREL INSULATING GLASS GLAZING ACCESSORY SAMPLES: FOR GASKETS AND COLORED SPACER IN 12-INCH (300-MM) LENGTHS. GLAZING SCHEDULE: LIST GLASS TYPES AND THICKNESSES FOR EACH SIZE OPENING AND LOCATION. USE SAME DESIGNATIONS INDICATED ON DELEGATED-DESIGN SUBMITTAL: FOR GLASS INDICATED TO COMPLY

WITH PERFORMANCE REQUIREMENTS AND DESIGN CRITERIA, INCLUDIN ANALYSIS DATA SIGNED AND SEALED BY THE QUALIFIED PROFESSIONA ENGINEER RESPONSIBLE FOR THEIR PREPARATION QUALIFICATION DATA: FOR INSTALLERS. G. PRODUCT CERTIFICATES: FOR GLASS AND GLAZING PRODUCTS, FROM MANUFACTURER.

H. WARRANTIES: SAMPLE OF SPECIAL WARRANTIES.

INSTALLER QUALIFICATIONS: A QUALIFIED INSTALLER WHO EMPLOY

GLASS INSTALLERS FOR THIS PROJECT WHO ARE CERTIFIED UNDER TH

NATIONAL GLASS ASSOCIATION'S CERTIFIED GLASS INSTALLER GLASS TESTING AGENCY QUALIFICATIONS: A QUALIFIED INDEPENDENT TESTING AGENCY ACCREDITED ACCORDING TO THE NFRC CAP 1 CERTIFICATION AGENCY PROGRAM. SEALANT TESTING AGENCY QUALIFICATIONS: AN INDEPENDENT TESTING AGENCY QUALIFIED ACCORDING TO ASTM C 1021 TO CONDUCT THE

TESTING INDICATED. SOURCE LIMITATIONS FOR GLASS: OBTAIN SECURITY GLASS BUILTET RESISTANT, AND INSULATING GLASS FROM SINGLE SOURCE FROM SINGLE MANUFACTURER FOR EACH GLASS TYPE. SOURCE LIMITATIONS FOR GLAZING ACCESSORIES: OBTAIN FROM SINGLE SOURCE FROM SINGLE MANUFACTURER FOR EACH PRODUCT

NOT SUBJECT TO CONTINUOUS PRESSURE GLAZING PUBLICATIONS: COMPLY WITH PUBLISHED RECOMMENDATION DE GLASS PRODUCT MANUFACTURERS AND ORGANIZATIONS BELOW EXPANDED CELLULAR GLAZING TAPES: CLOSED-CELL, PVC FOAM TAPES UNLESS MORE STRINGENT REQUIREMENTS ARE INDICATED. REFER FACTORY COATED WITH ADHESIVE ON BOTH SURFACES; AND COMPLYIN THESE PUBLICATIONS FOR GLAZING TERMS NOT OTHERWISE DEFINED I WITH AAMA 800 FOR THE FOLLOWING TYPES: THIS SECTION OR IN REFERENCED STANDARDS. 1. AAMA 810.1, TYPE 1, FOR GLAZING APPLICATIONS IN WHICH TAPE 1. AAMA PUBLICATIONS: AAMA GDSG-1, "GLASS DESIGN FOR SLOPED

ACTS AS THE PRIMARY SEALANT. AAMA 810.1, TYPE 2, FOR GLAZING APPLICATIONS IN WHICH TAPE IS USED IN COMBINATION WITH A FULL BEAD OF LIQUID SEALANT. MISCELLANEOUS GLAZING MATERIALS GENERAL: PROVIDE PRODUCTS OF MATERIAL, SIZE, AND SHAPE

COMPLYING WITH REFERENCED GLAZING STANDARD, REQUIREMENTS O 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 SEALAN OR GASKET MANUFACTURER. 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. EDGE BLOCKS: ELASTOMERIC MATERIAL OF HARDNESS NEEDED TO LIN GLASS LATERAL MOVEMENT (SIDE WALKING). F. CYLINDRICAL GLAZING SEALANT BACKING: ASTM C 1330, TYPE O (OPEN-CELL MATERIAL), OF SIZE AND DENSITY TO CONTROL GLAZIN

SEALANT DEPTH AND OTHERWISE PRODUCE OPTIMUM GLAZING SEALAN

FABRICATION OF GLAZING UNITS A. FABRICATE GLAZING UNITS IN SIZES REQUIRED TO FIT OPENINGS INDICATED FOR PROJECT. WITH EDGE AND FACE CLEARANCES, EDGE ENVIRONMENTAL LIMITATIONS: DO NOT PROCEED WITH GLAZING WHEN AND SURFACE CONDITIONS, AND BITE COMPLYING WITH WRITTEN INSTRUCTIONS OF PRODUCT MANUFACTURER AND REFERENCED LIMITS PERMITTED BY GLAZING MATERIAL MANUFACTURERS AND WHEN GLAZING PUBLICATIONS, TO COMPLY WITH SYSTEM PERFORMANCE REQUIREMENTS.

PRESENT, FOR COMPLIANCE WITH THE FOLLOWING:

MANUFACTURING AND INSTALLATION TOLERANCES, INCLUDING

PRESENCE AND FUNCTIONING OF WEEP SYSTEMS

4. EFFECTIVE SEALING BETWEEN JOINTS OF GLASS-FRAMING

A. CLEAN GLAZING CHANNELS AND OTHER FRAMING MEMBERS RECEIVING

GLASS IMMEDIATELY BEFORE GLAZING. REMOVE COATINGS NOT FIRML

SURFACES. LABEL OR MARK UNITS AS NEEDED SO THAT EXTERIOR AND

MATERIALS THAT WILL LEAVE VISIBLE MARKS IN THE COMPLETED WORK

MINIMUM REQUIRED FACE AND EDGE CLEARANCES.

B. PROCEED WITH INSTALLATION ONLY AFTER UNSATISFACTORY

B. EXAMINE GLAZING UNITS TO LOCATE EXTERIOR AND INTERIOR

THOSE IN REFERENCED GLAZING PUBLICATIONS.

INTERIOR SURFACES ARE READILY IDENTIFIABLE. DO NOT USE

A COMPLY WITH COMBINED WRITTEN INSTRUCTIONS OF MANUFACTURER

OF GLASS, SEALANTS, GASKETS, AND OTHER GLAZING MATERIALS,

ADJUST GLAZING CHANNEL DIMENSIONS AS REQUIRED BY PROJECT

GLASS, MINIMUM EDGE AND FACE CLEARANCES, AND ADEQUATE

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

COULD WEAKEN GLASS AND IMPAIR PERFORMANCE AND APPEARANCE.

APPLY PRIMERS TO JOINT SURFACES WHERE REQUIRED FOR ADHESION

OTHERWISE REQUIRED BY GLASS MANUFACTURER. SET BLOCKS IN THI

OF SEALANTS, AS DETERMINED BY PRECONSTRUCTION TESTING.

COMPLY WITH REFERENCED GLAZING PUBLICATIONS, UNLESS

COURSE OF COMPATIBLE SEALANT SUITABLE FOR HEEL BEAD.

DO NOT EXCEED EDGE PRESSURES STIPULATED BY GLASS

MANUFACTURERS FOR INSTALLING GLASS LITE

LARGER THAN 50 INCHES (1270 MM)

REQUIREMENTS.

AND SIMILAR CHARACTERISTICS

MANUFACTURER.

GASKET GLAZING (DRY

MANUFACTURER.

CLEANING AND PROTECTION

END OF SECTION 08 80 00

END OF DIVISION

EXTERIOR OR INTERIOR AS SPECIFIED.

INSTALLATION IS SUBJECTED TO MOVEMENT.

SLIGHTLY ABOVE SIGHTLINE OF STOPS.

WORK TOWARD CENTERS OF OPENINGS.

BONDED TOGETHER AT CORNERS.

INSTALL SETTING BLOCKS IN SILL RABBETS, SIZED AND LOCATED TO

PROVIDE SPACERS FOR GLASS LITES WHERE LENGTH PLUS WIDTH IS

LOCATE SPACERS DIRECTLY OPPOSITE EACH OTHER ON BOTH

AND SPACING TO PRESERVE REQUIRED FACE CLEARANCES,

DEMONSTRATED ABILITY TO MAINTAIN REQUIRED FACE

H. PROVIDE EDGE BLOCKING WHERE INDICATED OR NEEDED TO PREVENT

TO REQUIREMENTS IN REFERENCED GLAZING PUBLICATIONS

RECOMMENDED IN WRITING BY GLASS MANUFACTURER AND ACCORDIN

SET GLASS LITES IN EACH SERIES WITH UNIFORM PATTERN, DRAW, BOW

SET GLASS LITES WITH PROPER ORIENTATION SO THAT COATINGS FACE

PROVIDE ADEQUATE ANCHORAGE SO GASKET CANNOT WALK OUT WHEN

GASKETS IN A MANNER RECOMMENDED BY GASKET MANUFACTURER

PREVENT CORNERS FROM PULLING AWAY; SEAL CORNER JOINTS AND

WHERE WEDGE-SHAPED GASKETS ARE DRIVEN INTO ONE SIDE OF CHANNEL TO PRESSURIZE SEALANT OR GASKET ON OPPOSITE SIDE,

SQUARE CUT WEDGE-SHAPED GASKETS AT CORNERS AND INSTALI

POSITION TAPES ON FIXED STOPS SO THAT, WHEN COMPRESSED BY

GLASS, THEIR EXPOSED EDGES ARE FLUSH WITH OR PROTRUDE

CONTINUOUS LENGTH. DO NOT STRETCH TAPES TO MAKE THEM FIT

CENTER GLASS LITES IN OPENINGS ON SETTING BLOCKS AND PRESS

FIRMLY AGAINST TAPE BY INSERTING DENSE COMPRESSION GASKETS

REMOVABLE STOPS. START GASKET APPLICATIONS AT CORNERS AND

A. CUT COMPRESSION GASKETS TO LENGTHS RECOMMENDED BY GASKET

B. INSERT SOFT COMPRESSION GASKET BETWEEN GLASS AND FRAME OR

MANUFACTURER TO FIT OPENINGS EXACTLY, WITH ALLOWANCE FOR

FIXED STOP SO IT IS SECURELY IN PLACE WITH JOINTS MITER CUT AND

INSTALLATION WITH DRIVE-IN WEDGE GASKETS: CENTER GLASS LITES I

COMPRESSION GASKET BY INSERTING DENSE COMPRESSION GASKETS

REMOVABLE STOPS. START GASKET APPLICATIONS AT CORNERS AND

INSTALLATION WITH PRESSURE-GLAZING STOPS: CENTER GLASS LITES

WEATHERTIGHT SEAL WITHOUT DEVELOPING BENDING STRESSES IN GLASS. SEAL GASKET JOINTS WITH SEALANT RECOMMENDED BY GASKE

INSTALLATION BY ATTACHING CROSSED STREAMERS TO FRAMING HEL

AWAY FROM GLASS. DO NOT APPLY MARKERS TO GLASS SURFACE.

PROTECT GLASS FROM CONTACT WITH CONTAMINATING SUBSTANCES

PROTECTION, CONTAMINATING SUBSTANCES DO COME INTO CONTACT WITH GLASS, REMOVE SUBSTANCES IMMEDIATELY AS RECOMMENDED IN

CONCRETE AND OTHER MASONRY SURFACES AT FREQUENT INTERVALS

BUILDUP OF DIRT, SCUM, ALKALINE DEPOSITS, OR STAINS; REMOVE AS

D. REMOVE AND REPLACE GLASS THAT IS BROKEN, CHIPPED, CRACKED, O

NOT MORE THAN FOUR DAYS BEFORE DATE SCHEDULED FOR

ING CONSTRUCTION, BUT NOT LESS THAN ONCE A MONTH, FOR

ABRADED OR THAT IS DAMAGED FROM NATURAL CAUSES, ACCIDENTS,

WASH GLASS ON BOTH EXPOSED SURFACES IN EACH AREA OF PROJEC

INSPECTIONS THAT ESTABLISH DATE OF SUBSTANTIAL COMPLETION.

WASH GLASS AS RECOMMENDED IN WRITING BY GLASS MANUFACTURE

RESULTING FROM CONSTRUCTION OPERATIONS. IF, DESPITE SUCH

**EXAMINE GLASS SURFACES ADJACENT TO OR BELOW EXTERIOR** 

RECOMMENDED IN WRITING BY GLASS MANUFACTURER

AND VANDALISM DURING CONSTRUCTION PERIOD

MPRESSION GASKET. INSTALL DENSE COMPRESSION GASKETS AND

OPENINGS ON SETTING BLOCKS AND PRESS FIRMLY AGAINST SOFT

PRESSURE-GLAZING STOPS, APPLYING PRESSURE UNIFORMLY TO

COMPRESSION GASKETS. COMPRESS GASKETS TO PRODUCE A

E. INSTALL GASKETS SO THEY PROTRUDE PAST FACE OF GLAZING STOPS

A. PROTECT EXTERIOR GLASS FROM DAMAGE IMMEDIATELY AFTER

REMOVE NONPERMANENT LABELS AND CLEAN SURFACES.

WRITING BY GLASS MANUFACTURER.

WORK TOWARD CENTERS OF OPENINGS. COMPRESS GASKETS TO

PRODUCE A WEATHERTIGHT SEAL WITHOUT DEVELOPING BENDING

STRESSES IN GLASS. SEAL GASKET JOINTS WITH SEALANT

RECOMMENDED BY GASKET MANUFACTURER

OPENINGS ON SETTING BLOCKS AND PRESS FIRMLY AGAINST SOFT

FORMED AND INSTALLED TO LOCK IN PLACE AGAINST FACES OF

B. INSTALL TAPES CONTINUOUSLY, BUT NOT NECESSARILY IN ONE

BUTT JOINTS WITH SEALANT RECOMMENDED BY GASKET

UNLESS GASKETS AND GLAZING TAPES ARE USED THAT HAVE

CLEARANCES AND TO COMPLY WITH SYSTEM PERFORMANCE

PROVIDE 1/8-INCH (3-MM) MINIMUM BITE OF SPACERS ON GLASS

AND USE THICKNESS EQUAL TO SEALANT WIDTH. WITH GLAZING

TAPE, USE THICKNESS SLIGHTLY LESS THAN FINAL COMPRESSED

INSIDE AND OUTSIDE FACES OF GLASS. INSTALL CORRECT SIZE

I EDGE DAMAGE OR OTHER IMPERFECTIONS THAT, WHEN INSTALL

SEALANT THICKNESSES, WITH REASONABLE TOLERANCES.

UNLESS MORE STRINGENT REQUIREMENTS ARE INDICATED, INCLUDING

CONDITIONS DURING INSTALLATION TO PROVIDE NECESSARY BITE ON

CONDITIONS HAVE BEEN CORRECTED.

HOSE FOR SIZE, SQUARENESS, AND OFFSETS AT CORNERS

GLAZING CHANNEL SUBSTRATES ARE WET FROM RAIN, FROST, 2.10 GLASS TYPES DESIGNATIONS A. REFER TO DRAWINGS FOR GLASS TYPES. MANUFACTURER'S SPECIAL WARRANTY FOR COATED-GLASS PRODUCTS MANUFACTURER'S STANDARD FORM IN WHICH COATED-GLASS MANUFACTURER AGREES TO REPLACE COATED-GLASS UNITS THAT ART 3 - EXECUTION DETERIORATE WITHIN SPECIFIED WARRANTY PERIOD. DETERIORATION OF COATED GLASS IS DEFINED AS DEFECTS DEVELOPED FROM NORMAL EXAMINATION USE THAT ARE NOT ATTRIBUTED TO GLASS BREAKAGE OR TO A. EXAMINE FRAMING. GLAZING CHANNELS, AND STOPS, WITH INSTALLER MAINTAINING AND CLEANING COATED GLASS CONTRARY TO

GLAZING, GENERAL

1. WARRANTY PERIOD: 10 YEARS FROM DATE OF SUBSTANTIAL COMPLETION. MANUFACTURER'S SPECIAL WARRANTY ON INSULATING GLASS: MANUFACTURER'S STANDARD FORM IN WHICH INSULATING-GLASS MANUFACTURER AGREES TO REPLACE INSULATING-GLASS UNITS TH DETERIORATE WITHIN SPECIFIED WARRANTY PERIOD. DETERIORATION OF INSULATING GLASS IS DEFINED AS FAILURE OF HERMETIC SEAL LINDER NORMAL USE THAT IS NOT ATTRIBUTED TO GLASS BREAKAGE OF TO MAINTAINING AND CLEANING INSULATING GLASS CONTRARY TO MANUEACTURER'S WRITTEN INSTRUCTIONS EVIDENCE OF FAILURE IS THE OBSTRUCTION OF VISION BY DUST, MOISTURE, OR FILM ON INTERIOR SURFACES OF GLASS.

MANUFACTURER'S WRITTEN INSTRUCTIONS. DEFECTS INCLUDE PEELIN

CRACKING, AND OTHER INDICATIONS OF DETERIORATION IN COATING

GLAZING," AND AAMA TIR-A7, "SLOPED GLAZING GUIDELINES.

"NORTH AMERICAN GLAZING GUIDELINES FOR SEALED INSULATING

2. IGMA PUBLICATION FOR SLOPED GLAZING: IGMA TB-3001,

3. IGMA PUBLICATION FOR INSULATING GLASS: SIGMA TM-3000

GLASS UNITS FOR COMMERCIAL AND RESIDENTIAL USE.

SAFETY GLAZING LABELING: WHERE SAFETY GLAZING LABELING IS

NDICATED, PERMANENTLY MARK GLAZING WITH CERTIFICATION LAB

OF THE SGCC OR ANOTHER CERTIFICATION AGENCY ACCEPTABLE TO

AND SAFETY GLAZING STANDARD WITH WHICH GLASS COMPLIES.

UTHORITIES HAVING JURISDICTION OR THE MANUFACTURER. LABE

SHALL INDICATE MANUFACTURER'S NAME. TYPE OF GLASS. THICKNESS.

INSULATING-GLASS CERTIFICATION PROGRAM: PERMANENTLY MARKED

WRITTEN INSTRUCTIONS. PREVENT DAMAGE TO GLASS AND GLAZING

MATERIALS FROM CONDENSATION, TEMPERATURE CHANGES, DIREC

RECOMMENDATIONS FOR VENTING AND SEALING UNITS TO AVOID

AMBIENT AND SUBSTRATE TEMPERATURE CONDITIONS ARE OUTSIDE

EITHER ON SPACERS OR ON AT LEAST ONE COMPONENT LITE OF UNITS

GUIDELINES FOR SLOPED GLAZING."

WITH APPROPRIATE CERTIFICATION LABEL OF IGCC.

EXPOSURE TO SUN, OR OTHER CAUSES.

ONDENSATION, OR OTHER CAUSES

A. PROTECT GLAZING MATERIALS ACCORDING TO MANUFACTURER'S

COMPLY WITH INSULATING-GLASS MANUFACTURER'S WRITTEN

HERMETIC SEAL RUPTURES DUE TO ALTITUDE CHANGE.

DELIVERY, STORAGE, AND HANDLING

PROJECT CONDITIONS

WARRANTY PERIOD: 10 YEARS FROM DATE OF SUBSTANTIAL COMPLETION.

RT 2 - PRODUCTS

GLASS PRODUCTS, GENERAL A. THICKNESS: WHERE GLASS THICKNESS IS INDICATED, IT IS A MINIMUM. PROVIDE GLASS LITES IN THICKNESSES AS NEEDED TO COMPLY WITH REQUIREMENTS INDICATED. 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 F HEAT-TREATED FLOAT GLASS.

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. FOR LAMINATED-GLASS LITES, PROPERTIES ARE BASED ON PRODUCTS OF CONSTRUCTION INDICATED.

3. FOR INSULATING-GLASS UNITS, PROPERTIES ARE BASED ON UNITS OF THICKNESS INDICATED FOR OVERALL UNIT AND FOR EACH LITE 4. U-FACTORS: CENTER-OF-GLAZING VALUES, ACCORDING TO NFRC 100 AND BASED ON LBL'S WINDOW 5.2 COMPUTER PROGRAM. EXPRESSED AS BTU/SQ. FT. X H X DEG F (W/SQ. M X K). SOLAR HEAT-GAIN COEFFICIENT AND VISIBLE TRANSMITTANCE: CENTER-OF-GLAZING VALUES, ACCORDING TO NFRC 200 AND BASED ON LBL'S WINDOW 5.2 COMPUTER PROGRAM. VISIBLE REFLECTANCE: CENTER-OF-GLAZING VALUES, ACCORDING

A. BASIS-OF-DESIGN PRODUCT: THE DESIGN FOR GLASS THROUGHOUT PART 2 IS BASED ON PRODUCTS INDICATED. SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE THE NAMED PRODUCT OR A

VITRO ARCHITECTURAL GLASS OLDCASTLE GLASS PILKINGTON NORTH AMERICA

5. SCHOTT, AMIRAN ANTI-REFLECTIVE GLAZING MONOLITHIC GLASS A. FLOAT GLASS: ASTM C 1036, TYPE I, QUALITY-Q3, CLASS I (CLEAR) UNLESS OTHERWISE INDICATED. 1. BASIS OF DESIGN PRODUCT: SUBJECT TO COMPLIANCE WITH PRODUCT BY ONE OF THE MANUFACTURERS LISTED IN SECTION 2.3

a. PILKINGTON NORTH AMERICA; OPTIFLOAT CLEAR HEAT-TREATED FLOAT GLASS: ASTM C 1048; TYPE I; QUALITY-Q3; CLASS (CLEAR) UNLESS OTHERWISE INDICATED; OF KIND AND CONDITION FABRICATION PROCESS: BY HORIZONTAL (ROLLER-HEARTH PROCESS WITH ROLL-WAVE DISTORTION PARALLEL TO BOTTOM

EDGE OF GLASS AS INSTALLED UNLESS OTHERWISE INDICATED 2. FOR UNCOATED GLASS, COMPLY WITH REQUIREMENTS FOR CONDITION A. 3. FOR COATED VISION GLASS, COMPLY WITH REQUIREMENTS FOR CONDITION C (OTHER COATED GLASS)

COVER VERTICAL FRAMING JOINTS BY APPLYING TAPES TO HEADS AN SILLS FIRST AND THEN TO JAMBS. COVER HORIZONTAL FRAMING JOIN BY APPLYING TAPES TO JAMBS AND THEN TO HEADS AND SILLS. PLACE JOINTS IN TAPES AT CORNERS OF OPENING WITH ADJOINING BASIS OF DESIGN PRODUCT: SUBJECT TO COMPLIANCE WITH LENGTHS BUTTED TOGETHER, NOT LAPPED. SEAL JOINTS IN TAPES WITH REQUIREMENTS PROVIDE THE FOLLOWING OR COMPARABLE PRODUCT COMPATIBLE SEALANT APPROVED BY TAPE MANUFACTURER BY ONE OF THE MANUFACTURERS LISTED IN SECTION 2.2 E. DO NOT REMOVE RELEASE PAPER FROM TAPE UNTIL RIGHT BEFORE SOLARBAN 70 BY VITRO ARCHITECTURAL GLASS. EACH GLAZING UNIT IS INSTALLED. INSULATING-GLASS UNITS: FACTORY-ASSEMBLED UNITS CONSISTING O F. APPLY HEEL BEAD OF ELASTOMERIC SEALANT, WHERE INDICATED

SEALED LITES OF GLASS SEPARATED BY A DEHYDRATED INTERSPACE, QUALIFIED ACCORDING TO ASTM E 2190, AND COMPLYING WITH OTHER REQUIREMENTS SPECIFIED. 1. SEALING SYSTEM: LOW E, CLEAR. DUAL SEAL, WITH MANUFACTURER'S STANDARD POLYISOBUTYLENE AND POLYSULFIDE PRIMARY AND SECONDARY. 2. SPACER: MANUFACTURER'S STANDARD SPACER MATERIAL AND

CONSTRUCTION. 3. DESICCANT: MOLECULAR SIEVE OR SILICA GEL, OR BLEND OF C. ANTI-REFLECTIVE INSULATING GLASS REFLECTIONS ARE TO LIMITED TO 1%

DENSE COMPRESSION GASKETS: MOLDED OR EXTRUDED GASKETS OF PROFILE AND HARDNESS REQUIRED TO MAINTAIN WATERTIGHT SEAL, MADE FROM ONE OF THE FOLLOWING:

1. EPDM COMPLYING WITH ASTM C 864. SILICONE COMPLYING WITH ASTM C 1115. 3. THERMOPLASTIC POLYOLEFIN RUBBER COMPLYING WITH ASTM C INTEGRAL-SKINNED EPDM OR THERMOPLASTIC POLYOLEFIN RUBBER GASKETS COMPLYING WITH ASTM C 509, TYPE II, BLACK; OF PROFILE AND

HARDNESS REQUIRED TO MAINTAIN WATERTIGHT SEAL. APPLICATION: USE WHERE SOFT COMPRESSION GASKETS WILL B COMPRESSED BY INSERTING DENSE COMPRESSION GASKETS ON PRESSURE-GLAZING STOPS ON OPPOSITE SIDE OF GLAZING. LOCK-STRIP GASKETS: NEOPRENE EXTRUSIONS IN SIZE AND SHAPE INDICATED, FABRICATED INTO FRAMES WITH MOLDED CORNER UNITS AND ZIPPER LOCK-STRIPS, COMPLYING WITH ASTM C 542, BLACK.

GLAZING SEALANTS COMPATIBILITY: PROVIDE GLAZING SEALANTS THAT ARE COMPATIBLE WITH ONE ANOTHER AND WITH OTHER MATERIALS INSULATING-GLASS UNITS, AND GLAZING CHANNEL SUBSTRATES UNDER CONDITIONS OF SERVICE AND APPLICATION, AS DEMONSTRATED BY SEALANT MANUFACTURER BASED ON TESTING AND FIELD EXPERIENCE. 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.

ARCHITECT FROM MANUFACTURER'S FULL RANGE.

3. COLORS OF EXPOSED GLAZING SEALANTS: AS SELECTED BY

A BACK-BEDDING MASTIC GLAZING TAPES: PREFORMED, BUTYL-BASED, 1 PERCENT SOLIDS ELASTOMERIC TAPE; NONSTAINING AND NONMIGRATING IN CONTACT WITH NONPOROUS SURFACES; WITH OR WITHOUT SPACER ROD AS RECOMMENDED IN WRITING BY TAPE AND GLASS MANUFACTURERS FOR APPLICATION INDICATED: AND COMPLYI WITH ASTM C 1281 AND AAMA 800 FOR PRODUCTS INDICATED BELOW: 1. AAMA 806.3 TAPE, FOR GLAZING APPLICATIONS IN WHICH TAPE IS SUBJECT TO CONTINUOUS PRESSURE.

2. AAMA 807.3 TAPE, FOR GLAZING APPLICATIONS IN WHICH TAPE IS

**DIVISION 09 - FINISHES** ECTION 09 21 00 - GYPSUM BOARD ASSEMBLIES

RELATED DOCUMENTS DRAWINGS AND GENERAL PROVISIONS OF CONTRACT APPLY TO THIS

A GYPSUM BOARD CONSTRUCTION TERMINOLOGY: REFER TO ASTM C 12 AND GA-505 FOR DEFINITIONS OF TERMS FOR GYPSUM BOARD

ASSEMBLIES NOT DEFINED IN THIS SECTION OR IN OTHER REFERENCED ASSEMBLY PERFORMANCE REQUIREMENTS FIRE RESISTANCE: PROVIDE GYPSUM BOARD ASSEMBLIES WITH FIRE-RESISTANCE RATINGS INDICATED.

SINGLE-SOURCE RESPONSIBILITY FOR PANEL PRODUCTS: OBTAIN EACH TYPE OF GYPSUM BOARD AND OTHER PANEL PRODUCTS FROM A SINGLE

SINGLE-SOURCE RESPONSIBILITY FOR FINISHING MATERIALS: OBTAIN FINISHING MATERIALS FROM EITHER THE SAME MANUFACTURER THAT SUPPLIES GYPSUM BOARD AND OTHER PANEL PRODUCTS OR FROM A MANUFACTURER ACCEPTABLE TO GYPSUM BOARD MANUFACTURER. FIRE-TEST-RESPONSE CHARACTERISTICS: WHERE FIRE-RESISTANCE-RATED GYPSUM BOARD ASSEMBLIES ARE INDICATED, PROVIDE GYPSUM BOARD ASSEMBLIES THAT COMPLY WITH THE FOLLOWING REQUIREMENTS: FIRE-RESISTANCE RATINGS: AS INDICATE BY GA FILE NUMBERS IN GA-600 'FIRE RESISTANCE DESIGN MANUAL" OF DESIGN DESIGNATIONS IN UL "FIRE RESISTANCE DIRECTORY" OR IN TH LISTING OF ANOTHER TESTING AND INSPECTING AGENCY ACCEPTABLE TO AUTHORITIES HAVING JURISDICTION.

DELIVERY, STORAGE, AND HANDLING A. DELIVER MATERIALS IN ORIGINAL PACKAGES. CONTAINERS. OR BLINDLE BEARING BRAND NAME AND IDENTIFICATION OF MANUFACTURER OR STORE MATERIALS INSIDE UNDER COVER AND KEEP THEM DRY AND PROTECTED AGAINST DAMAGE FROM WEATHER, DIRECT SUNLIGHT SURFACE CONTAMINATION, CORROSION, CONSTRUCTION TRAFFIC, AND OTHER CAUSES. NEATLY STACK GYPSUM PANELS FLAT TO PREVENT

ENVIRONMENTAL CONDITIONS, GENERAL: ESTABLISH AND MAINTAIN ENVIRONMENTAL CONDITIONS FOR APPLYING AND FINISHING GYPSUM BOARD TO COMPLY WITH ASTM C 840 REQUIREMENTS OR GYPSUM BOARD MANUFACTURER'S RECOMMENDATIONS, WHICHEVER ARE MORE ROOM TEMPERATURES: FOR NONADHESIVE ATTACHMENT OF GYPSUM BOARD TO FRAMING, MAINTAIN NOT LESS THAN 40 DEG F. FOR ADHESIV ATTACHMENT AND FINISHING OF GYPSUM BOARD. MAINTAIN NOT LESS THAN 50 DEG F FOR 48 HOURS BEFORE APPLICATION AND CONTINUOUSLY AFTER UNTIL DRY. DO NOT EXCEED 95 DEG F WHEN

VENTILATION: VENTILATE BUILDING SPACES AS REQUIRED TO DRY JOINT REATMENT MATERIALS. AVOID DRAFTS DURING HOT, DRY WEATHER TO PREVENT FINISHING MATERIALS FROM DRYING TOO RAPIDLY.

A SUBJECT TO COMPLIANCE WITH REQUIREMENTS PROVIDE PRODUCTS FROM ONE OF THE FOLLOWING: GEORGIA-PACIFIC CORP. OR NATIONAL GYPSUM CO.: GOLD BOND BUILDING PRODUCTS DIVISION OR UNITED

A. STEEL FRAMING, GENERAL: COMPLY WITH ASTM C 754 FOR CONDITIONS

INDICATED.

1. STEEL SHEET COMPONENTS: METAL COMPLYING WITH ASTM C 645 PROTECTIVE COATING: INTERIOR APPLICATIONS: ASTM A 653/A 653M, G40 (Z120), HOT DIP GALVANIZED ZINC COATING. EXTERIOR APPLICATIONS: ASTM A 653/A 653M, G60 (Z180), HOT DIP GALVANIZED ZINC COATING. STEEL FRAMING COMPONENTS FOR SUSPENDED AND FURRED CEILING GENERAL: PROVIDE COMPONENTS COMPLYING WITH ASTM C 754

FOR CONDITIONS INDICATED. WIRE TIES: ASTM A 641, CLASS 1 ZINC COATING, SOFT TEMPER 0.062 INCH THICK. NOT LESS THAN THICKNESS REQUIRED FOR FIRE-RESISTANCE RATED ASSEMBLIES OF WHICH WIRE TIE IS A PART WIRE HANGARS: ASTM A 641, CLASS 1 ZINC COATING, SOFT TEMPER, 0.162-INCH DIAMETER.

NOT LESS THAN THICKNESS REQUIRED FOR FIRE-RESISTANCE RATED ASSEMBLIES OF WHICH WIRE HANGAR IS A PART. CHANNELS: COLD-ROLLED STEEL, 0.0598-INCH MINIMUM THICKNES OF BASE (UNCOATED) METAL AND 7/16-INCH-WIDE FLANGES, AND AS CARRYING CHANNELS: 2 INCHES DEEP, 590LB/1000 FEET, UNLESS OTHERWISE INDICATED.
FINISH: RUST-INHIBITIVE PAINT, UNLESS OTHERWISE

STEEL STUDS FOR FURRING CHANNELS: ASTM C 645, WITH FLANG EDGES OF STUDS BENT BACK 90 DEGREES AND DOUBLED OVER T FORM 3/16-INCH-WIDE MINIMUM LIP (RETURN), AND COMPLYING WITH THE FOLLOWING REQUIREMENTS FOR MINIMUM THICKNESS OF BASE (UNCOATED) METAL AND FOR DEPTH-THICKNESS: 0.0329 INCH, UNLESS OTHERWISE INDICATED. DEPTH: 3-5/8 INCHES, UNI ESS OTHERWISE INDICATED

PROTECTIVE COATING: ASTM A 653, G40 HOT-DIP GALVANIZ C. (OPTIONAL) METAL SUSPENSION SYSTEM MÉTAL SUSPENSION SYSTEM STANDARD: MANUFACTURER'S STANDARD, DIRECT-HUNG, FULLY CONCEALED, METAL SUSPE SYSTEM THAT COMPLIES WITH APPLICABLE REQUIREMENTS IN ASTM C 635/ C635M. DIRECT-HUNG, DOUBLE-WEB SUSPENSION SYSTEM: MAIN AND CROSS RUNNERS ROLL FORMED FROM AND CAPPED WITH

ZINC COATED, OR HOT-DIP GALVANIZED, G30 (Z90)COATING STRUCTURAL CLASSIFICATION: INTERMEDIATE HEAVY-DUTY 4. ACCESS: UPWARD OR DOWNWARD AND END PIVOTED OR SIDE PIVOTED, WITH INITIAL ACCESS OPENINGS OF SIZE INDICATED BELOW AND LOCATED THROUGHOUT CEILING WITHIN EACH MODULE FORMED BY MAIN AND CROSS RUNNERS, WITH

ADDITIONAL ACCESS AVAILABLE BY PROGRESSIVELY REMOVING REMAINING ACOUSTICAL TILES. INITIAL ACCESS OPENING: IN EACH MODULE, 24"x 24" AS INDICATED ON DRAWINGS PARTITION AND SOFFIT FRAMING 1. STEEL STUDS AND RUNNERS: ASTM C645, IN DEPTH INDICATED MINIMUM BASE METAL THICKNESS:

DEEP-LEG DEFLECTION TRACK: ASTM C645 TOP RUNNER WITH 2-INCH-DEEP FLANGES. COLD-ROLLED CHANNEL BRIDGING: 0.0538-INCH BARE STEE THICKNESS, WITH MINIMUM 1/2-INCH WIDE FLANGE, AND IN DEPTH INDICATED HAT-SHAPED, RIGID FURRING CHANNELS: ASTM C645, IN DEPTH COLD-ROLLED CHANNELS: 0.0538-INCH BARE STEEL THICKNESS

WITH MINIMUM 1/2-INCH WIDE FLANGE, AND IN DEPTH INDICATED.
a. FURRING BRACKETS: ADJUSTABLE, CORRUGATED-EDGE TY OF STEEL SHEET WITH MINIMUM BARE STEEL THICKNESS OF TIE WIRE: ASTM A641/A, CLASS 1 ZINC COATING: SOFT TEMPER, 0.0625-INCH DIAMETER WIRE, OR DOUBLE STRAND

OF 0.0475-INCH DIAMETER WIRE. Z SHAPED FURRING: WITH SLOTTED OR NON-SLOTTED WEB, FACE FLANGE OF 1-1/4 INCHES, WALL ATTACHED FLANGE OF 7/8 INCH, MINIMUM BARE METAL THICKNESS OF 0.0179-INCH AND DEP REQUIRED TO FIT INSULATION THICKNESS INDICATED.
7. FASTENERS FOR METAL FRAMING: OF TYPE, MATERIAL SIZE, CORROSION RESISTANCE, HOLDING POWER, AND OTHER PROPERTIES REQUIRED TO FASTEN STEEL MEMBERS TO

GYPSUM BOARD PRODUCTS GENERAL: PROVIDE GYPSUM BOARD OF TYPES INDICATED IN MAXIMUI LENGTHS AVAILABLE THAT WILL MINIMIZE END-TO-END BUTT JOINTS IN EACH AREA INDICATED TO RECEIVE GYPSUM BOARD APPLICATION. WIDTHS: PROVIDE GYPSUM BOARD IN WIDTHS OF 48 INCHES. GYPSUM WALLBOARD: ASTM C 36 AND AS FOLLOWS:

TYPE: STANDARD TYPE: SAG-RESISTANT TYPE FOR CEILING SURFACES EDGES: TAPERED AND FEATURED (ROUNDED OR BEVELED) FOR 4. THICKNESS: 5/8 INCH, UNLESS OTHERWISE INDICATED.

GYPSUM BOARD BACKING FOR STONE TILE INSTALLATION

PROVIDE ONE OF THE FOLLOWING SUBSTRATES BEHIND MARBLE TILE CEMENTITIOUS BACKER UNIT (CBU) CONFORMING TO ASTM C132 (E.G., DUROCK, HARDIEBACKER). GLASS MAT WATER-RESISTANT GYPSUM BOARD (E.G., DENSSHIELI GLASROC) ONLY IF MANUFACTURER-APPROVED FOR ADHERED PLYWOOD OR CEMENT BOARD OVER WOOD/METAL STUDS, WHERE STRUCTURAL LOADING REQUIRES

MINIMUM THICKNESS: 1/2" CEMENT BOARD OR 5/8" ABUSE-RESISTANT

GYPSUM BOARD, PER TILE MANUFACTURER REQUIREMENTS SUBSTRATE DEFLECTION UNDER FULL LOAD (INCLUDING STONE AND SETTING MATERIALS) SHALL NOT EXCEED L/360. A. PROVIDE ADDITIONAL HORIZONTAL BLOCKING AT 16" OC BEHIND TILE WALLS TO SUPPORT SUBSTRATE PANELS AND STONE WEIGHT. METAL STUD FRAMING TO BE MINIMUM 20 GAUGE, WITH STUDS SPACED NO MORE THAN 16" OC AT TILE AREAS.

COORDINATE WITH DIVISION 09 TILE SPECIFICATION TO ENSURE SUBSTRATE MEETS LOAD/DEFLECTION CRITERIA. ACCESSORIES FOR INTERIOR INSTALLATION: CORNERBEAD, EDGE TRI AND CONTROL JOINTS COMPLYING WITH ASTM C 1047 AND FORMED METAL OR PLASTIC, WITH METAL COMPLYING WITH THE FOLLOWING STEEL SHEET ZINC COATED BY HOT-DIP PROCESS OR ROLLED ZINC

SHAPES INDICATED BELOW BY REFERENCE TO FIG. 1 DESIGNATIONS IN ASTM C 1047. CORNERBEAD ON OUTSIDE CORNERS, LINESS OTHERWISE INDICATE LC-BEAD WITH BOTH FACE AND BACK FLANGES: FACE FLANGE FORMED O RECEIVE JOINT COMPOUND. USE LC-BEADS FOR EDGE TRIM, UNLESS THERWISE INDICATED. ONE-PIECE CONTROL JOINT FORMED WITH V-SHAPED SLOT AND REMOVABLE STRIP COVERING SLOT OPENING.

GENERAL: PROVIDE JOINT TREATMENT MATERIALS COMPLYING WITH ASTM C 475 AND THE RECOMMENDATIONS OF BOTH THE MATERIALS FOR EACH APPLICATION INDICATED.

JOINT TAPE FOR GYPSUM BOARD: PAPER-REINFORCING TAPE, UNLESS THERWISE INDICATED. DRYING-TYPE JOINT COMPOUNDS FOR GYPSUM BOARD FACTORY-PACKAGED VINYL-BASED PRODUCTS COMPLYING WITH THE FOLLOWING REQUIREMENTS FOR FORMULATION AND INTENDED USE READY-MIXED FORMULATION: FACTORY-MIXED PRODUCT, ALL-PURPOS COMPOUND FORMULATED FOR BOTH TAPING AND TOPPING COMPOUN

MISCELLANEOUS MATERIALS GENERAL: PROVIDE AUXILIARY MATERIALS FOR GYPSUM BOARD CONSTRUCTION THAT COMPLY WITH REFERENCED STANDARDS ANI RECOMMENDATIONS OF GYPSUM BOARD MANUFACTURER.

RECOMMENDED FOR LAMINATING GYPSUM PANELS. STEEL DRILL SCREWS COMPLYING WITH ASTM C 1002 FOR FASTENING GYPSUM BOARD TO STEEL MEMBERS LESS THAN 0.033-INCH THICK. ART 3 - EXECUTION

A. EXAMINE SUBSTRATES TO WHICH GYPSUM BOARD ASSEMBLIES ATTACH OR ABUT INSTALLED WOOD FRAMES CAST-IN-ANCHORS AND STRUCTURAL FRAMING, WITH INSTALLER PRESENT, FOR COMPLIANCE WITH REQUIREMENTS FOR INSTALLATION TOLERANCES AND OTHER CONDITIONS AFFECTING PERFORMANCE OF ASSEMBLIES SPECIFIED IN THIS SECTION DO NOT PROCEED WITH INSTALLATION UNTIL UNSATISFACTORY CONDITIONS HAVE BEEN CORRECTED.

CEILING ANCHORAGES: COORDINATE INSTALLATION OF CEILING SUSPENSION SYSTEMS WITH INSTALLATION OF OVERHEAD STRUCTUR ASSEMBLIES TO ENSURE THAT INSERTS AND OTHER PROVISIONS FOR ANCHORAGES TO BUILDING STRUCTURE HAVE BEEN INSTALLED TO RECEIVE CEILING HANGERS THAT WILL DEVELOP THEIR FULL STRENG AND AT SPACING REQUIRED TO SUPPORT CEILINGS AND ALL RELATED NON-LOAD-BEARING STEEL FRAMING INSTALLATION

GENERAL: COMPLY WITH ASTM C754, AND ASTM C840 REQUIREMENTS HAT APPLY TO FRAMING INSTALLATION. SUSPENDED CEILING AND SOFFIT FRAMING SUSPEND CEILING HANGERS PLUMB AND FREE FROM CONTACT WITH INSULATION OR OTHER OBJECTS WITHIN CEILING PLENUM THAT ARE NOT PART OF SUPPORTING STRUCTURAL OR CEILING SUSPENSION SYSTEM. SPLAY HANGERS ONLY WHERE REQUIRE TO MISS OBSTRUCTIONS AND OFFSET RESULTING HORIZONTAL FORCES BY BRACING, COUNTER-SPLAYING, OR OTHER EQUALL EFFECTIVE MEANS. WHERE WIDTH OF DUCTS AND OTHER CONSTRUCTION WITHIN CEILING PLENUM PRODUCES HANGER SPACINGS THAT INTERFER WITH THE LOCATION OF HANGERS REQUIRED TO SUPPORT STANDARD SUSPENSION SYSTEM MEMBERS, INSTALL SUPPLEMENTAL SUSPENSION MEMBERS AND HANGERS IN FORM TRAPEZES OR EQUIVALENT DEVICES. SIZE SUPPLEMENTAL WITHIN PERFORMANCE LIMITS ESTABLISHED BY REFERENCED

ATTACH HANGERS TO STRUCTURAL MEMBERS. DO NOT SUPPOR CEILINGS FROM OR ATTACH HANGERS TO PERMANENT METAL FORMS, STEEL DECK TABS, STEEL ROOF DECKS, DUCTS, PIPES, O SCREW FURRING TO WOOD FRAMING WIRE-TIE FURRING CHANNELS TO SUPPORTS AS REQUIRED TO COMPLY WITH REQUIREMENTS FOR ASSEMBLIES INDICATED.

GRID SUSPENSION SYSTEM: ATTACH PERIMETER WALL TRACK OF NGLE WHERE GRID SUSPENSION SYSTEM MEETS VERTICAL SURFACES. MECHANICALLY JOIN MAIN BEAM AND CROSS FURRII MEMBERS TO EACH OTHER AND BUTT-CUT TO FIT INTO WALL PARTITION AND SOFFIT FRAMING: WHERE STUDS ARE INSTALLED DIRECTLY AGAINST EXTERIOR WALLS, INSTALL ISOLATION STRIP BETWEEN STUDS AND WALL

EXTEND PARTITION FRAMING FULL HEIGHT TO STRUCTURAL UPPORTS OR SUBSTRATES ABOVE SUSPENDED CEILINGS, EXCE WHERE PARTITIONS ARE INDICATED TO TERMINATE AT SUSPENDE CEILINGS. CONTINUE FRAMING OVER FRAMES FOR DOORS AND OPENINGS AND FRAME AROUND DUCTS PENETRATING PARTITION BOVE CEILING TO PROVIDE SUPPORT FOR GYPSUM BOARD FRAME DOOR OPENINGS TO COMPLY WITH GA-600 AND WITH GYPSUM BOARD MANUFACTURER'S APPLICABLE WRITTEN RECOMMENDATIONS, UNLESS OTHERWISE INDICATED, SCREW VERTICAL STUDS AT JAMBS TO JAMB ANCHOR CLIPS ON DOOR FRAMES; INSTALL RUNNER TRACK SECTION (FOR CRIPPLE STUDS AT HEAD AND SECURE JAMB STUDS. INSTALL TWO STUDS AT EACH JAMB, UNLESS OTHERWISE INDICATED

EXTEND JAMB STUDS THROUGH SUSPENDED CEILINGS AND ATTACH TO UNDERSIDE OF FLOOR OR ROOF STRUCTURE FRAME OPENINGS OTHER THAN FLOOR OPENINGS THE SAME AS REQUIRED FOR DOOR OPENINGS, UNLESS OTHERWISE INDICATED INSTALL FRAMING BELOW SILLS OF OPENINGS TO MATCH FRAMIN REQUIRED ABOVE DOOR HEADS. Z-FURRING MEMBERS: ERECT INSULATION VERTICALLY AND HOLD IN PLACE WITH Z-FURRING MEMBERS.

LINTIL GYPSUM BOARD IS INSTALLED, HOLD INSULATION IN PLACE WITH 10-INCH (250-MM) STAPLES FABRICATED FROM 0.0625-INCH-(1.59-MM-) DIAMETER, TIE WIRE AND INSERTED THROUGH SLOT IN APPLYING AND FINISHING GYPSUM BOARD, GENERAL GYPSUM BOARD APPLICATION AND FINISHING STANDARDS: INSTALL AND FINISH GYPSUM PANELS TO COMPLY WITH ASTM C840 AND GA-216. INSTALL CEILING BOARD PANELS ACROSS FRAMING TO MINIMIZE THE NUMBER OF ABUTTING END JOINTS AND TO AVOID ABUTTING END JOINTS

IN THE CENTRAL AREA OF EACH CEILING. STAGGER ABUTTING END JOINTS OF ADJACENT PANELS NOT LESS THAN ONE FRAMING MEMBER. INSTALL GYPSUM PANELS WITH FACE SIDE OUT. DO NOT INSTALI IMPERFECT, DAMAGED, OR DAMP PANELS. BUTT PANELS TOGETHER FOI A LIGHT CONTACT AT EDGES AND ENDS WITH NOT MORE THAN 1/16 INC OF OPEN SPACE BETWEEN PANELS. DO NOT FORCE INTO PLACE. LOCATE BOTH EDGE OR END JOINTS OVER SUPPORTS, EXCEPT IN EII ING APPLICATIONS WHERE INTERMEDIATE SUPPORTS OR GYPS PLACE TAPERED EDGES AGAINST CUT EDGES OR ENDS. STAGGER

VERTICAL JOINTS ON OPPOSITE SIDES OF PARTITIONS. AVOID JOINTS OTHER THAN CONTROL JOINTS AT CORNERS OF FRAMED OPENINGS WHERE POSSIBLE. ATTACH GYPSUM PANELS TO STUDS SO LEADING EDGE OR END OF EACH PANEL IS ATTACHED TO OPEN (UNSUPPORTED) EDGES OF STUD FLANGES

ATTACH GYPSUM PANELS TO FRAMING PROVIDED AT OPENINGS AND 1. FIRE TAPE, SPACKLE, AND FIRE CAULK ALL PENETRATIONS INTO RATED AND/OR SHAFT WALLS.
FORM CONTROL AND EXPANSION JOINTS AT LOCATIONS INDICATED AND AS DETAILED, WITH SPACE BETWEEN EDGES OF ADJOINING GYPSUM PANELS, AS WELL AS SUPPORTING FRAMING BEHIND GYPSUM PANELS. ISOLATE PERIMETER OF NONLOAD-BEARING GYPSUM BOARD PARTI AT STRUCTURAL ABUTMENTS EXCEPT FLOORS PROVIDE 1/4- TO /2-INCH-WIDE SPACES AT THESE LOCATIONS AND TRIM EDGES WITH LC-BEAD EDGE TRIM WHERE EDGES OF GYPSUM PANELS ARE EXPOSE SEAL JOINTS BETWEEN EDGES AND ABUTTING STRUCTURAL SURFACES WITH ACOUSTICAL SEALANT. SPACE FASTENERS IN GYPSUM PANELS ACCORDING TO REFERENCED GYPSUM BOARD APPLICATION AND FINISHING STANDARD AND MANUFACTURER'S RECOMMENDATIONS. SPACE SCREWS A MAXIMUM OF 12 INCHES O.C. FOR VERTICAL

SINGLE-LAYER APPLICATION: INSTALL GYPSUM WALLBOARD PANELS AS

ON CEILINGS, APPLY GYPSUM PANELS PRIOR TO WALL/PARTITION BOARD APPLICATION TO THE GREATEST EXTENT POSSIBLE AND A RIGHT ANGLES TO FRAMING, UNLESS OTHERWISE INDICATED. ON PARTITIONS/WALLS, APPLY GYPSUM PANELS VERTICALLY (PARALLEL TO FRAMING), UNLESS OTHERWISE INDICATED, AND PROVIDE PANEL LENGTHS THAT WILL MINIMIZE END JOINTS. MULTILAYER APPLICATION ON CEILINGS: APPLY GYPSUM BOARD INDICATED FOR BASE LAYERS PRIOR TO APPLYING BASE LAYERS ON WALLS/PARTITIONS. APPLY GYPSUM WALLBOARD FACE LAYERS IN SAM SEQUENCE. OFFSET FACE-LAYER JOINTS ONE FRAMING MEMBER, 16 NCHES MINIMUM, FROM PARALLEL BASE-LAYER JOINTS.

MULTILAYER APPLICATION ON PARTITIONS/WALLS: APPLY GYPSUM BOARD INDICATED FOR BASE LAYERS AND GYPSUM WALLBOARD FACE LAYERS VERTICALLY (PARALLEL TO FRAMING) WITH JOINTS OF BASE LAYERS LOCATED OVER STUD OR FURRING MEMBER AND FACE-LAYER JOINTS OFFSET AT LEAST ONE STUD OR FURRING MEMBER WITH BASE-LAYER JOINTS. STAGGER JOINTS ON OPPOSITE SIDES OF ACOUSTICAL TILE BASE: WHERE GYPSUM PANELS FORM THE BASE FOR

ADHESIVELY APPLIED ACOUSTICAL TILE, INSTALL GYPSUM WALLBOARD PANELS WITH TAPERED EDGES TAPED AND FINISHED TO PRODUCE A FLAT SURFACE.
SINGLE-LAYER FASTENING METHODS: APPLY GYPSUM PANELS TO SUPPORTS WITH SCREWS. MULTILAYER FASTENING METHODS: APPLY BASE LAYERS OF GYPSUM PANELS AND FACE LAYER TO BASE LAYERS. FASTEN BOTH BASE LAYER AND FACE LAYERS SEPARATELY TO SUPPORTS WITH SCREWS.

DIRECT-BONDING TO SUBSTRATE: WHERE GYPSUM PANELS ARE INDICATED AS DIRECTLY ADHERED TO A SUBSTRATE (OTHER THAN STUDS, JOISTS, FURRING MEMBERS, OR BASE LAYER OF GYPSUM BOARD), COMPLY WITH GYPSUM BOARD MANUFACTURER'S RECOMMENDATIONS, AND TEMPORARILY BRACE OR FASTEN GYPSUM PANELS UNTIL FASTENING ADHESIVE HAS SET. INSTALLING TRIM ACCESSORIES A. GENERAL: FOR TRIM ACCESSORIES WITH BACK FLANGES, FASTEN TO

FRAMING WITH THE SAME FASTENERS USED TO FASTEN GYPSUM BOAR OTHERWISE, FASTEN TRIM ACCESSORIES ACCORDING TO ACCESSORY MANUFACTURER'S DIRECTIONS FOR TYPE, LENGTH, AND SPACING O FASTENERS. INSTALL CORNER BEAD AT EXTERNAL CORNERS. INSTALL EDGE TRIM WHERE EDGE OF GYPSUM PANELS WOULD THERWISE BE EXPOSED. PROVIDE EDGE TRIM TYPE WITH FACE FLANG FORMED TO RECEIVE JOINT COMPOUND, EXCEPT WHERE OTHER TYPES

1. INSTALL LC-BEAD WHERE GYPSUM PANELS ARE TIGHTLY ABUTTE TO FRAMING OR SUPPORTING SUBSTRATE. INSTALL CONTROL JOINTS ACCORDING TO ASTM C840 AND MANUFACTURER'S RECOMMENDATIONS AND IN SPECIFIC LOCATIONS

A. GENERAL: TREAT GYPSUM BOARD JOINTS, INTERIOR ANGLES, FLANGES OF CORNER-BEAD, EDGE TRIM, CONTROL JOINTS, PENETRATIONS FASTENER HEADS, SURFACE DEFECTS, AND ELSEWHERE AS REQUIRED O PREPARE GYPSUM BOARD SURFACES FOR DECORATION PREFILL OPEN JOINTS, ROUNDED OR BEVELED EDGES, AND DAMAGED AREAS USING SETTING-TYPE JOINT COMPOUND APPLY JOINT TAPE OVER GYPSUM BOARD JOINTS, EXCEPT THOSE WITH-TRIM ACCESSORIES HAVING FLANGES NOT REQUIRING TAPE LEVELS OF GYPSUM BOARD FINISH: PROVIDE THE FOLLOWING LEVELS

OF GYPSUM BOARD FINISH PER GA-214. LEVEL 4 FOR GYPSUM BOARD SURFACES, UNLESS OTHERWISE LEVEL 5 FOR GYPSUM BOARD SURFACES AS NOTED ON DRAWING USE THE FOLLOWING JOINT COMPOUND COMBINATION AS APPLICABLE EMBEDDING AND FIRST COAT: READY-MIXED, DRYING-TYPE, ALL-PURPOSE OR TAPING COMPOUND. FILL (SECOND) COAT: READY-MIXED, DRYING-TYPE, ALL-PURPOSE OR TOPPING COMPOUND.

FINISH (THIRD) COAT: READY-MIXED, DRYING-TYPE, ALL-PURPOSI FOR LEVEL 4 GYPSUM BOARD FINISH, EMBED TAPE IN JOINT COMPOLINI AND APPLY FIRST, FILL (SECOND), AND FINISH (THIRD) COATS OF JOINT COMPOUND OVER JOINTS, ANGLES, FASTENER HEADS, AND AND READY FOR DECORATION.

ACCESSORIES. TOUCH UP AND SAND BETWEEN COATS AND AFTER LAS COAT AS NEEDED TO PRODUCE A SURFACE FREE OF VISUAL DEFECTS FOR LEVEL 5 GYPSUM BOARD FINISH, COMPLETE ALL OPERATIONS REQUIRED FOR LEVEL 4 FINISH. ADDITIONALLY APPLY A THIN SKIM COAT OF JOINT COMPOUND TO THE ENTIRE SURFACE OF WALL AND SAND.

FOLLOW GA-214. FIELD QUALITY CONTROL ABOVE-CEILING OBSERVATION: THE OWNER'S FIELD REPRESENTATIVE WILL CONDUCT AN ABOVE-CEILING OBSERVATION PRIOR TO INSTALLATION OF GYPSUM BOARD CEILINGS AND REPORT AN

DEFICIENCIES IN THE WORK OBSERVED. DO NOT PROCEED WITH INSTALLATION OF GYPSUM BOARD TO CEILING SUPPORT FRAMING UNT DEFICIENCIES HAVE BEEN CORRECTED. CLEANING AND PROTECTION

PROMPTLY REMOVE ANY RESIDUAL JOINT COMPOUND FROM ADJACENT PROVIDE FINAL PROTECTION AND MAINTAIN CONDITIONS, IN A MANNER ACCEPTABLE TO INSTALLER. ENSURE THAT GYPSUM BOARD ASSEMBLIES ARE WITHOUT DAMAGE OR DETERIORATION AT THE TIME O CONTRACT COMPLETION. END OF SECTION 09 21 00

ECTION 09 30 13 - CERAMIC/PORCELAIN TILING

A. FURNISH ALL LABOR, MATERIALS, TOOLS, EQUIPMENT AND SERVICE NECESSARY FOR AND REASONABLY INCIDENTAL TO COMPLETE THE TIL WORK AS SHOWN ON THE DRAWINGS OR SPECIFIED. RELATED DOCUMENTS, DRAWINGS AND GENERAL PROVISIONS OF CONTRACT, INCLUDING GENERAL AND SUPPLEMENTARY CONDITIONS AND DIVISION 1 SPECIFICATION SECTIONS APPLY TO WORK OF THIS REFERENCE STANDARDS

COMPLY WITH CURRENT EDITIONS AND APPLICABLE SPECIFICATIONS O THE FOLLOWING: AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM). AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI).
TILE COUNCIL OF NORTH AMERICA (TCNA) HANDBOOK FOR ERAMIC TILE INSTALLATION.

PROVIDE TILE MATERIALS OF EACH TYPE, COLOR AND FINISH FROM ON PROVIDE SETTING, GROUTING AND RELATED MATERIALS OF EACH TYPE COLOR AND FINISH OBTAINED FROM ONE SOURCE. DELIVER, STORE AND HANDLE MATERIALS IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS. TILE CONTRACTOR BY COMMENCING THE WORK OF THIS SECTION

ASSUMES OVERALL RESPONSIBILITY TO ASSURE THAT ALL ASSEMBLIES

COMPONENTS AND PARTS SHOWN OR REQUIRED WITHIN THE WORK OF HIS SECTION COMPLY WITH CONTRACT DOCUMENTS AND ARE COMPATIBLE WITH EACH OTHER AND WITH THE CONDITIONS AND EXPECTED USE. QUALIFIED LABOR (BECAUSE TILE IS A PERMANENT FINISH, THE LOWES BID SHOULD NOT BE THE DECIDING FACTOR BUT RATHER, BUT WHO IS THE MOST QUALIFIED TO PERFORM THE SCOPE OF THE WORK BEING SPECIFIED. SEE TCNA HANDBOOK FOR A LIST OF RECOGNIZED PROGRAMS). ENGAGE AN INSTALLER WITH A MINIMUM OF FIVE (5) COMMERCIAL TILE INSTALLATIONS SIMILAR IN MATERIAL, DESIGN AND SCOPE TO THAT INDICATED.
PRE-INSTALLATION MEETING: PRIOR TO TILE INSTALLATION, CONDUCT. PRE-INSTALLATION PROJECT MEETING. CONTRACTOR, SUBCONTRACTOR, MATERIAL SUPPLIERS, ARCHITECT AND OWNER

RESENTATIVE SHALL BE NOTIFIED OF THE MEETING

EXTRA STOCK: FURNISH EXTRA STOCK OF QUANTITY EQUAL TO 20% O

AMOUNT INSTALLED, IN FULL-SIZE UNITS, FOR EACH TYPE, COLOR, SIZE

SUBMITTALS VERIFICATION SAMPLES: SUBMIT THE FOLLOWING FOR EACH TYPE, COLOR, SIZE, AND FINISH INCLUDED IN THE WORK. FULL SIZE TILE AND TRIM SHAPES, (INDICATE NUMBER OF PIECES GROUT COLOR SAMPLES

AND FINISH OF TILE.

SEALANT COLOR SAMPLES OR PREFABRICATED JOINT/TRANSITIO STRIP SAMPLES PRODUCT AND INSTALLATION DATA: PORCELAIN TILE MANUFACTURER'S PRODUCT AND TECHNICAL DATA INDICATING COMPLIANCE WITH APPLICABLE STANDARDS MASTER GRADE CERTIFICATES FOR EACH TYPE OF TILE ISSUED E ILE MANUFACTURER AND SIGNED BY THE INSTALLER, ONLY AVAILABLE AFTER THE MATERIAL HAS SHIPPED FROM THE MORTAR AND GROUT MANUFACTURER'S TECHNICAL DATA SHEETS NDICATING SUITABILITY FOR THE INSTALLATION SPECIFIED AND

SEALANT OR PREFABRICATED JOINT MANUFACTURER'S PRODUCT AND TECHNICAL DATA. COMPLY WITH REQUIREMENTS OF REFERENCED STANDARDS AND RECOMMENDATIONS OF MATERIAL MANUFACTURERS FOR ENVIRONMENTAL CONDITIONS BEFORE, DURING AND AFTER INSTALLATION

COMPLIANCE WITH APPLICABLE STANDARDS.

MAINTAIN ENVIRONMENTAL CONDITIONS AND PROTECT WORK DURING AND AFTER INSTALLATION TO COMPLY WITH REFERENCED STANDARDS AND MANUFACTURER'S PRINTED RECOMMENDATIONS MAINTAIN MINIMUM AND MAXIMUM TEMPERATURE LIMITS AS RECOMMENDED BY MANUFACTURERS. PROTECT ADJACENT SURFACES DURING PROGRESS OF THE WORK IN ILLUMINATE THE WORK AREA DURING INSTALLATION PROVIDING THE SAME LEVEL AND ANGLE OF ILLUMINATION AS WILL BE AVAILABLE FOR

FINAL INSPECTION. THE USE GRAZING OR COVE TYPE LIGHTING WHER LIGHTS ARE LOCATED EITHER AT THE WALL/CEILING INTERFACE. OR MOUNTED DIRECTLY TO THE WALL PROMPTS THE LIGHT TO STRIKE THE TILE FINISH AT A STRAIGHT DOWN ANGLE, CREATING UNWANTED SHADOWS FROM GROUT LINES GIVING THE TILE LAYOUT AN UN-FLAT IRREGULAR APPEARANCE INSTALLING OVERHEAD LIGHTING AT A WIDE WARD ANGLE 18"-24" AWAY FROM THE TILED WALL WILL PROVIDE A FLATTER MORE UNIFORM APPEARANCE TO THE TILED SURFACE.

TILE INSTALLATION SHALL BE WARRANTED UNDER CONTRACTOR AND TILE INSTALLER WORKMANSHIP FOR A PERIOD OF ONE YEAR.

FURNISH TILE COMPLYING WITH "STANDARD/FIRST GRADE" REQUIREMENTS PER ANSI A137.1 - 2012, FOR TYPES OF TILE INDICATED COMPLY WITH ANSI STANDARD FOR TILE INSTALLATION MATERIAL AND PRODUCTS AND MATERIALS INDICATED FOR SETTING AND GROUTING

MANUFACTURERS CERAMIC TILE: PROVIDE AS SCHEDULED ON DRAWINGS PORCELAIN TILE: PROVIDE AS SCHEDULED ON DRAWINGS DRAWINGS IF NONE LISTED COORDINATE PER TILE MANUFACTURER COLOR TO BE SELECTED BY OWNERS REPRESENTATIVE. PROVIDE MATCHING TRIM SHAPES SUCH AS BULLNOSE, CORNERS,

BORDERS AND COVE BASE WHEN SPECIFIED ON DRAWINGS. USE APPROPRIATE INSTALLATION MORTARS ACCORDING TO ANS GROUTING MATERIALS: SELECT GROUTING MATERIALS ACCORDING TO

THE FOLLOWING TYPES: TILE SETTING AND GROUTING EPOXY:

PERFORMANCE CEMENT GROUT OR A118.8-2010, MODIFIED EPOXY

A118.6-2010 STANDARD CEMENT GROUT, A118.7-2010, HIGH

EMULSION GROUT. PROVIDE GROUT IN COLORS SELECTED BY THE ARCHITECT FROM STANDARD COLORS AVAILABLE FROM THE APPROVED MANUFACTURERS. USE WATERPROOFING/ANTI FRACTURE MEMBRANE AS REQUIRED ACCORDING TO ANSI A118.12. EXPANSION JOINTS, CONTROL, CONTRACTION, AND ISOLATION JOINTS: REFER TO MOST CURRENT TCNA HANDBOOK, METHOD EJ171 FOR

RECOMMENDATIONS ON LOCATING, TREATING AND DETAILING VARIOUS TYPES OF CONSTRUCTION JOINTS. USE SEALANT COMPLYING WITH ASTM C920 ACCORDING TO TYPE GRADE, CLASS AND USES REQUIRED. PREFABRICATED EXPANSION JOINTS CAN ALSO BE USED WHEN SUITABLE FOR INSTALLATION.

A. EXAMINE SUBSTRATES WHERE TILE WILL BE INSTALLED FOR

COMPLIANCE WITH REQUIREMENTS FOR INSTALLATION TOLERANCES AND OTHER CONDITIONS EFFECTING PERFORMANCE OF INSTALLED TIL BEFORE TILING CONCRETE SURFACES SATURATED DRY (SSD), FREE OF STANDING WATER VERIFY THAT SUBSTRATES FOR SETTING TILE ARE WELL CURED, STRUCTURALLY SOUND DRY, CLEAN, AND FREE FROM OI OR WAXY FILMS, CURING COMPOUNDS OR OTHER COATINGS AND SURFACE TREATMENTS. NONSTRUCTURAL SHRINKAGE CRACKS SHOULD BE PRETREATED WITH A CRACK SUPPRESSION MEMBRANE (TO PREVEN

ELEGRAPHING OF CRACKS THROUGH THE FINISHED TILE INSTALLATION) ANSI A118.12. DO NOT PROCEED WITH INSTALLATION UNTIL UNSATISFACTORY CONDITIONS HAVE BEEN CORRECTED. COMMENCEMENT OF WORK SIGNIFIES ACCEPTANCE OF SUBSTRATE AND INSTALLATION CONDITIONS

SUBSTRATE PREPARATION: PREPARE AND CLEAN SUBSTRATE IN ACCORDANCE WITH INSTALLATION STANDARDS AND MANUFACTURER'S INSTRUCTIONS AND AS FOLLOWS: REMOVE PROTRUSIONS, BUMPS AND RIDGES BY GRINDING OR REPAIR, FILL, AND LEVEL CRACKS, HOLES, DEPRESSIONS AND ROUGH OR CHIPPED AREAS IN SUBSTRATE USING PATCHING MATERIAL RECOMMENDED BY SETTING MATERIALS SLAB TO HAVE LIGHT BROOM FINISH WHEN TILE IS INSTALLED BY BEFORE TILING, VERIFY THAT ALL SURFACES TO BE TILED ARE

HORIZONTAL SURFACES (FLOORS) - MAXIMUM VARIATION IN REQUIRED PLANE, DEPENDING ON SUBSTRATE. VERTICAL SURFACES (WALLS) - MAXIMUM VARIATION IN SUBSTRATE SHALL NOT EXCEED 1/4 " IN TEN FEET\* FROM THI REQUIRED PLANE, DEPENDING ON SUBSTRATE.

STRUCTURALLY SOUND TRUE TO PLANE, AND FALL WITH

MAXIMUM VARIATIONS SHOWN BELOW: ENSURE THAT THE

WHEN USING LARGE FORMAT DEFINED BY TCNA HANDBOOK AS TILES WITH EAST ONE EDGE 15" IN LENGTH OR GREATER; A MORE STRINGENT ERANCE 1/8" IN 10' OR 1/16" IN 24" WHEN MEASURE FROM THE HIGH POINTS THE SURFACE IS REQUIRED.\*\*

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ND SEALED FOR SUCH SPECIFIC LOCATION IN TH STATE, PROVINCE OR TERRITORY SHOWN ON THI SEAL. THIS BUILDING USE IS ONLY APPLICABLE
AREAS MEETING THE STATED DESIGN CRITERI. SAI#

DRAWING NUMBER:

RESPONSIBILITY OR LIABILITY FOR THE USE OF THESE PLANS FOR ANY PROJECT OTHER THAN SPECIFICALLY AUTHORIZED BY THEM AND SIGNE