

- MANUFACTURER: PLYMOUTH FOAM GOLD-GUARD FOUNDATION PERIMETER INSULATION EXPANDED POLYSTYRENE (EPS) INSULATION, 2.5 PSI MIN. VERTICAL COMPRESSIVE STRENGTH MEASURED AT 10% STRAIN DEFORMATION, THERMAL VALUE "R" VALUE OF 4.35 PER INCH, 2.3 INCHES THICK, R=10.
- BELOW SLAB INSULATION
 - MANUFACTURER: DOW STYROFOAM SQUARE EDGE EXTRUDED POLYSTYRENE (XPS) INSULATION PANELS, THERMAL VALUE "R" VALUE OF 5.0 PER INCH.
 - 2.5 PSI MIN. VERTICAL COMPRESSIVE STRENGTH MEASURED AT 10% STRAIN DEFORMATION OR AT YIELD, WHICHEVER OCCURS FIRST, EXCEPT WHERE PLANS/DETAILS INDICATE HIGHER VALUE. STYROFOAM HIGHLOAD INSULATION WHERE HIGHER VERTICAL COMPRESSIVE STRENGTHS ARE REQUIRED (MIN. VERTICAL COMPRESSIVE STRENGTH MEASURED AT 5% STRAIN DEFORMATION OR AT YIELD, WHICHEVER OCCURS FIRST).
 - THICKNESS AS INDICATED ON PLANS.
- SPRAY POLYURETHANE FOAM INSULATION
 - MANUFACTURER: DOW STYROFOAM SPRAY POLYURETHANE FOAM (CM SERIES)
 - CLOSED CELL POLYURETHANE FOAM INSULATION TO MEET ASTM C 1029 WITH MAXIMUM FLAME-SPREAD AND SMOKE DEVELOPED INDEXES OF 75 AND 450 RESPECTIVELY, PER ASTM E 84. MINIMUM DENSITY OF 1.9 LB./CU. FT.
 - THERMAL VALUE "R" VALUE OF 6.0 PER INCH
 - "R" VALUE AS INDICATED ON THE PLAN.
- ROOF INSULATION
 - SEE ROOF PLAN.
- RIGID CAVITY WALL INSULATION IN MASONRY CAVITY WALLS
 - MANUFACTURER: DOW STYROFOAM CAVITYMATE OR PLYMOUTH FOAM
 - EXTRUDED POLYSTYRENE INSULATION, 15 PSI COMPRESSIVE STRENGTH
 - THERMAL VALUE "R" VALUE OF 5 PER INCH
 - THICKNESS AS SHOWN ON THE PLAN.
- RIGID CAVITY WALL INSULATION IN STEEL- STUD WALLS
 - MANUFACTURER: DOW THERMAX XARMOR CI (CONTINUOUS INSULATION)
 - POLYISOCYANURATE RIGID INSULATION, 25 PSI COMPRESSIVE STRENGTH
 - THERMAL VALUE "R" VALUE OF 6.5 PER INCH.
 - THICKNESS AS INDICATED ON THE PLANS.
 - PROVIDE BUTYL RUBBER SELF-SEALING, SELF-HEALING, FULLY ADHERED FLASHING OR LIQUID SPRAY APPLIED FLASHING OVER INSULATION JOINTS, PENETRATIONS, GAPS AND WINDOW AND DOOR OPENINGS.
 - MANUFACTURER / PRODUCT - BUTYL RUBBER FLASHING: DOW WEATHERMATE STRAIGHT FLASHING.
 - MANUFACTURER / PRODUCT — LIQUID SPRAY APPLIED FLASHING: DOW LIQUIDARMOR-CM.
- SILL SEAL
 - MANUFACTURER: DOW STYROFOAM SILL SEAL FOAM GASKET
- FOLLOW MANUFACTURER'S INSTRUCTIONS ON PRODUCT STORAGE AND HANDLING.
- INSTALL INSULATION IN ACCORDANCE WITH MANUFACTURER'S INSTALLATION INSTRUCTIONS AND AS SHOWN ON PLANS.

07 84 13 PENETRATION FIRESTOPPING

- PROVIDE PRODUCTS BY ONE OF THE FOLLOWING:
 - GRACE CONSTRUCTION PRODUCTS
 - HILTI INC.
 - JOHNS MANVILLE
 - 3M FIRE PROTECTION PRODUCTS
 - TREMCO, INC. - TREMCO FIRE PROTECTION SYSTEMS GROUP
 - USG CORPORATION
- 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.
- PENETRATIONS IN FIRE-RESISTANCE-RATED WALLS: RATINGS DETERMINED PER ASTM E 814 OR UL 1479.
 - F-RATING: NOT LESS THAN THE FIRE-RESISTANCE RATING OF CONSTRUCTIONS PENETRATED.
- PENETRATIONS IN HORIZONTAL ASSEMBLIES: RATINGS DETERMINED PER ASTM E 814 OR UL 1479.
 - F-RATING: AT LEAST 1 HOUR, BUT NOT LESS THAN THE FIRE-RESISTANCE RATING OF CONSTRUCTIONS PENETRATED.
 - T-RATING: AT LEAST 1 HOUR, BUT NOT LESS THAN THE FIRE-RESISTANCE RATING OF CONSTRUCTIONS PENETRATED EXCEPT FOR FLOOR PENETRATIONS WITHIN THE CAVITY OF A WALL.
- PENETRATIONS IN SMOKE BARRIERS: PROVIDE PENETRATION FIRESTOPPING WITH RATINGS DETERMINED PER UL 1479.
 - F-RATING: NOT EXCEEDING 5.0 CFM/SQ. FT. OF PENETRATION OPENING AT BOTH AMBIENT AND ELEVATED TEMPERATURES.
- EXPOSED PENETRATION FIRESTOPPING: PROVIDE PRODUCTS WITH FLAME-SPREAD AND SMOKE-DEVELOPED INDEXES OF LESS THAN 25 AND 450, RESPECTIVELY, AS DETERMINED PER ASTM E 84.
- ACCESSORIES: PROVIDE COMPONENTS FOR EACH PENETRATION FIRESTOPPING SYSTEM THAT ARE NEEDED TO INSTALL FILL MATERIALS AND TO MAINTAIN RATINGS REQUIRED. USE ONLY THOSE COMPONENTS SPECIFIED BY PENETRATION FIRE STOPPING MANUFACTURER AND APPROVED BY QUALIFIED TESTING AND INSPECTING AGENCY FOR FIRESTOPPING INDICATED.
- EXAMINE SUBSTRATES AND CONDITIONS, FOR COMPLIANCE WITH REQUIREMENTS FOR OPENING CONFIGURATIONS, PENETRATING ITEMS, SUBSTRATES, AND OTHER CONDITIONS AFFECTING PERFORMANCE OF THE WORK.
- INSTALL PENETRATION FIRE STOPPING TO COMPLY WITH MANUFACTURER'S WRITTEN INSTALLATION INSTRUCTIONS AND PUBLISHED DRAWINGS FOR PRODUCTS AND APPLICATIONS INDICATED.
- 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.
- INSTALL FILL MATERIALS FOR FIRE STOPPING 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.
- IDENTIFY PENETRATION FIRESTOPPING WITH PREPRINTED 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

07 84 46 - FIRE-RESISTIVE JOINT SYSTEMS

- 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 WALLS, FLOOR TO FLOOR JOINTS, ETC. WHEN NOT INSTALLED, FIRE-RESISTIVE JOINT SYSTEMS SHALL ACCOMMODATE BUILDING MOVEMENTS WITHOUT IMPAIRING THEIR ABILITY TO RESIST THE PASSAGE OF FIRE AND HOT GASES.
- JOINTS IN OR BETWEEN FIRE-RESISTANCE-RATED CONSTRUCTIONS: 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.
- PROVIDE PRODUCTS BY ONE OF THE FOLLOWING:
 - GRACE CONSTRUCTION PRODUCTS
 - HILTI INC.
 - JOHNS MANVILLE INC.
 - 3M FIRE PROTECTION PRODUCTS
 - TREMCO, INC. - TREMCO FIRE PROTECTION SYSTEMS GROUP
 - USG CORPORATION.
- JOINTS AT EXTERIOR CURTAIN-WALL/FLOOR INTERSECTIONS: RATING DETERMINED BY ASTM E 119 OR ASTM E 2307.
 - FIRE-RESISTANCE RATING, EQUAL TO OR EXCEEDING THE FIRE-RESISTANCE RATING OF THE FLOOR ASSEMBLY.
- PROVIDE PRODUCTS BY ONE OF THE FOLLOWING:
 - GRACE CONSTRUCTION PRODUCTS
 - HILTI INC.
 - JOHNS MANVILLE
 - 3M FIRE PROTECTION PRODUCTS
 - THERMAFIBER, INC.

- TREMCO, INC. - TREMCO FIRE PROTECTION SYSTEMS GROUP
- USG CORPORATION
- JOINTS IN SMOKE BARRIERS: RATINGS DETERMINED PER UL 2079.
 - F-RATING: NOT EXCEEDING 5.0 CFM/FT. OF JOINT AT BOTH AMBIENT AND ELEVATED TEMPERATURES.
 - PROVIDE PRODUCTS BY ONE OF THE FOLLOWING:
 - GRACE CONSTRUCTION PRODUCTS
 - HILTI INC.
 - JOHNS MANVILLE
 - 3M FIRE PROTECTION PRODUCTS
 - TREMCO, INC. - TREMCO FIRE PROTECTION SYSTEMS GROUP
 - USG CORPORATION
 - 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.
 - 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.
 - EXAMINE SUBSTRATES AND CONDITIONS FOR COMPLIANCE WITH REQUIREMENTS FOR JOINT CONFIGURATIONS, SUBSTRATES, AND OTHER CONDITIONS AFFECTING PERFORMANCE OF THE WORK.
 - INSTALL FIRE-RESISTIVE JOINT SYSTEMS TO COMPLY WITH MANUFACTURER'S WRITTEN INSTALLATION INSTRUCTIONS AND PUBLISHED DRAWINGS FOR PRODUCTS AND APPLICATIONS INDICATED.

- 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 FIRE-RESISTIVE JOINT SYSTEM.
- 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.
- IDENTIFY FIRE-RESISTIVE JOINT SYSTEMS WITH PREPRINTED 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. NOTIFY BUILDING MANAGEMENT OF ANY DAMAGE"
 - CONTRACTOR'S NAME, ADDRESS, AND PHONE NUMBER
 - DESIGNATION OF APPLICABLE TESTING AGENCY
 - DATE OF INSTALLATION
 - MANUFACTURER'S NAME
 - INSTALLER'S NAME

07 92 00 SEALANTS

- GENERAL: IT IS THE INTENTION OF THIS SPECIFICATION THAT ALL JOINTS ARE TO RECEIVE SEALANT. SEALANT SHALL BE APPLIED IN ALL LOCATIONS INDICATED ACCORDING TO THE MANUFACTURER'S WRITTEN INSTRUCTIONS, INCLUDING BUT NOT LIMITED TO: JOINT WEDGINGS, SURFACE PREPARATION, PRIMERS, APPLICATION TEMPERATURE, AND MATERIAL STORAGE. SEALANT IS TO BE APPLIED AFTER FINISH OPERATIONS ARE COMPLETE, UNLESS OTHERWISE NOTED IN THE MANUFACTURER'S INSTRUCTIONS, APPROPRIATE SIZED BACKER RODS AND BOND BREAK IS REQUIRED AT ALL JOINTS.
- EXTERIOR:
 - SEAL PERIMETER OF ALL WINDOWS, DOORS, LOUVERS, VENT OPENINGS, AND ANY LOCATION WHERE DIFFERENT MATERIALS MEET, WITH SEALANT TYPE ES-1.
 - SEAL JOINTS AT ROOF OPENINGS, EAVES, AND SOFFITS, FOR A WATERTIGHT CONNECTION WITH SEALANT TYPE ES-2.
 - SEAL THRESHOLDS TO SUBSTRATE WITH SEALANT TYPE ES-3.
 - SEAL ALL CMU CONTROL JOINTS, JOINTS IN PRE-CAST CONCRETE PANELS, AND JOINTS BETWEEN PRE-CAST COMPONENTS AND MASONRY OR OTHER PRE-CAST OR CAST-IN-PLACE CONCRETE, WITH SEALANT TYPE ES-4.
 - SEAL ALL JOINTS IN TRAFFIC SURFACES SUCH AS CONCRETE PAVEMENT, SIDEWALKS, AND PADS WITH SEALANT TYPE ES-5. USE ES-6 AT SURFACES SLOPING IN EXCESS OF 1/2" PER FOOT.
 - SEAL BASE CHANNELS FOR INSULATED METAL PANELS WITH SEALANT TYPE ES-7.
 - SEAL PANEL TO PANEL JOINTS IN INSULATED METAL PANELS WITH SEALANT TYPE ES-7.
 - SEAL FACE JOINTS IN INSULATED PANELS WHERE INDICATED WITH SEALANT TYPE ES-8.
- INTERIOR:
 - SEAL ALL CMU CONTROL JOINTS, JOINTS IN PRE-CAST CONCRETE PANELS, AND JOINTS BETWEEN PRE-CAST COMPONENTS AND MASONRY OR OTHER PRE-CAST OR CAST-IN-PLACE CONCRETE, WITH SEALANT TYPE ES-1.
 - SEAL JOINTS IN EXPOSED CONCRETE SLABS IN WITH SEALANT TYPE ES-9.
 - SEAL JOINTS BETWEEN TOP OF CONCRETE CURBS AND INSULATED METAL PANELS WITH SEALANT TYPE ES-10.
 - SEAL JOINTS IN COOLER AND FREEZER FLOORS WITH SEALANT ES-10.
 - SEAL JOINTS AT ALL LOCATIONS INDICATED TO RECEIVE STRANOLOK FINISH IN FOOD PROCESSING FACILITIES, FOOD PREPARATION, AND FOOD STORAGE AREAS WITH SEALANT TYPE ES-10.
 - SEAL COUNTERTOPS, BACKSPLASH, PERIMETERS OF PLUMBING FIXTURES WITH SEALANT TYPE ES-12.
 - SEAL UNDER BASE TRACK FOR DRYWALL PARTITIONS, EXTERIOR DOOR AND WINDOW FRAMES, AND WALL ANGLE AT SUSPENDED CEILING WITH SEALANT TYPE ES-12.
- SEALANT SCHEDULE: (SIMILAR PRODUCTS FROM OTHER MANUFACTURERS MAY BE SUBMITTED FOR APPROVAL.)
 - ES-1: TREMCO "DYMONIC FC"; ONE PART HIGH PERFORMANCE POLYURETHANE SEALANT.
 - ES-2: TREMCO "GUTTER SEAL" SYNTHETIC RUBBER AIR RESIST SEALANT.
 - ES-3: TREMCO "BUTYL SEALANT"
 - ES-4: MARS FL-SL/SB ONE PART SELF-LEVELING POLYURETHANE SEALANT.
 - ES-5: TREMCO "VULCO 452" ONE PART SELF-LEVELING POLYURETHANE SEALANT.
 - ES-6: TREMCO "DYMONIC JN 125" HIGH PERFORMANCE LOW MODULUS POLYURETHANE SEALANT.
 - ES-7: TREMCO "PRETECT 83" ONE PART LOW MODULUS SILICONE SEALANT.
 - ES-8: MARS FL-SL/SB ONE PART SELF-LEVELING POLYUREA SEALANT.
 - ES-9: TREMCO DYMORC 240 FC MULTI-COMPONENT CHEMICALLY CURING POLYURETHANE SEALANT.
 - ES-10: M&M "SPAL" OR RSF TWO COMPONENT POLYUREA JOINT FILLER.
 - ES-11: M&M "SPAL" OR RSF TWO COMPONENT POLYUREA JOINT FILLER.
 - ES-12: GE SILICONE II KITCHEN AND BATH SILICONE SEALANT.
 - ES-13: DAP "ALEX PLUS" PAINTABLE ACRYLIC SILICONIZED SEALANT.

DIVISION 08 OPENINGS

08 14 16 FLUSH WOOD DOORS

- INSTALL DOORS TO COMPLY WITH MANUFACTURER'S WRITTEN INSTRUCTIONS AND THE REFERENCED QUALITY STANDARD, AND AS INDICATED.
 - INSTALL FIRE-RATED DOORS IN CORRESPONDING FIRE-RATED FRAMES ACCORDING TO NFPA 80.
- ALIGN IN FRAMES FOR UNIFORM CLEARANCE AT EACH EDGE.
- SEE PLAN FOR PRODUCT SPECIFICATION AND LOCATION. FURNISH AND INSTALL ALL DOORS AS INDICATED ON THE PLANS.

08 41 13 ALUMINUM-FRAMED ENTRANCES AND STOREFRONTS

- INSTALLATION:
 - COMPLY WITH MANUFACTURER'S WRITTEN INSTRUCTIONS.
 - DO NOT INSTALL DAMAGED COMPONENTS.
 - FIT JOINTS TO PRODUCE HAIRLINE JOINTS FREE OF BURRS AND DISTORTION.
 - RIGIDLY SECURE NONMOVEMENT JOINTS.
 - INSTALL ANCHORS WITH SEPARATORS AND ISOLATORS TO PREVENT METAL CORROSION AND ELECTROLYTIC DETERIORATION.
 - SEAL JOINTS WATERTIGHT UNLESS OTHERWISE INDICATED.
- INSTALL COMPONENTS TO DRAIN WATER PASSING JOINTS, CONDENSATION OCCURRING WITHIN FRAMING MEMBERS, AND MOISTURE MIGRATING WITHIN THE SYSTEM TO EXTERIOR.
- INSTALL COMPONENTS PLUMB AND TRUE IN ALIGNMENT WITH ESTABLISHED LINES AND GRADES, AND WITHOUT WARP OR RACK.
- ENTRANCE DOORS: INSTALL DOORS TO PRODUCE SMOOTH OPERATION AND TIGHT FIT AT CONTACT POINTS.
- SEE PLAN FOR PRODUCT SPECIFICATION AND LOCATION. FURNISH AND INSTALL ALL ENTRANCES AND STOREFRONTS AS INDICATED ON THE PLANS.

08 71 00 HARDWARE

- REQUIREMENTS:

- ALL LOCKSETS SHALL BE LEVER TYPE AS REQUIRED TO MEET REQUIREMENTS OF A.D.A.
- ALL OTHER HARDWARE SHALL CONFORM TO THE REQUIREMENTS OF A.D.A.
- ALL EXIT DOORS SHALL BE EQUIPPED WITH LEVER TYPE OR PANIC TYPE EXIT HARDWARE OPENABLE FROM THE INSIDE WITHOUT THE USE OF A LATCH, KEY OR BOLT.
- CONTRACTOR TO COORDINATE KEYING SCHEDULE WITH OWNER.
- MOUNTING HEIGHTS: MOUNT DOOR HARDWARE UNITS AT HEIGHTS REQUIRED TO COMPLY WITH GOVERNING REGULATIONS.
- INSTALL EACH DOOR HARDWARE ITEM TO COMPLY WITH MANUFACTURER'S WRITTEN INSTRUCTIONS.
- THRESHOLDS: SET THRESHOLDS FOR EXTERIOR AND ACoustICAL DOORS IN FULL BED OF SEALANT.
- ADJUSTMENT: ADJUST AND CHECK EACH OPERATING ITEM OF DOOR HARDWARE AND EACH DOOR TO ENSURE PROPER OPERATION OR FUNCTION OF EVERY UNIT. REPLACE UNITS THAT CANNOT BE ADJUSTED TO OPERATE AS INTENDED. ADJUST DOOR CONTROL DEVICES TO COMPENSATE FOR FINAL OPERATION OF HEATING AND VENTILATING EQUIPMENT AND TO COMPLY WITH REFERENCED ACCESSIBILITY REQUIREMENTS.
- SEE PLAN FOR PRODUCT SPECIFICATION AND LOCATION. FURNISH AND INSTALL ALL HARDWARE AS INDICATED ON THE PLAN.

08 80 00 GLAZING

- COMPLY WITH COMBINED WRITTEN INSTRUCTIONS OF MANUFACTURERS OF GLASS, SEALANTS, GASKETS, AND OTHER GLAZING MATERIALS, UNLESS MORE STRINGENT REQUIREMENTS ARE INDICATED, INCLUDING THOSE IN REFERENCED GLAZING PUBLICATIONS.
- PROTECT GLASS EDGES FROM DAMAGE DURING HANDLING AND INSTALLATION. REMOVE DAMAGED GLASS FROM PROJECT SITE AND LEGALLY DISPOSE OF OFF PROJECT SITE. DAMAGED GLASS IS GLASS WITH EDGE DAMAGE OR OTHER IMPERFECTIONS THAT, WHEN INSTALLED, COULD WEAKEN GLASS AND IMPAIR PERFORMANCE AND APPEARANCE.
- PROVIDE SAFETY GLASS IN ALL GLAZING AS LISTED BELOW UNLESS NOTED OTHERWISE:
 - WHERE REQUIRED BY FEDERAL, STATE AND LOCAL CODES.
- SAFETY GLASS REQUIREMENTS:
 - SAFETY GLASS SHALL BE, BUT NOT LIMITED TO
 - TEMPERED GLASS
 - LAMINATED GLASS
 - SAFETY PLASTIC
 - SAFETY INSULATING UNITS WHICH MEET THE TEST REQUIREMENTS OF CPSC 16 CFR PART 1201, CATEGORY II AND WHICH ARE CONSTRUCTED, TREATED, OR COMBINED WITH OTHER MATERIALS SO AS TO MINIMIZE THE LIKELIHOOD OF CUTTING AND PIERCING INJURIES RESULTING FROM HUMAN IMPACT WITH THE GLAZING MATERIAL.
 - ALL SAFETY GLAZING MATERIAL SHALL BE LABELED PER LOCAL, STATE, AND FEDERAL REQUIREMENTS.
- SEE PLAN FOR PRODUCT SPECIFICATION AND LOCATION. FURNISH AND INSTALL THE GLAZING AS INDICATED ON THE PLAN.

DIVISION 09 FINISHES

09 01 00 FINISHES

- REQUIREMENTS:
 - PROVIDE AND INSTALL ALL FINISHES AS INDICATED ON THE PLANS.
 - INSTALL ALL MATERIALS PER MANUFACTURER'S RECOMMENDATIONS AND SPECIFICATIONS.
 - "FINISH" INSTALLER INSPECT SUBSURFACE AND PREPARE SURFACE PER MANUFACTURER'S SPECIFICATIONS PRIOR TO INSTALLATION OF PRODUCT.
 - ALL FINISHES TO MEET ALL CODE REQUIREMENTS AND REGULATIONS INCLUDING FLAME SPREAD AND SMOKE DEVELOPMENT.
- EXTRA MATERIAL:
 - PROVIDE NEW EXTRA MATERIAL FOR EACH FINISH TYPE AND COLOR TO BE TURNED OVER TO OWNER AT JOB COMPLETION FOR THE FOLLOWING:
 - PANES: PROVIDE ALLOWANCE FOR COLOR SAMPLES AND 1 QUART FOR ACCENT COLORS APPLIED.
 - RESILIENT TILE FLOORING: PROVIDE BOX FOR EVERY 50 BOXES OR FRACTION THEREOF INSTALLED. FURNISH MINIMUM 10 BOXES PER BOX FOR EACH 500 LINEAR FEET OR FRACTION THEREOF OF EACH TYPE OF RESILIENT ACCESSORY SURFACE.
 - ACoustICAL CEILING TILE: PROVIDE FULL-SIZE UNITS EQUAL TO 2% OF QUANTITY INSTALLED, BUT NOT LESS THAN 10 SQ. YD. PER BOX OF EACH TYPE OF CEILING TILE SUPPLIED.
 - WOOD FLOORING: PROVIDE FULL-SIZE UNITS EQUAL TO 3% OF QUANTITY INSTALLED, BUT NOT LESS THAN 50 S.F.
 - LAMINATE FLOORING: PROVIDE FULL-SIZE UNITS EQUAL TO 3% OF QUANTITY INSTALLED, BUT NOT LESS THAN 50 S.F.
 - RESILIENT SHEET FLOORING: PROVIDE NOT LESS THAN 10 LINEAR FEET FOR EACH 500 LINEAR FEET OR FRACTION THEREOF INSTALLED.
 - WALL COVERING MATERIAL: PROVIDE FULL-SIZE UNITS EQUAL TO 5 PERCENT INSTALLED.
 - TILE CARPET: PROVIDE FULL-SIZE UNITS EQUAL TO 5 PERCENT OF THE AMOUNT INSTALLED, BUT NOT LESS THAN 10 SQ. YD.
 - SHEET CARPET: PROVIDE FULL-WIDTH ROLLS EQUAL TO 5 PERCENT OF THE AMOUNT INSTALLED, BUT NOT LESS THAN 10 SQ. YD.
 - CERAMIC, QUARRY AND PORCELAIN TILE: PROVIDE FULL-SIZE UNITS EQUAL TO 3% OF QUANTITY INSTALLED, BUT NOT LESS THAN 50 S.F.

09 22 16 DRYWALL STUDS (INTERIOR NON-BEARING)

- REQUIREMENTS:
 - STUDS SHALL BE SECURED TO TOP AND BOTTOM TRACK WITH (1) #8ML SCREW IN EACH FLANGE (UNLESS A SLIP TRACK IS REQUIRED AT THE TOP OF THE WALL).
 - PROVIDE SLIP TRACK AT TOP OF FULL HEIGHT PARTITIONS.
 - STUDS SHALL BE INSTALLED PER "GYPSUM CONSTRUCTION HANDBOOK" AS PUBLISHED BY UNITED STATES GYPSUM COMPANY LATEST EDITION.
 - DRYWALL STUDS SHALL BE ACCORDING TO THE LIST BELOW OR AS INDICATED ON THE PLANS (THESE HEIGHTS ARE BASED ON THE STUDS HAVING (1) LAYER OF DRYWALL EACH FACE).
 - STUD SPACING:
 - LIMITING HEIGHT WITH STUD SPACING
 - 3'5/8" — 25 GA. — 13'-6" AT 16' O.C. — 11'-9" AT 24' O.C.
 - 3'5/8" — 22 GA. — 15'-3" AT 16' O.C. — 13'-4" AT 24' O.C.
 - 3'5/8" — 20 GA. — 15'-11" AT 16' O.C. — 13'-11" AT 24' O.C.
 - 6" — 25 GA. — 20'-0" AT 16' O.C. — 17'-6" AT 24' O.C.
 - 6" — 22 GA. — 22'-9" AT 16' O.C. — 19'-11" AT 24' O.C.
 - 6" — 20 GA. — 23'-9" AT 16' O.C. — 20'-9" AT 24' O.C.

09 29 00 GYPSUM BOARD (GYP)

- DRYWALL SHALL BE INSTALLED PER THE LATEST EDITIONS OF "RECOMMENDED SPECIFICATIONS FOR THE APPLICATION AND FINISHING OF GYPSUM BOARD" GA 216 AS PUBLISHED BY THE GYPSUM ASSOCIATION AND THE "GYPSUM CONSTRUCTION HANDBOOK" AS PUBLISHED BY UNITED STATES GYPSUM COMPANY.
 - PROVIDE CONTROL JOINTS PER THESE REQUIREMENTS.
- COMPLY WITH ASTM C84 OR ASTM C 1396 AS APPLICABLE TO THE TYPE OF GYPSUM BOARD INDICATED.
- SUBJECT TO COMPLIANCE WITH REQUIREMENTS, MANUFACTURES OFFERING PRODUCTS THAT MAY BE INCORPORATED INCLUDE, BUT ARE NOT LIMITED TO THE FOLLOWING:
 - AMERICAN GYPSUM CO.
 - BPB AMERICAN INC.
 - G.P. GYPSUM
 - LAFARGE NORTH AMERICA INC.
 - NATIONAL GYPSUM COMPANY
 - USG CORPORATION.
- AT ALL TOILET ROOMS, LOCKERS ROOMS, COOLER/FREEZER ROOMS, UNDER FRP PANELS OR OTHER DAMP/WET LOCATIONS PROVIDE:
 - MOLD TOUGH GYPSUM BY USG CORPORATION OR EQUAL.
- UNDER CERAMIC AND PORCELAIN TILE IN TOILET ROOMS, LOCKER ROOMS OR OTHER DAMP/WET LOCATIONS PROVIDE:
 - FIBEROCK AQUA-TOUGH TILE BACKER BOARD BY USG CORPORATION OR EQUAL.
- UNDER CERAMIC AND PORCELAIN TILE IN SHOWERS, TUBS, KITCHEN WASH DOWN AREAS OR OTHER HIGH-MOISTURE AREAS PROVIDE:
 - DUROCK CEMENT BOARD BY USG CORPORATION OR EQUAL.
- DRYWALL FINISHES SHALL BE INSTALLED PER THE LATEST EDITION OF "RECOMMENDED LEVELS OF GYPSUM BOARD FINISH" GA 214 AS PUBLISHED BY THE AWCI PAINTING AND DECORATING CONTRACTORS OF AMERICA, GYPSUM ASSOCIATION AND CSCA.
- LEVELS OF FINISH:
 - SEE PLANS FOR FINISH LOCATIONS.
 - LEVEL 0 — NO TAPPING, FINISHING OR ACCESSORIES REQUIRED.
 - LEVEL 1 — JOINTS AND INTERIOR ANGLES HAVE TAPE SET IN JOINT COMPOUND, SURFACE IS FREE OF EXCESS JOINT COMPOUND, TOOL MARKS AND RIDGES ARE ACCEPTABLE, TAPE AND FASTENERS ARE NOT COVERED WITH JOINT COMPOUND.

- LEVEL 2 — JOINTS AND INTERIOR ANGLES HAVE TAPE EMBEDDED IN JOINT COMPOUND AND HAVE A THIN COAT OF JOINT COMPOUND OVER JOINTS AND INTERIOR ANGLES; FASTENER HEADS AND ACCESSORIES ARE COVERED WITH JOINT COMPOUND, SURFACE IS FREE OF EXCESS JOINT COMPOUND; TOOL MARKS AND RIDGES ARE ACCEPTABLE.
- LEVEL 3 — JOINTS AND INTERIOR ANGLES HAVE TAPE EMBEDDED IN JOINT COMPOUND AND ONE ADDITIONAL COAT OF JOINT COMPOUND OVER ALL JOINTS AND INTERIOR ANGLES; FASTENER HEADS AND ACCESSORIES COVERED WITH TWO (2) COATS OF JOINT COMPOUND; NO TOOL MARKS OR RIDGES.
- LEVEL 4 — JOINTS AND INTERIOR ANGLES HAVE TAPE EMBEDDED IN JOINT COMPOUND AND TWO SEPARATE COATS OF JOINT COMPOUND APPLIED OVER ALL FLAT JOINTS AND ONE SEPARATE COAT APPLIED OVER INTERIOR ANGLES; FASTENER HEADS AND ACCESSORIES ARE COVERED WITH THREE (3) SEPARATE COATS OF JOINT COMPOUND; NO TOOL MARKS OR RIDGES.
- LEVEL 5 — IN ADDITION TO REQUIREMENTS OF LEVEL 4, A THIN SKIM COAT OF JOINT COMPOUND OR EQUAL SHALL BE APPLIED TO THE ENTIRE SURFACE; NO TOOL MARKS OR RIDGES ON THIS SURFACE.

09 51 13 ACoustICAL PANEL CEILINGS

- PROVIDE MANUFACTURER'S STANDARD CEILING TILE AS SPECIFIED OR LISTED IN THE ACoustICAL PANEL CEILING SUSPENSION SYSTEMS FOR ACoustICAL TILE AND LAY-IN PANELS, ASTM C635 (STANDARD SPECIFICATION FOR THE MANUFACTURE, PERFORMANCE AND TESTING OF METAL SUSPENSION SYSTEMS FOR ACoustICAL TILE AND LAY-IN PANEL CEILING) AND SEISMIC DESIGN REQUIREMENTS INDICATED, PER MANUFACTURER'S WRITTEN INSTRUCTIONS AND CSCA'S "CEILING SYSTEMS HANDBOOK".
- SUSPEND CEILING HANGERS FROM STRUCTURAL MEMBERS, PLUMB AND FREE FROM CONTACT WITH INSULATION OR OTHER OBJECTS WITHIN CEILING PLenum. DISPLAY HANGERS ONLY WHERE REQUIRED AND, IF PERMITTED WITH FIRE-RESISTANT RATED CEILING, TO MISS OBSTRUCTIONS, OFFSET RESULTING HORIZONTAL FORCES BY BRACING, COUNTER SPRING, OR OTHER EQUALLY EFFECTIVE MEANS. WHERE WIDTH OF DUCTS AND OTHER CONSTRUCTION WITHIN CEILING PLenum PRODUCES HANGER SPACING THAT INTERFERE WITH LOCATION OF HANGERS, BRACES OR EQUIVALENT DEVICES, WHEN STEEL FRAMING DOES NOT PERMIT INSTALLATION OF HANGER WITH BRACING SPACING REQUIRED, INSTALL CARRYING CHANNELS OR OTHER SUPPLEMENTAL SUPPORT FOR A PARTIAL LENGTH OF HANGER WIRES.
- WHERE NECESSARY, PROVIDE COATED CARBON STEEL WIRE COMPLYING WITH ASTM A641 STANDARDS, SIZED TO WITHSTAND 5X THE HANGER DESIGN LOAD BUT NOT LESS THAN 0.106" IN DIAMETER.
- INSTALL EDGE MOLDINGS AND TRIM AT PERIMETER OF ACoustICAL CEILING AREA AND WHERE NECESSARY TO CONCEAL EDGES OF ACoustICAL PANELS. SCREW ATTACH MOLDINGS TO SUBSTRATE, LEVELING WITH CEILING SUSPENSION SYSTEM. MITER CORNERS ACCURATELY AND CONNECT SECURELY.
- INSTALL SUSPENSION SYSTEM RUNNERS SO THEY ARE SQUARE AND SECURELY INTERLOCKED WITH ONE ANOTHER. REMOVE AND REPLACE DENTED, BENT, OR KINKED MEMBERS. SUSPENSION SYSTEM AS REQUIRED FOR THE SPECIFIED TILE INTERMEDIATE DUTY CLASSIFICATION.
- PROVIDE CORROSION RESISTANT GRID IN SHOWER AND EXTREME ENVIRONMENT AREAS.
- INSTALL ACoustICAL PANELS WITH UNDAMAGED EDGES AND FIT ACCURATELY INTO SUSPENSION SYSTEM RUNNERS AND EDGE MOLDINGS. SCRIBE AND CUT PANELS AT BORDERS AND PENETRATIONS TO PROVIDE A NEAT, PRECISE FIT.
- PROVIDE HOLD-DOWN CLIPS AT ENTRY VESTIBULE(S) AND FOR FIRST 12" OF CORRIDOR(S) IN FRONT OF EACH EXTERIOR DOOR.
- PROVIDE APPROVED FIRE RATED GRID SYSTEM FOR FIRE RATED CEILING.
- SEE PLAN FOR PRODUCT SPECIFICATION AND LOCATION.

09 65 13 RESILIENT BASE AND ACCESSORIES

- PROVIDE MANUFACTURES STANDARD RUBBER BASE AS SPECIFIED THAT COMPLIES WITH ASTM F1861 TYPE TP.
- PROVIDE MANUFACTURES STANDARD RUBBER ACCESSORIES AS SPECIFIED THAT COMPLIES WITH ASTM F2169 TYPE TP.
- COMPLY WITH MANUFACTURER'S WRITTEN INSTRUCTIONS FOR INSTALLING RESILIENT BASE AND ACCESSORIES.
- PREPARE SUBSTRATES ACCORDING TO MANUFACTURER'S WRITTEN INSTRUCTIONS TO ENSURE ADHESION OF BASE AND ACCESSORIES.
- APPLY RESILIENT BASE TO WALLS, COLUMNS, PILASTERS, CASEWORK AND CABINETS IN TOE SPACES AND OTHER PERMANENT FIXTURES IN ROOMS AND AREAS WHERE BASE IS SPECIFIED.
- INSTALL RESILIENT BASE IN LENGTHS AS LONG AS PRACTICAL WITHOUT GAPS AT SEAMS AND WITH TOPS OF ADJACENT PIECES ALIGNED.
- TIGHTLY ADHERE RESILIENT BASE OR ACCESSORY TO SUBSTRATE THROUGHOUT LENGTH OF EACH PIECE, WITH BASE OR ACCESSORY IN CONTINUOUS CONTACT WITH HORIZONTAL AND VERTICAL SUBSTRATES.
- DO NOT STRETCH RESILIENT BASE DURING INSTALLATION.
- ON MASONRY SURFACES OR OTHER SIMILAR IRREGULAR SUBSTRATES, FILL VOIDS ALONG TOP EDGE OF RESILIENT BASE WITH MANUFACTURER'S RECOMMENDED ADHESIVE FILLER MATERIAL.
- SEE PLAN FOR PRODUCT SPECIFICATION AND LOCATION.

09 65 19 RESILIENT TILE FLOORING (RTF)

- PROVIDE MANUFACTURES LUXURY VINYL TILE AS SPECIFIED COMPLYING WITH ASTM F1700 CLASSIFICATIONS.
- PREPARE SUBSTRATES ACCORDING TO MANUFACTURER'S WRITTEN INSTRUCTIONS TO ENSURE ADHESION OF FLOOR COVERINGS.
 - MOISTURE TESTING: PERFORM TESTS RECOMMENDED BY MANUFACTURER. PROCEED WITH INSTALLATION ONLY AFTER SUBSTRATES PASS TESTING.
- FILL CRACKS, HOLES, AND DEPRESSIONS IN SUBSTRATES WITH TROWELABLE LEVELING AND PATCHING COMPOUND AND REMOVE BUMPS AND RIDGES TO PRODUCE A UNIFORM AND SMOOTH SUBSTRATE.
- DO NOT INSTALL FLOOR COVERINGS UNTIL THEY ARE SAME TEMPERATURE AS SPACE WHERE THEY ARE TO BE INSTALLED.
- SWEEP AND VACUUM CLEAN SUBSTRATES TO BE COVERED BY FLOOR COVERINGS IMMEDIATELY BEFORE INSTALLATION.
- COMPLY WITH MANUFACTURER'S WRITTEN INSTRUCTIONS FOR INSTALLING FLOOR TILE.
- LAY OUT FLOOR TILES FROM CENTER MARKS ESTABLISHED WITH PRINCIPAL WALLS, DISCOUNTING MINOR OFFSETS. SO TILES AT OPPOSITE EDGES OF ROOM ARE OF EQUAL WIDTH. ADJUST AS NECESSARY TO AVOID USING CUT WIDTHS THAT EQUAL LESS THAN ONE HALF TILE AT PERIMETER. MATCH TILES FOR COLOR/PATTERN AND LAY TILE WITH GRAIN DIRECTION ALTERNATING IN ADJACENT TILES.
- SCRIBE, CUT, AND FIT FLOOR TILES TO BUTT NEATLY AND TIGHTLY TO VERTICAL SURFACES AND PERMANENT FIXTURES INCLUDING BUILT-IN FURNITURE, CABINETS, PIPES, OUTLETS, AND DOOR FRAMES.
- EXTEND FLOOR TILES INTO TOE SPACES, DOOR REVEALS, CLOSETS, AND SIMILAR OPENINGS. EXTEND FLOOR TILES TO CENTER OF DOOR OPENINGS.
- ADHERE FLOOR TILES TO FLOORING SUBSTRATES USING A FULL SPREAD OF ADHESIVE APPLIED TO SUBSTRATE TO PRODUCE A COMPLETED INSTALLATION WITHOUT OPEN CRACKS, VOIDS, RAISING AND PUCKERING AT JOINTS. TELEGRAPHING OF ADHESIVE SPREADER MARKS, AND OTHER SURFACE IMPERFECTIONS.
- COMPLY WITH MANUFACTURER'S WRITTEN INSTRUCTIONS FOR CLEANING AND PROTECTION OF FLOOR TILE.
- SEE PLAN FOR PRODUCT SPECIFICATION AND LOCATION.

09 68 13 TILE CARPETING (TC)

- GENERAL: COMPLY WITH CSI 104, SECTION 14, "CARPET MODULES"; AND WITH CARPET TILE MANUFACTURER'S WRITTEN INSTALLATION INSTRUCTIONS.
- PREPARE FLOOR SURFACES RECEIVING NEW FLOORING AS REQUIRED FOR A SMOOTH AND LEVEL SURFACE PRIOR TO INSTALLING NEW FLOORING.
- INSTALLATION METHOD: AS RECOMMENDED IN WRITING BY CARPET TILE MANUFACTURER.
- EXTEND CARPET TILE INTO TOE SPACES, DOOR REVEALS, CLOSETS, OPEN-BOTTOMED OBSTRUCTIONS, REMOVABLE FLANGES, ALCOVES, AND SIMILAR OPENINGS.
- INSTALL PATTERN PARALLEL TO WALLS AND BORDERS.
- SEE PLAN FOR PRODUCT SPECIFICATION AND LOCATION.

09 91 00 PAINTING

- REMOVE AND/OR PROTECT ALL HARDWARE, HARDWARE ACCESSORIES, MACHINED SURFACES, PLATES, LIGHTING FIXTURES, SPRINKLER HEADS AND SIMILAR ITEMS THAT ARE NOT TO BE PAINTED, BUT REQUIRE PROTECTION FROM THE PAINTING PROCESS. RE-INSTALL SAME AFTER COMPLETION OF PAINTING. MASK OFF ALL NAMEPLATES, EQUIPMENT IDENTIFICATION AND SIMILAR ITEMS. REMOVAL AND REINSTALL OF ITEMS IS TO BE DONE BY CONTRACTOR SKILLED IN SUCH WORK.
- SEAL TOPS, BOTTOMS AND CUTOUTS OF UNPRIMED WOOD DOORS WITH A HEAVY COAT OF SEALER IMMEDIATELY UPON DELIVERY TO THE PROJECT.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROPER PREPARATION OF ALL SURFACES PRIOR TO THE PAINTING INSTALLATION.
- GALVANIZED METAL: CLEAN PER SSPC-SP1 USING DETERGENT AND WATER OR A DEGREASING CLEANER TO REMOVE GREASES AND OILS. APPLY A TEST AREA, PRIMING AS REQUIRED. ALLOW THE COATING TO DRY AT LEAST ONE WEEK BEFORE TESTING. IF ADHESION IS POOR, BRUSH BLAST PER SSPC SPT IS NECESSARY TO REMOVE THESE TREATMENTS.
- THE FINISH PRODUCT SHALL HAVE A CONSISTENT, SMOOTH APPEARANCE OF THE SPECIFIED LUSTER.
- APPLY PAINT PER MANUFACTURER'S TEMPERATURE AND HUMIDITY REQUIREMENTS.
- COMPLETED WORK SHALL BE FREE FROM DEFECTS AND FLAWS.
- FURNISH ALL LABOR, MATERIALS, TOOLS, EQUIPMENT AND SCAFFOLDING REQUIRED FOR COMPLETING SURFACE PREPARATION, PA