SECTION 0160 - MATERIAL AND EQUIPMENT PART 1- GENERAL

1.01 "SOURCE LIMITATIONS": TO THE FULLEST EXTENT POSSIBLE, PROVIDE PRODUCT AS OF THE SAME KIND AND FROM A SINGLE SOURCE. 1.02 "PRODUCT DELIVERY, STORAGE AND HANDLING": DELIVER, STORE AND

HANDLE PRODUCTS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS, USING METHODS THAT WILL PREVENT DAMAGE DETERIORATION AND LOSS.

A. SCHEDULE DELIVERY TO MINIMIZE LONG TERM STORAGE AND PREVEN OVERCROWDING CONSTRUCTION SPACES.

B. DELIVER PRODUCTS IN MANUFACTURER'S ORIGINAL SEALED CONTAINE OR PACKAGING SYSTEM. COMPLETE WITH LABELS AND INSTRUCTIONS FOR HANDLING, STORING, UNPACKING, PROTECTING AND INSTALLING. 1.03 "PRODUCT SELECTION": PROVIDE PRODUCTS THAT COMPLY WITH THE CONTRACT DOCUMENTS, ARE UNDAMAGED AND UNUSED AT INSTALLATION.

A. PROVIDE PRODUCTS COMPLETE WITH ALL ACCESSORIES. TRIM. FINISH. SAFETY GUARDS AND OTHER DEVICES AND DETAILS NEEDED FOR A

COMPLETE INSTALLATION AND FOR THE INTENDED USE AND EFFECT 1.04 "INSTALLATION OF PRODUCTS": COMPLY WITH MANUFACTURER INSTRUCTIONS AND RECOMMENDATIONS FOR INSTALLATION OF PRODUCTS ANCHOR EACH PRODUCT SECURELY IN PLACE. ACCURATELY LOCATED AND ALLIGNED WITH OTHER WORK. CLEAN EXPOSED SURFACES AND PROTECT TO ENSURE FREEDOM FROM DAMAGE AND DETERIORATION AT TIME OF SUBSTANTIAL COMPLETION.

END OF SECTION 01600

SECTION 01635 - FINAL CLEANUP

PART 1 - GENERAL

1.01 PRIOR TO OCCUPANCY BY THE OWNER, AND WHEN AGREED UPON B THE OWNER. THE GENERAL CONTRACTOR SHALL CLEAN UP THE PREMISES AND GROUNDS INCLUSIVE OF: A. CLEAN AND POLISH GLASS AND SUPPORTING FRAMES. ALL DAMAGED.

BROKEN OR SCRATCHED GLASS SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.

B. REMOVE STAINS, MARKS, FINGERPRINTS AND DIRT FROM PAINTED, STAINED OR DECORATED WORK.

C. REMOVE TEMPORARY PROTECTION AND CLEAN. D. CLEAN AND POLISH HARDWARE, FIXTURES AND EQUIPMENT

E. REMOVE WASTE MATERIALS AND BUILDING DEBRIS FROM THE ENTIRE SITE.

F. REMOVE LABELS FROM GLASS, MIRRORS, LIGHTING FIXTURES, PLUMBING FIXTURES, ETC. G. CLEANING OF THE WORK AND GROUNDS SHALL BE PERFORMED UNDER THIS CONTRACT AND AT NO ADDITIONAL COST OR INCONVENIENCE TO THE OWNER, PRIOR TO ACCEPTANCE OF THE PROJECT.

1.02 SURFACES A. CARPETING: VACUUM CLEAN WITH ELECTRIC, COMMERCIAL-TYPE V ACUUM

CLEANERS, REMOVING LOOSE AND SURFACE DIRT TO THE COMPLETE SATISFACTION OF THE OWNER. 1. ANY DAMAGED OR SOILED MATERIAL FOUND UPON COMPLETION O ACLIUMING AND BEFORE OCCUPANCY BY THE OWNER SHALL BE REMOVED.

REPAIRED OR CLEANED BY THE GENERAL CONTRACTOR. B. RESILIENT FLOORING: REMOVE EXCESS ADHESIVE AND OTHER SPOTS SCRUB FLOOR THOROUGHLY WITH HILLYARD'S SUPER-SHINE AL1 OR APPROVED SUBSTITUTE. WHEN DRY APPLY TWO THIN COATS OF HILLYARD SUPER HI-BRITE, OR APPROVED SUBSTITUTE, AND BUFF. FLOOR TREATMEN MATERIALS SHALL BE APPLIED IN ACCORDANCE WITH MANUFACTURER'S DIRECTION.

C. CONCRETE FLOORS: REMOVE PAINT AND OTHER SPOTS FROM FLOOR. D. PAINTED WALLS: REMOVE DUST, STAINS AND SPOTS FROM WALL BY ACUUM CLEANING OR WASHING AS NECESSARY

. PANELED WALLS, CABINET WORK, DOORS AND TRIM: REMOVE DUST AND

F. GLASS: CLEAN AND POLISH GLASS AND DOOR, WINDOW AND ENTRANCE RAMES AND MIRRORS. REMOVE PAINT, VARNISH, EXCESS PUTTY, ETC. FROM GLASS BEFORE CLEANING, REMOVE CONCRETE, MORTAR AND PLASTER SPLATTERS WITH CARE TO AVOID SCRATCHING GLASS. HARDWARE, PLUMBING, HEATING AND VENTILATION, AND ELECTRICAL FIXTURES: REMOVE PAINT, STAINS, LABELS, ETC. CLEAN AND POLISH HARDWARE AND FIXTURES. VACUUM DUST FROM LIGHTING FIXTURES.

END OF SECTION 01635

SECTION 03300 - CAST-IN-PLACE CONCRETE

PART 1 GENERA

1.01 SUMMARY

A. EXTENT OF CAST-IN- PLACE CONCRETE IS SHOWN ON DRAWINGS.

MATERIALS OR COMPONENTS WHICH DO NOT COMPLY.

B. TESTING AND INSPECTION: 1. BY THE CONTRACTOR - PAYMENT OF COSTS FOR CONCRETE TESTING AND INSPECTION AS HEREINAFTER DESCRIBED.

1.03 QUALITY ASSURANCE

A. SOURCE OUALITY CONTROL: MATERIALS ARE SUBJECT TO INSPECTION AND TESTS IN FIELD, CONDUCTED BY A QUALIFIED INSPECTION AGENCY. SUCH INSPECTIONS AND TESTS WILL NOT RELIEVE CONTRACTOR OF RESPONSIBILITY FOR PROVIDING MATERIALS IN COMPLIANCE WITH SPECIFICATION REQUIREMENTS. - PROMPTLY REMOVE AND REPLACE

B. TESTING:

1. REQUIRED TESTING SERVICES WILL BE PERFORMED BY AN INDEPENDENT TESTING LABORATORY EMPLOYED BY THE CONTRACTOR T CONTRACTOR'S EXPENSE.

2. ALL SAMPLES SHALL BE TAKEN AFTER ANY ADDITION OF WATER AT THE JOB SITE IS COMPLETE. WHEN PUMPING OR PNEUMATIC EQUIPMENT IS USED SAMPLES SHALL BE TAKEN AT DISCHARGE END. THIS IS FOR BOTH CYLINDERS

AND SLUMP TESTS. 3. MOLD AND CURE THREE SPECIMENS (CYLINDERS) IN ACCORDANCE WITH ASTM C31. THREE SPECIMENS CONSTITUTE A STRENGTH TEST. TEST ONE CYLINDER AT 7 DAYS AND 2 AT 28 DAYS. ACCEPTANCE OF STRUCTURE WILL BE BASED ON RESULTS OF 28 DAY TESTS. 4. AIR CONTENT

a. DETERMINE AIR CONTENT OF CONCRETE FOR EACH STRENGTH TEST BY EITHER THE PRESSURE METHOD (ASTM C231) OR THE VOLUMETRIC METHOD (ASTM C 173). THE "CHASE" AIR INDICATOR SHALL NOT BE USED. b. A MINIMUM OF ONE AIR CONTENT TEST SHALL BE MADE IN THE MORNING AND ONE IN THE AFTERNOON. AIR CONTENT TESTS SHALL BE MADE ON ALL c. ADDITIONAL AIR CONTENT TESTS, FOR CONCRETE SPECIFIED AS AIR-ENTRAINED, SHALL BE MADE WHEN ANY OF THE FOLLOWING CONDITIONS

OCCUR: 1. A CHANGE IN APPEARANCE OR CONSISTENCY OF CONCRETE. 2. POSSIBLE REDUCTION OF AIR CONTENT DUE TO TIME DELAYS OF TRUCK AND OR HOT WEATHER

3. WHEN AIR TEMPERATURE IS OVER 80 DEGREES F, CHECK EACH TRUCK INFORM THE OWNER OR OWNERS REPRESENTATIVE IMMEDIATELY OF ANY AND OR ANY AIR CONTENT THAT DO MEET THESE SPECIFICATIONS. IF STRENGTH DURABILITY OR AETHETICS OF THE STRUCTURE WOULD BE

IMPARIED THAT CONCRETE SHALL NOT BE USED. I. CONCRETE TEST REPORTS SHALL CONTAIN THE FOLLOWING INFORMATION: CONCRETE SUPPLIER, QUANTITY OF CONCRETE REPRESENTED, LOCATION OF SAMPLES TAKEN, DESIGN STRENGTH REQUIREMENT AT 28 DAYS, LIST OF ALL MATERIALS AND ADMIXTURES USED WITH QUANTITY AND BRAND OR SOURCE, ACTUAL SLUMP, ACTUAL AIR CONTENT, AIR TEMPERATURE, CONCRETE TEMPERATURE, WEATHER CYLINDER WEIGHT AS RECEIVED. DATE MOLDED. NUMBER OF DAYS ON JOB SITE. DATE TESTED, TEST RESULTS FOR 7 AND 28 DAYS, AND ANY OTHER

INFORMATION NECESSARY TO EVALUATE TEST RESULTS 5. COPIES OF REPORTS ON ALL REQUIRED LABORATORY TESTING TO BE MAINTAINED IN A FILE BY THE CONTRACTOR AND AVAILABLE TO THE OWNER, ARCHITECT OR ENGINEER SHOULD THEY BE REQUESTED 6. VERBAL INFORMATION ON ANY CONCRETE NOT MEETING THESE SPECIFICATIONS SHALL BE COMMUNICATED TO THE OWNER OR OWNER'S

REPRESENTATIVE IMMEDIATELY BY PHONE. C. CONTRACTOR'S RESPONSIBILITY: PROVIDE A BOX FOR STORING CONCRETE TEST SPECIMENS WHILE ON JOB; MAINTAIN TEMPERATURE IN THE

BOX BETWEEN 60 AND 80 DEGREES F; PREVENT LOSS OF MOISTURE FROM SPECIMENS IN ACCORDANCE WITH ASTM C31.

A. GENERAL: AS PER ACI 301, SECTIONS 4.2 AND 10.2, EXCEPT AS NOTED. B FORMS FOR EXPOSED FINISH CONCRETE: UNLESS OTHERWISE INDICATED

CONSTRUCT FORMWORK FOR EXPOSED CONCRETE SURFACES WITH PLYWOOD, METAL, METAL FRAMED PLYWOOD FACED OR OTHER ACCEPTABLE ANEL-TYPE MATERIALS, TO PROVIDE CONTINUOUS, STRAIGHT, SMOOTH EXPOSED SURFACES. FURNISH IN LARGEST PRACTICABLE SIZES TO MINIMIZE NUMBER OF JOINTS AND TO CONFORM TO JOINT SYSTEM SHOWN ON DRAWINGS. PROVIDE FORM MATERIAL WITH SUFFICIENT THICKNESS TO VITHSTAND PRESSURE OF NEWLY-PLACED CONCRETE WITHOUT BOW OR DEELECTION

. FORMS FOR UNEXPOSED FINISH CONCRETE: FORM CONCRETE SURFACES WHICH WILL BE UNEXPOSED IN FINISHED STRUCTURE WITH PLYWOOD. LUMBER, METAL OR OTHER ACCEPTABLE MATERIAL. PROVIDE LUMBER DRESSED ON AT LEAST 2 EDGES AND ONE SIDE FOR TIGHT FIT.

. FORM COATINGS: PROVIDE COMMERCIAL FORMULATION FORM-COATING OMPOUNDS THAT WILL NOT BOND WITH, STAIN NOR ADVERSELY AFFECT CONCRETE SURFACES, AND WILL NOT IMPAIR SUBSEQUENT TREATMENTS OF CONCRETE SURFACES

2.03 REINFORCING MATERIALS

A. REINFORCEMENT: AS PER ACI 301, SECTION 5.2, WITH SELECTIONS AND UPPLEMENTS AS FOLLOWS 1. REINFORCING BARS: ASTM A 615, GRADE 60 2. WELDED WIRE FABRIC: ASTM A 185 FOR PLAIN WIRE

B. SUPPORTS FOR REINFORCEMENT: PROVIDE SUCH ITEMS AS BOLSTERS. CHAIRS AND SPACERS FOR SUPPORTING. SPACING AND FASTENING REINFORCING BARS AND WELDED WIRE FABRIC IN PLACE. USE WIRE BAR TYPE SUPPORTS COMPLYING WITH CRSI SPECIFICATIONS, UNLESS OTHERWISE ACCEPTABLE. SUPPORTS SHALL BE OF THE FOLLOWING TYPES: 1. PRECAST CONCRETE BLOCKS: SUPPORT REINFORCEMENT FOR SLABS ON

2.04 CONCRETE MATERIALS

. CEMENTS, ADMIXTURES, WATER AND AGGREGATES SHALL CONFORM TO ACI 301, CHAPTER 2, WITH SELECTIONS AND SUPPLEMENTS AS SPECIFIED

B. CEMENTS: ALL CEMENTS USED SHALL BE PORTLAND CEMENTS CONFORMING TO ASTM C 150, TYPE I OR III, UNLESS OTHERWISE ACCEPTABLE TO OWNER OR OWNER'S REPRESENTATIVE. TYPES LA AND P AND FLY ASH ARE NOT ACCEPTABLE. USE ONE BRAND OF CEMENT THROUGHOUT PROJECT

. ADMIXTURES . CONFORM TO FOLLOWING REQUIREMENTS a AIR-ENTRAINING ADMIXTURE: ASTM C260

b. WATER-REDUCING ADMIXTURE: ASTM C494, TYPE A, , CONTAINING NOT MORE THAN 0. 1 % CHLORIDE IONS HIGH-RANGE WATER-REDUCING ADMIXTURE (SUPER PLASTICIZER): ASTM

C494, TYPE F OR G, CONTAINING NOT MORE THAN 0, 1 % CHLORIDEIONS . WATER-REDUCING, NONCHLORIDE ACCELERATING ADMIXTURE: ASTM C494, TYPE E, CONTAINING NOT MORE THAN 0. 1 % CHLORIDEIONS. e. WATER-REDUCING, RETARDING ADMIXTURE: ASTM C494, TYPE D, CONTAINING NOT MORE THAN 0. 1 % CHLORIDEIONS. CERTIFICATION: UPON THE OWNER OR OWNER'S REPRESENTATIVE REQUES PROVIDE ADMIXTURE MANUFACTURER'S WRITTEN CERTIFICATION THAT CHLORIDEION CONTENT COMPLIES WITH SPECIFIED REQUIREMENT 2. CALCIUM CHLORIDE OR ADMIXTURES CONTAINING MORE THAN 0. 1 % CHI ORIDEIONS ARE NOT PERMITTED.

2. SUBJECT TO COMPLIANCE WITH REQUIREMENTS, ADMIXTURES USED SHALL BE PRODUCTS OF ONE OF THE FOLLOWING. WHERE MORE THAN ONE ADMIXTURE IS USED IN A CONCRETE MIX, THEY SHALL BE OF SAME MANUFACTURER. a. CHEM-MASTERS CORF

b. EUCLID CHEMICAL CO C. CONSTRUCTION PRODUCTS - DIVISION OF W.R. GRACE & CO. d. MASTER BUILDERS- DIVISION OF MARTIN MARIETTA CORP.

e. SIKA CORP.

2.09 FABRICATING REINFORCEMENT

A. GENERAL: AS PER ACI 301, SECTIONS 5.3 AND 5.4, EXCEPT AS FOLLOWS 1. NO WELDING OF REINFORCING BARS WILL BE PERMITTED WITHOUT APPROVAL OF THE OWNER OR OWNER'S REPRESENTATIVE. PART 3 - EXECUTION

3.01 FORM WORK

A. GENERAL: AS PER ACI 301, CHAPTER 4, EXCEPT AS NOTED

B. FORM DESIGN AND CONSTRUCTION: DESIGN, ERECT, SUPPORT, BRACE AND MAINTAIN FORMWORK TO SUPPORT VERTICAL AND LATERAL LOADS THAT MIGHT BE APPLIED UNTIL SUCH LOADS CAN BE SUPPORTED BY CONCRETE STRUCTURE, CONSTRUCT FORMWORK SO CONCRETE MEMBERS. AND STRUCTURES ARE OF CORRECT SIZE, SHAPE, ALIGNMENT, ELEVATION AND POSITION. ARRANGE FORMS AND SUPPORTS TO BE READILY REMOVABLE WITHOUT IMPACT, SHOCK OR DAMAGE TO CAST-IN-PLACE CONCRETE SURFACES AND ADJACENT MATERIALS.

C. EARTH FORMS: EARTH CUTS MAY BE USED AS FORMS FOR FOOTING VERTICAL SURFACES, IF SIDES ARE SHARP AND TRUE, AND NOT EXPOSED IN 3.02 PLACING REINFORCEMENT

A. GENERAL: AS PER ACI 301, SECTIONS 5.4 AND 5.5.

B. COMPLY WITH CONCRETE REINFORCING STEEL INSTITUTE (CRSI) RECOMMENDED PRACTICE FOR "PLACING REINFORCING BARS", FOR DETAILS AND METHODS OF REINFORCEMENT PLACEMENT AND SUPPORTS, AND AS HEREIN SPECIFIED

3.03 JOINTS AND EMBEDDED ITEMS

A. GENERAL: AS PER ACI 301, CHAPTER 6, WITH JOINT LOCATIONS AS NOTED. PART 1 - GENERAL B. CONSTRUCTION JOINTS: LOCATE AND INSTALL CONSTRUCTION JOINTS AS INDICATED, OR IF NOT INDICATED, LOCATE SO AS NOT TO IMPAIR STRENGTH AND APPEARANCE OF STRUCTURE, PROVIDE KEYWAYS AT LEAST 1-1/2" DEEP IN CONSTRUCTION JOINTS IN WALLS, SLABS AND BETWEEN WALLS AND FOOTINGS, EXCEPT BULKHEADS DESIGNED FOR THIS PURPOSE MAY BE USED FOR SLABS. PLACE CONSTRUCTION JOINTS PERPENDICULAR TO MAIN REINFORCEMENT. CONTINUE REINFORCEMENT ACROSS CONSTRUCTION JOINTS UNLESS NOTED OTHERWISE . CONSTRUCTION JOINTS SHALL BE SPACED AT THE FOLLOWING MAXIMUM DISTANCES:

A. FOOTINGS -125 FT B. CONCRETE SLABS - AS PER PLANS.

C GENERAL . IT IS THIS CONTRACTOR'S RESPONSIBILITY TO COORDINATI WITH ALL TRADES FOR THE SETTING OF THE SLEEVES, ANCHORS, INSERTS, FRAMES, AND OTHER EMBEDDED ITEMS AND PROVIDE ALL OPENINGS REQUIRED FOR THE INSTALLATION OF OTHER WORK IN ACCORDANCE

WITH THE CONTRACTOR'S SHOP DRAWINGS AND CERTIFIED PRINTS. D. STRUCTURAL INTEGRITY: PROVIDE NO SLEEVES OR OPENINGS IN STRUCTURAL CONCRETE UNLESS SHOWN ON THE STRUCTURAL DRAWINGS OR APPROVED BY THE OWNER OR OWNER'S REPRESENTATIVE. 3.04 CONCRETE PLACEMENT

A. GENERAL: AS PER ACI 301, CHAPTER 8, EXCEPT AS NOTED.

B. PREPARATION BEFORE PLACING: 1. CLEANING: REMOVE LOOSE MILL SCALE AND RUST, DIRT AND OTHER COATINGS THAT WOULD REDUCE OR DESTROY BOND FROM REINFORCING STEEL. THOROUGHLY CLEAN FORMS OF HARDENED CONCRETE, WOOD CHIPS, SHAVINGS AND OTHER DEBRIS

2. SPRINKLING SLAB UNDERBED: AT SLAB AREAS ON GROUND WHERE THERE IS NO MOISTURE BARRIER. SPRINKLE GRANULAR UNDERBED SUFFICIENTLY AND UNIFORMLY WITH CLEAN WATER TO ELIMINATE LOSS OF WATER FROM C. PLACING: NOT USED

D. COLD WEATHER PLACING:

1. PROTECT CONCRETE WORK FROM PHYSICAL DAMAGE OR REDUCED STRENGTH WHICH COULD BE CAUSED BY FROST, FREEZING ACTIONS, OR LOW TEMPERATURES, IN COMPLIANCE WITH ACI 306 AND AS HEREIN

2. WHEN AIR TEMPERATURE HAS FALLEN TO OR IS EXPECTED TO FALL BELOW 40 DEGREES F, UNIFORMLY HEAT WATER AND AGGREGATES BEFORE MIXING TO OBTAIN A CONCRETE MIXTURE TEMPERATURE OF NOT LESS THAN 50 DEGREES F, AND NOT MORE THAN 80 DEGREES F AT POINT OF PLACEMENT E. HOT WEATHER PLACING: 1. WHEN HOT WEATHER CONDITIONS EXIST THAT WOULD IMPAIR QUALITY

AND STRENGTH OF CONCRETE, PLACE CONCRETE IN COMPLIANCE WITH ACI 305 AND AS HEREIN SPECIFIED 2. COOL INGREDIENTS BEFORE MIXING TO MAINTAIN CONCRETE

TEMPERATURE AT TIME OF PLACEMENT BELOW 90 DEGREES F. MIXING WATER MAY BE CHILLED, OR CHOPPED ICE MAY BE USED TO CONTROL TEMPERATURE PROVIDED WATER EQUIVALENT OF ICE IS CALCULATED TO TOTAL AMOUNT OF MIXING WATER. 3. COVER REINFORCING STEEL WITH WATER-SOAKED BURLAP IF IT BECOMES

TOO HOT, SO THAT STEEL TEMPERATURE WILL NOT EXCEED THE AMBIENT AIR TEMPERATURE IMMEDIATELY BEFORE EMBEDMENT IN CONCRETE. FOG SPRAY FORMS, REINFORCING STEEL AND SUBGRADE JUST BEFORE CONCRETE IS PLACED.

3.06 FINISH OF FORMED SURFACES

A. GENERAL: AS PER ACI 301, CHAPTER 10, WITH SELECTIONS AS FOLLOWS 1. ROUGH FORM FINISH: USE FOR FORMED CONCRETE SURFACES NOT EXPOSED TO VIEW IN THE FINISH WORK.

2. SMOOTH FORM FINISH: USE FOR FORMED CONCRETE SURFACES TO BE COVERED WITH A COATING OR COVERING MATERIAL APPLIED DIRECTLY TO CONCRETE, SUCH AS WATERPROOFING, DAMP PROOFING, PAINTING OR OTHER SIMILAR SYSTEM.

3. SMOOTH RUBBED FINISH: USE FOR FORMED CONCRETE SURFACES EXPOSED TO VIEW, EXCEPT USE SMOOTH FORM FINISH FOR EXPOSED OVERHEAD SURFACES, WHETHER OR NOT PAINTED.

3.07 SLABS

EXAMINATION VERIFY THAT FLOOR SURFACES ARE READY TO RECEIVE WORK STARTING WORK CONSTITUTES ACCEPTANCE OF THE EXISTING ONDITIONS AND THIS CONTRACTOR SHALL THEN. AT HIS EXPENSE, BE RESPONSIBLE FOR CORRECTING ALL UNSATISFACTORY AND DEFECTIVE WORK ENCOUNTERED.

B. FINISHING

. FINISH CONCRETE FLOOR SURFACES IN ACCORDANCE WITH ACI 301. 2. INITIAL WORKING: a. REMOVE SURFACE IRREGULARITIES WITH BULL FLOAT BEFORE WATER APPEARS ON CONCRETE SURFACE. b. DO NO FURTHER WORKING OF SURFACE UNTIL TIME FOR FLOATING; DO NOT WORK SURFACE WHILE WATER IS PRESENT. .. "DRY SPRINKLE" METHOD FINISHING IS NOT ACCEPTABLE AND WILL BE

USE FOR REJECTION. a. BEGIN FLOAT OPERATIONS WHEN BLEED WATER SHEEN HAS DISAPPEARED AND CONCRETE HAS STIFFENED SUFFICIENTLY TO ALLOW WALKING ON

SURFACE WITHOUT LEAVING HEEL PRINTS MORE THAN 1/4 INCH DEEP. USE MAGNESIUM OR ALUMINUM POWER FLOAT. b. PREMATURE FINISHING BRINGS EXCESSIVE FINES TO SURFACE AND CAUSES SLAB TO HAVE SOFT SURFACE WHICH WILL DUST. TROWELING:

a. DELAY TROWELING AS LONG AS POSSIBLE TO PREVENT WORKING EXCESS FINES AND WATER TO SURFACE. DO NOT BEGIN UNTIL SURFACE MOISTURE FILM AND SHINE REMAINING AFTER FLOATING HAVE DISAPPEARED

b. POWER TROWEL WHERE POSSIBLE. USE HAND TROWEL IN INACCESSIBLE c. SLAB MUST BE ABLE TO ACCEPT SPECIFIED FLOOR TREATMENT. COORDINATE WITH FLOOR TREATMENT MANUFACTURER'S APPLICATION

INSTRUCTIONS FOR PROPER FINISH AND FOR PROCEDURES WHEN FINISH IS TOO DENSE FOR PROPER FLOOR TREATMENT APPLICATION. . DO NOT RE-WET SURFACE TO TROWEL.

PROVIDE A FLOATED FINISH, THEN FINISH WITH A FLEXIBLE BRISTLE

b. ALLOW SURFACE TO HARDEN SUFFICIENTLY TO RETAIN SCORING OR

c. BROOM TRANSVERSE TO TRAFFIC OR AT RIGHT ANGLES TO SLOPE OF

 PROVIDE ACI "CLASS A" TOLERANCE= 1 /8 INCH VARIATION IN 10 FEET, MEASURED WITH STRAIGHT EDGE LAID IN ANY DIRECTION. C. FINISH SCHEDULE

1. INTERIOR FLOOR SLABS: MACHINE TROWEL. 2. EXTERIOR SLAB AREAS: LIGHT BROOM.

CURING PERIOD.

NECESSARY.

CURING COMPOUND

END OF SECTION 03300

1.01 SUMMARY

1.03 DEFINITIONS

1.04 SUBMITTALS

1.05 QUALITY ASSURANCE

YEARS' EXPERIENCE.

PART 2 - MATERIALS

INDICATED ON DRAWINGS.

EST REOUIREMENTS

3.02 PREPARATION

3.03 INSTALLATION

THICK FIBERGLASS, U.L. RATED

THICK FIBERGLASS, U.L. RATED

THICK FIBERGLASS, U.L. RATED

MATERIALS TO BE INSTALLED

2.01 MATERIALS

GLASS FIRER BLANKET/BATT

FOOT OF THE MATERIAL IN 1 HOUR.

CONDITIONS FOR NOT LESS THAN 5 YEARS.

C. MAXIMUM ASBESTOS CONTENT: NONE

3. VAPOR BARRIERS WHERE INDICATED.

B. WEATHER REQUIREMENTS

.08 CURING AND PROTECTION

A. GENERAL: AS PER ACI 301, CHAPTER 12, EXCEPT AS NOTED REQUIREMENTS FOR CURING AND PROTECTION SPECIFIED IN ACI 301 SHALL BE STRICTLY OBSERVED, WITH PARTICULAR EMPHASIS ON THE FOLLOWING: 1. INITIAL CURING MAY BE ACCOMPLISHED BY ANY OF THE METHODS GIVEN IN ACI 301, SECTION 12.2, EXCEPT AS NOTED, USING MATERIALS SPECIFIED

MAINTAIN INITIAL CURING FOR APPROXIMATELY 12 HOURS AFTER FINISHING. INCREASE THIS PERIOD TO 24 HOURS WHEN AIR TEMPERATURE IS **75 DEGREES F AND ABOVE** . TOTAL CURING PERIOD SHALL CONSIST OF 7 CUMULATIVE DAYS, (3 DAYS

FOR HIGH-EARLY STRENGTH CONCRETE) NOT NECESSARILY CONSECUTIVE.

DURING WHICH AIR IN CONTACT WITH CONCRETE IS ABOVE 50 DEGREES F

CONCRETE WET, AS WELL AS STEEL FORMS HEATED BY THE SUN. AFTER

1. WARM, DRY, OR WINDY WEATHER: USE FINISHING AID SPECIFIED HEREIN

TO REDUCE MOISTURE EVAPORATION FROM FRESHLY PLACED CONCRETE

WHEN IT IS EXPOSED TO RAPID DRYING CONDITIONS: DIRECT SUNLIGHT, LOW

HUMIDITY, HEATED INTERIOR, HIGH WIND, ETC. PREPARE DILUTE SOLUTION

AND SPRAY APPLY ON RATE OF 10 TO 20 GALLONS SOLUTION/5000 SQ. FT. IF

CONDITION DURING REQUIRED PERIOD. REPAIR, REAPPLY OR REPLACE WHEN

. WATERPROOF SHEET MATERIALS: THESE WILL BE PERMITTED FOR INITIAL

'HAN 4" AND SEAL CAREFULLY. ANCHOR COVERING SECURELY IN PLACE.

RESTRICTIONS ON USE: DO NOT USE CURING COMPOUND ON SURFACES

SURFACES TO RECEIVE OTHER FINISHES, SUBMIT WELL IN ADVANCE OF TIME

BY BOTH THE MANUFACTURER AND THE INSTALLER OF THE FINISH MATERIAL

RELATIVE TO COMPATIBILITY THEREWITH OF FINISH MATERIAL INCLUDING

MATERIAL HAS NOT BEEN DETERMINED, GENERAL CONTRACTOR SHALL BE

b. APPLICATION: APPLY UNIFORMLY AT A COVERAGE RATE NOT LESS THAN

THAT STATED BY MANUFACTURER WHICH MEETS ASTM C309 MOISTURE

RETENTION REQUIREMENT (0.55 KILOGRAM/SQ. METER/72 HR.).

SECTION 07210 - BUILDING INSULATION

VINYL BACKED METAL BUILDING BLANKET INSULATION

. THERMAL RESISTIVITY (R-VALUE): THE TEMPERATURE DIFFERENCE IN

DEGREES F BETWEEN THE TWO SURFACES OF A MATERIAL EXACTLY 1 INCH

A. PRODUCT DATA: SUBMIT FOR EACH PRODUCT SPECIFIED IN THIS SECTION.

A. MANUFACTURER'S QUALIFICATIONS: FIRM REGULARLY ENGAGED IN

MANUFACTURING OF PRODUCTS SPECIFIED IN THIS SECTION AND WHOSE

INSTALLATION OF PRODUCTS SPECIFIED IN THIS SECTION, WITH MINIMUM 5

A. PROVIDE MANUFACTURER'S STANDARD INSULATION PRODUCTS, AS

1. THICKNESSES OR "R" VALUES OF INSULATION ARE INDICATED ON DRAWINGS

BLANKET/BATT INSULATION IS INDICATED, COMPLYING WITH REQUIRMENTS

I. FOIL-SCRIM-KRAFT FACED BLANKET/BATT: TYPE III. CLASS A (ASTM C 665).

BLANKET/BATT EXCLUSIVE OF FACING MUST PASS ASTM E 136 COMBUSTION

3. WALL INSULATION TO BE VINYL SCRIM FACED BLANKET INSULATION FULL

2. ROOF INSULATION TO BE VINYL SCRIM FACED BLANKET INSULATION 4"

4. ALL CEILING INSULATION TO BE FACED BLANKET INSULATION 6"

A. CLEAN SUBSTRATES OF ANY SUBSTANCES WHICH MIGHT DAMAGE

A. DO NOT INSTALL INSULATION WHICH IS DAMAGES, WET, SOILED, OR

OF WALL AND FULL WITH BETWEEN THE STUDS TO FILL CAVITY.

WHICH HAS BEEN COVERED AT ANY TIME WITH ICE OR SNOW.

B. GLASS FIBER C. BLANKET/BATT INSULATION: WHERE INSTALLATION OF

PRODUCTS HAVE BEEN IN SATISFACTORY USE UNDER SIMILAR SERVICE

B. INSTALLER'S QUALIFICATIONS: FIRM REGULARLY ENGAGED IN

THICK, REQUIRED TO MAKE 1 BTU OF ENERGY FLOW THROUGH 1 SQUARE

RESPONSIBLE FOR COORDINATING SUCH ACCEPTANCE.

PRIMERS, ADHESIVES, AND SIMILAR MATERIALS, IF MANUFACTURER OF FINISH

FOR CURING APPLICATION, WRITTEN ACCEPTANCE OF CURING COMPOUND

OVER WHICH HOMOGENEOUS SHEET MATERIAL WILL BE APPLIED. FOR

URING ONLY. USE LARGEST PRACTICAL SIZE SHEETS. LAP JOINTS NOT LESS

1. WATER: WHEN EXCESSIVE AMOUNTS OF WATER ARE USED FOR CURING,

PROVIDE MEANS FOR REMOVAL SO THAT HARMFUL EFFECTS TO OTHER

ONSTRUCTION AND TO EARTH SURFACES WILL BE MINIMIZED

DRYING CONDITIONS ARE PARTICULARLY SEVERE. MAKE ADDITIONAL

APPLICATIONS AS REQUIRED FOLLOWING VARIOUS FINISHING STEPS.

C. USE OF CURING METHODS: MAINTAIN CURING PROTECTION IN GOOD

FORM REMOVAL, MAINTAIN CURING FOR ANY TIME REMAINING OF REQUIRED

FOR FORMED SURFACES, KEEP WOOD FORMS IN CONTACT WITH

C. INSTALL MATERIALS IN A MANNER WHICH WILL MAXIMIZE CONTINUITY OF THERMAL ENVELOPE. USE A SINGLE LAYER OF INSULATION WHEREVER POSSIBLE TO ACHIEVE INDICATED REQUIREMENTS, UNLESS OTHERWISE

D. VAPOR BARRIER COMPLY WITH MEMBRANE MANUFACTURER'S RECOMMENDATIONS FOR INSTALLATION OF MEMBRANE AS VAPOR BARRIER IN APPLICATION INDICATED

END OF SECTION 07210

OF INSULATION.

SECTION 07210 - EXTERIOR INSULATION AND FINISH SYSTEM

PART 1 GENERAL SECTION INCLUDES

Exterior Insulation and Finish System with Drainage.

PERFORMANCE REQUIREMENTS

Air/Water-Resistive Barrier Coating - System Construction Tensile Bond (ASTM C 297/E 2134): Minimum 104 kPa (15 psi) Freeze-thaw (ASTM E 2485): No deleterious effects after 10 cycles. Water Resistance (ASTM D 2247): No deleterious effects after 14 days

Water Vapor Transmission (ASTM E 96 Proc. B): Vapor Permeable. Air Leakage (ASTM E 283): 0.6 l/min/m2 (0.002 cfm/sqft). Structural Performance (ASTM E 1233 Proc. A): Minimum 10 positive cycles at 1/240 deflection; No cracking in field, at joints or interface with flashing. Racking (ASTM E 72): No cracking in field, at joints or interface with ing at net deflection of 3.2 mm (1/8 inch)

Restrained Environmental: 5 cycles; No cracking in field, at joints or face with flashing Water Penetration (ASTM E 331): No water penetration beyond the r-most plane of the wall after 15 minutes at 137 Pa (2.86 psf).

UV Exposure (ASTM D 2898): 210 hours of exposure. Accelerated Aging: 25 cycles of drying and soaking. Hydrostatic Pressure Test (AATCC 127): 21.6" water column for 5 hours.

; Smoke Developed - Less than 450. Flashing Materials- System Construction

I Sealability: (ASTM D 1970) - No water penetration Tensile Strength: (ASTM D 412-98a and AC148) - Minimum 7.1 kg/cm 9 lb/in) for aged specime

Pliability: (AC148 Sec. 4.6) - No cracking when bent over 3 mm (1/8 in) mandrel at 0 degrees C (32 F). Water Resistance: (AATCC Method 167 and AC148 Section 4.5) - No water leakage after UV exposure and accelerated aging cycling. Ultraviolet Exposure: (ICC ES AC148) - 210 hrs - No deleterious effects

when viewed under 5x magnification Accelerated Aging Cycling: (Sec. 4.5.2 ICC ES AC148) - 25 cycles: 3 hrs at 49 Degrees C (120 F), 3 hrs water immersion, 18 hrs air dry: No visible age under 5x magnification. Accelerated Aging Cycling: (Sec. 4.3.1.1 ICC ES AC148): - 25 cycles: 3

hrs at 49 Degrees C (120 F), 3 hrs water immersion, 18 hrs at -40 Degrees C (-40 F). No visible damage under 5x magnification. Durability- System Construction Abrasion Resistance (ASTM D 968): No deleterious effects after 1000

ters (1056 quarts). Accelerated Weathering (ASTM G155 Cycle 1): No deleterious effects after 5000 hours. Accelerated Weathering (ASTM G 154 Cycle 1 (QUV): No deleterious cts after 5000 hours.

Freeze-Thaw (ASTM E 2485): No deleterious effects after 90 cycles Mildew Resistance (ASTM D 3273): No growth during 60 day exposure Water Resistance (ASTM D2247): No deleterious effects after 42 days

Taber Abrasion (ASTM D 4060): Passed 1000 cycles. Salt Spray Resistance (ASTM B 117): No deleterious effects after 1000

exposure. Transverse Wind Load (ASTM E 330): Minimum 4.3 kPa (90 psf), 16 in framing, 1/2 inch (13mm) sheathing screw attached at 203 mm (8 in) o.c. Tensile Bond (ASTM C 297): Minimum 213.6 kPA (31 psi) Water Penetration (ASTM E 331): Passed 15 minutes at 137 Pa (2.86 Water Vapor Transmission (ASTM E 96 Proc. B).

EPS: 5 Perm-inch. Base Coat: 40 Perms.

Finish: 40 Perms.

Drainage Efficiency (ASTM E 2273): Minimum Drainage Efficiency of 90 Fire Performance - System Construction: Fire Resistance (ASTM E 119): Passed 1 hour

Ignitability (NFPA 268): No ignition at 12.5 kw/m2 at 20 minutes. Intermediate Multi-Story Fire Test (NFPA 285):

Resist flame propagation over the exterior surface Resist vertical spread of flame within combustible core/component of panel from one story to the next

Resist vertical spread of flame over the interior surface from one story to

Resist lateral spread of flame from the compartment of fire origin to adjacent spaces Full Scale Multi-Story (ANSI FM 4880): Resist flame propagation over the work

exterior surface 1.5 SUBMITTALS

Submit under provisions of Section 01300 Product Data: Manufacturer's data sheets on each product to be used.

Preparation instructions and recommendations

Storage and handling requirements and recommendations. Installation methods.

Shop Drawings: Submit Manufacturer's drawings detailing the approved methods for flashing and waterproofing all conditions applicable to the work listed in this section

Selection Samples: For each finish product specified, two complete sets of color chips representing manufacturer's full range of available colors and Verification Samples: For each finish product specified, two samples

minimum size 6 inches (150 mm) square, representing actual product, color, and

Board, DS131. Thickness: 1 inch (mm).

Vprojec

Insulation manufacturer selected from those listed by Dryvit Systems, 1nc. INSULATION ADHESIVE AND BASE COAT Primus: 100 percent polymer-based product, which is field mixed in a 1 to ratio by weight with Portland cement to produce Primus mixture.

Working Time: 1 hour. Water Vapor Transmission: ASTM E 96 - Permeable to water vapor. Bond Strength: Exceeds the cohesive strength of insulation board. Genesis: fiber-reinforced, 100 percent acrylic-based product which, when mixed with Portland cement, provides a high-build, exceptionally easy to trowel adhesive, base, texture or leveling coat

Working Time: 2 to 4 hours. Water Vapor Transmission: ASTM E 96 - Permeable to water vapor. Bond Strength: Exceeds the cohesive strength of insulation board. Genesis FM: 100 percent acrylic-based product which, when mixed with Portland cement, provides an exceptionally easy to trowel adhesive and base coat. END OF SECTION Working Time: 2 to 4 hours.

Water Vapor Transmission: ASTM E 96 - Permeable to water vapor. Bond Strength: Exceeds the cohesive strength of insulation board. Full Scale Inside Corner Test: ANSI-FM 4880 - Passed - unlimited height. NCB: Water-based tintable acrylic base coat applied without the addition of MasterFormatTM Division 13: Special Construction, Portland cement, Flexible and crack-resistant base and grout coat. Working Time: N/A - May be re-tempered with additional water.

Water Vapor Transmission: ASTM E 96 - Permeable to water vapor. Bond Strength: Exceeds the cohesive strength of insulation board. Primus DM: Dry blend, polymer-based adhesive and base coat. Field mixed B "Protection from falling objects" (29 CFR-1926.759) oduce a high performance, easily applied adhesive and base coat. Working Time: 1 to 3 hours. Water Vapor Transmission: ASTM E 96 - Permeable to water vapor.

Bond Strength: Exceeds the cohesive strength of insulation board. Genesis DM: High-performance, fiber-reinforced dry blend adhesive and 5. ALL WALL INSULATION TO BE FACED BLANKET INSULATION FULL THICKNES base coat specifically formulated for Dryvit systems. Working Time: 1 to 3 hours

Water Vapor Transmission: ASTM E 96 - Permeable to water vapor. Bond Strength: Exceeds the cohesive strength of insulation board. Genesis DMS: Sprayable, dry blend, polymer-modified adhesive and base coat for use with Dryvit systems. Working Time: 2 to 3 hours

Water Vapor Transmission: ASTM E 96 - Permeable to water vapor. Bond Strength: Exceeds the cohesive strength of insulation board. Rapidry DM 35-50: Fast setting, polymer-modified, fiber-reinforced, cement-based, dry blend adhesive and base coat for use with Dryvit systems during colder weather.

Working Time: 45 to 60 minutes Water Vapor Transmission: ASTM E 96 - Permeable to water vapor. Bond Strength: Exceeds the cohesive strength of insulation board. Rapidry DM 50-75: Fast setting, polymer-modified, fiber-reinforced, cement-based, dry blend adhesive and base coat for use with Dryvit systems Working Time: 30 to 45 minutes

Water Vapor Transmission: ASTM E 96 - Permeable to water vapor Bond Strength: Exceeds the cohesive strength of insulation board. FINISH COAT

Texture: Sandblast DPR

Color: To be selected by the Architect from Manufacturer's available Texture: Quarzputz E

Water Vapor Transmission: ASTM E 96 - Permeable to water vapor. Salt Spray Resistance: ASTM B 117 - 300 hours; No deleterious effects. Freeze/Thaw Resistance: ASTM E 2485 (EIMA 101.01) - 60 cycles; no leleterious effects.

. Wet Scrub Resistance: ASTM D 2486 - 2,000 scrub cycles; No cracking, checking or loss of film integrity. Mildew Resistance: ASTM D 3273 - 60 Days, no growth.

Flame Spread: ASTM E 84 - Less than 25. Class I.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Store products in manufacturer's unopened packaging until ready for

of local authorities having jurisdictio .8 PROJECT CONDITIONS Maintain environmental conditions (temperature, humidity, and ventilation)

within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's absolute limits. WARRANTY At project closeout, provide to the owner or owners representative an

executed copy of the manufacturer's moisture drainage and limited materials warranty against defective material. PART 2 PRODUCTS

MANUFACTURERS

Acceptable Manufacturer: Drvvit Systems, Inc., which is located at: One Energy Way P. O. Box 1014 : West Warwick, RI 02893-0914; Toll Free Tel: 800-556-7752; Tel: 401-822-4100; Email: request info (info@dryvit.com); Web: ww.dryvit.com Requests for substitutions will be considered in accordance with provisions of Section 01600.

AIR / WATER-RESISTIVE BARRIERS

Drvvit Backstop NT Smooth: Flexible, smooth surfaced, polymer-based Surface Burning Characteristics (ASTM E 84): Flame Spread - Less Than non-cementitious coating used as a water-resistive barrier and air barrier over exterior substrates

> Dryvit Backstop NT Textured: Flexible, Textured, polymer-based non-cementitious coating used as a water-resistive barrier and air barrier over exterior substrates. Dryvit Grid Tape: An open weave fiberglass mesh tape with pressure

Roll Size: 102 mm (4 inches) wide by 91 m (100 yards) long.

prayable, dry mix, water-resistive membrane/air barrier, and adhesive. Over to match the specified color for fastening to light gauge steel (up to 12 GA sheathing substrates, joints are treated with Backstop NT-Texture and Grid Tape. purlins) or #12 x 11/4 "plated self-drilling screws with sealing washers, FLASHING MATERIALS

around windows, doors and other openings. AquaFlash Mesh: Reinforcing mesh for use in conjunction with AquaFlash: appropriate. Always install two(2) fasteners in the end of each strap for Dryvit Flashing Tape™: A high density polyethylene film backed with a rubberized asphalt adhesive

INSULATION BOARD

Expanded Polystyrene meeting Dryvit Specification for Insulation

Demandit: 100 percent acrylic coating available in a variety of standard

Reflectit: 100% acrylic coating for Dryvit finishes and other approved substrates, and provides a glossy, pearlescent appearance. Dryvit AP Adhesive: A moisture cure, urethane-based adhesive used to

adhere the Dryvit Drainage Strip and Drainage Track. Drainage Track: UV treated PVC "J" channel perforated with weep holes, nplying with ASTM D 1784 and ASTM C 1063. For use at the base of Starter Trac STWP - Without drip edge; by Plastic Components, 1nc.

Starter Trac STDE - With drip edge; by Plastic Components, Inc. Universal Starter Track; by Wind-lock Corporation

Sloped Starter Strip with Drip; by Vinyl Corp. Dryvit Drainage Strip: Corrugated high impact polystyrene material used to

provide drainage at the base of walls, heads of windows and floor line expansion

PART 3 EXECUTION EXAMINATION

Do not begin installation until substrates have been properly prepared. Verify that the substrate is:

Acceptable for use in conjunction with the work listed in this section Flat within 6.4 mm (1/4 in) in a 1.2 m (4 ft) radius Sound and dry with tight connections, no surface voids, projections, or other conditions that may interfere with the Outsulation Plus MD System lation or performance

Install all flashings and other waterproofing details prior to commencing Inspect metal roof flashing for installation in accordance with Asphalt

Roofing Manufacturers Association (ARMA) Standards. Flash openings in accordance with the Contract Drawings or as otherw ssary to prevent water penetration.

Flash all chimneys, balconies and decks and other adjacent work Install all windows, doors and other surface penetrations in accordance with manufacturer's requirements and the Contract Drawings. If substrate preparation is the responsibility of another installer, notify hitect of unsatisfactory preparation before proceeding.

PREPARATION

Protect adjoining work and property during installation Remove foreign materials from all substrates, such as oil, dust, dirt, m-release agents, efflorescence, paint, wax, water repellants, moisture, fros d any other condition that may inhibit adhesion.

INSTALLATION Install in accordance with manufacturer's instructions.

Apply base coat sufficiently to fully embed the mesh. The recommended method is to apply the base coat in two (2) passes. Coat Dryvit Outsulation Plus MD System surfaces in contact with textured wall section. Apply the wall vapor retarder fabric by clamping it into position

finishes or base coat surfaces with Demandit or Color Prime. Install high impact meshes as specified at ground level, high traffic areas and other areas exposed to or susceptible to impact damage. Protect Outsulation Plus MD System materials from inclement weather and the base angle, or base cee channel as well as the column flanges. Additional

other sources of damage until completely dry. 4 CLEANING Remove all excess materials shall be removed from the job site in ccordance with contract provisions and as required by applicable law.

Clean debris and foreign substances resulting from the contractor's work.from all surrounding areas. PROTECTION

Protect installed products until completion of project Touch-up, repair or replace damaged products before substantial

NEW CONSTRUCTION SPECIFICATIONS Simple Saver System® for New Pre-Engineered Metal Buildings (with OSHA Compliant Through Fall Protection and a Ten-year Limited Material Warranty, see thermaldesign.com. Warranty) MasterFormatTM Division 7: Thermal Protection

Section 13 34 19–Metal Building Systems 601 North Main Street

PO Box 468, Madison, NE 68748 800.255.0776 | thermaldesign.com A "Through fall protection" (29 CFR-1926.501, 1926.760)

C "Protection from falls through roof openings" 29 CFR-1926.759)

D "Product-related project safety training" (29 CFR-1926.761)

E "Product-related project specific safety plan" (29 CFR-1926.752)

and fasteners along its full length.

Quality Assurance: Provide the materials in original manufacturer's packages together with detailed instructions and project drawings of the installation. Materials shall be inspected for damage, proper sizes and quantities upon delivery and stored in a dry, secure manner. Post the detailed training instructions, project specific safety drawing and plans for OSHA compliance using the product. Installation shall proceed with care to assure proper sealing of the liner system fabric sulation shall be placed on (roof) or behind (walls) the liner system fabric in the full-specified thickness without voids and with minimal compression of top layer (if applicable in roofs). Notify Thermal Design (800.255.0776) immediately of any damages, improper sizes or shortages. No changes or substitutions will be allowed unless submitted at least 10 days prior to bid date and in compliance with Simple Saver System standards as setforth in this specification. Substitutions of systems that do not have a continuous vapor retarder on the inside plane of the purlins or girts will not be allowed. Substitutions of systems that do not have OSHA compliant through fall protection will not be allowed. Purlins, girts and insulation must be completely isolated from the inside conditioned air with an effective vapor retarder. Taping or stapling of vapor retarder lap joints is not acceptable. Sealing field joints with a permanent vapor retarder lap sealant is required. Field seams, if any, shall be made on a structural member and mechanically attached with a steel strap

All exposed parts of the liner system shall be Class A material and have flame spread of 25 or less based on ASTM E84 standards. Vapor retarder fabric shall be white or colored woven coated fabric and triple extrusion-welded seams fabricated in one piece, to fit not less than the full bay length by the Water Resistance: ASTM D 2247 - 14-day exposure; No deleterious effects, width of the building. Buildings more than 100' wide may have field seams on the bottom of a purlin but no less than 50' apart. Any field seams must be Accelerated Weathering: ASTM G 155 - 5000 hours; No deleterious effects. sealed with vapor retarder lap sealant. Wall bay minimum fabric size shall be not less than one entire wall bay or end wall column space from the ceiling to the floor. Perimeter edges of the vapor retarder fabric shall be trimmed and sealed to the adjoining steel or fabric with vapor retarder lap sealant. All edges of liner system fabric, including field seams, shall be mechanically fastened with steel retaining straps the full perimeter In the event that the crew is not experienced in the installation procedure video taped or on-site installation training shall be requested by the installing 15. Mandrel Bend: ASTM D 522 - Passed 1/2 inch at 21 C (70 F) and 1 inch at 4contractor from Thermal Design to assure proper installation procedures. Submittals: Include manufacturer's product brochures; component specifications samples of the painted support strapping, and samples of the Syseal® reinforced polyethylene vapor retarder fabric, including a sample of the triple extrusion welded seam; specific detailed drawings from Thermal Design for the project showing purlin spacings, support strap locations and spacings, fastening points, B. Store and dispose of hazardous materials in accordance with requirements liner system fabric sizes and locations; insulation widths and thicknesses, sizes and locations and detailed installation instructions for quality assurance and OSHA compliance. Safety Compliance Clause: Detailed installation instructions are provided to

assure proper installation and function for OSHA safety compliance as an alternative form of through fall protection in metal building structures. Fall protection certificate available free of charge from Thermal Design PART II: PRODUCTS

Roof Liner System: Acceptable systems shall be the Simple Saver insulation system (with OSHA compliant through fall protection) manufactured by Thermal Design with an installed total roof insulation R-value of 30 and an average installed thickness of 9.5 inches. Roof system shall be a select one): single- or multi- layer system. A thermal break shall be applied where there is no existing thermal break between metal panel and metal structure. The thermal break shall be (select one): 3/16" x 3" Quik-Stop Trash FreeTM foam tape, 3/8" Snap-R® thermal block, or 1" Snap-R® thermal block. Wall Liner System: Acceptable systems shall be the Simple Saver insulation system manufactured by Thermal Design with an installed total insulation R-value of R-30 (MIN)and an average installed thickness of 9.5" inches MIN. Simple Saver System includes a ten year limited material warranty and shall meet the following minimum specifications: UVMAX® Steel Strap: 100 KSI minimum yield high tensile strength steel, galvanized, primed and then painted the specified color on the exposed side with a clear coat primer on the unexposed side. Minimum size shall be 0.02" x 1" x continuous length. The strap color shall be (select one):UVMAX 8 Black.

CTraverse strap pattern shall include one strap six (6) inches away from each rafter flange with the remaining space between rafters divided into ive adhesive for reinforcing sheathing joints and exposed sheathing edges. equal spaces not to exceed five (5) feet. Longitudinal straps shall be nominally thirty (30) inches on-center, with two adjacent straps at the ridge line. Dryvit Backstop DMS: Backstop DMS is a polymer-modified cementitious, Fasteners: #12 x 3/4", plated self-drilling screws with sealing washers painted painted to match the specified color for heavier gauge steel (up to 3/8) AquaFlash: Flexible, water-based polymer material used to seal substrates purlins/bar joist). Special fasteners for wood, concrete and other structure types are available from Thermal Design and should be used when safety and to withstand installation stress, and one (1) fastener at all othe

designated fastening points. Syseal® Fabric: Shall be woven reinforced high-density polyethylene yarns coated on both sides with a continuous white or colored polyethylene film. The fabric grade for the roof shall

be (select one): Syseal BLK FP (Black). The fabric shall comply with UL/ULC Color: To be selected by the Architect from Manufacturer's available color 723 or ASTM E84, and be Class A compliant with a low flame spread index of 25 or less based on ASTM E84 test standards. This material shall be manufact in large custom pieces by extrusion welding from roll goods. Pieces shall be fabricated to substantially fit the large defined building areas with minimum practical sealing to be done on job site. Fabric shall be folded to allow for rapid and custom colors. Highly resistant to mold and mildew growth and water vapor pull-out on the strap support system. The Syseal fabric shall be certified for fall protection by the manufacturer. Custom colors available by special order. Call 800.255.0776 for details. Syseal liner system fabric perm rating shall (select one): not function as a

vapor retarder but shall be perforated with 3/16" minimum holes space not

for sealing vapor retarder laps and/or Simple Saver System G220 Pressure

Sensitive SealantTM and/or Syseal Sticky Tape (double-sided bonding tape)

3/4" wide by 1/32" thick extruded vapor retarder sealant from Thermal Design

Insulation: Shall be fiberglass blanket or batt insulation meeting ASTM C991

Fast-RTM Insulation Hangers: Shall be Fast-RTM preformed, rigid insulation

hangers for supporting insulation between wall girts or roof purlins in roof

3/16" thick by 3" wide white Quik-Stop Trash FreeTM, or 3/8" polystyrene

Snap-R thermal block or 1" polystyrene Snap-R thermal block. The selection

shall be provided as thermal break where there is no existing thermal break

Simple Saver Roof System: Cut to length and install painted steel straps in

are installed in tension and span immediately below the bottom plane of the

eave and centered on the bay. Pull the other end of the pleat-folded fabric

across the building width on the strap platform but below the purlins, pausing

only at the ridge to fasten the straps and fabric into position where the plane

of the roof changes. Once positioned, the remaining fasteners are installed

and trimmed along the rafters. A similar method can be used starting at the

ridge purlin space and pulling the fabric to each eave. Insulation is unpacked

from the bottom side at each purlin/strap intersection and the edges are sealed

and placed on the vapor retarder liner system. Shake insulation to the specified

thickness and install parallel, between purlins. In multi-layer systems, the upper

most layer of insulation is placed over and perpendicular to the purlins as the

roof sheeting is applied. It is important that the insulation cavity be filled or the

of condensation (ventilated and/or dehumidified roof systems are possible with

(if specified) applied to the exterior of the girts. Insulation is cut to the required

engths to fit vertically betweenthe girts and installed in the girt spaces and

over the eave strap. Once in position, the fasteners are installed through the

straps are installed along the base angle and each column to retain the system

with the project drawings specific for the project and included with the materials

wall straps, eave strap and into each roof strap, permanently clamping the

wall fabric between them. Seal the wall fabric and to the roof fabric and to

permanently in place. Detailed installation instructions are to be sent along

in each shipment. Pertinent information is included on the drawings for each

project. Review all information and instructions prior to commencement. If any

Note: The Simple Saver System with OSHA compliant through fall protection

can be applied to pre-engineered metal buildings and installation execution

Call or write for specific details. A design manual is also available upon request

instructions, and video training. For more information about the ten year limited

Section Includes: Factory-formed sheet metal roofing, including

Sealants: Division 7 Joint Sealants Section.

American Society for Testing and Materials (ASTM): ASTM A653/A653M Standard Specification for Steel

ASTM D2247 Standard Practice for Testing Wate

ASTM E1646 Standard Test Method for Wate

Outdoor Weathering of Non-Metallic Materials Using Concentrated Natural Sunlight. 8. ASTM D 2244 - Standard Practice for Calculation of Color

Tolerances and Color Differences from Instrumentally Measured Color Coordinates.

Performance of Sheet Metal Roof and Siding Systems by Uniform Static Air

Penetration of Metal Roof Panel Systems by Static Water Pressure Head

Penetration of Exterior Windows, Curtain Walls and Doors by Uniform Static Air

ASTM E1680 Standard Test Method for Determining the

ASTM G90 Standard Practice for Performing Accelerated

ASTM D 4214 - Standard Test Methods for Evaluating the

ASTM E 119 - Standard Test Methods for Fire Tests of

ASTM E 1592 - Standard Test Method for Structural

ASTM E 2140 - Standard Test Method for Water

Cold Formed Metal Framing: Division Metal Framing Section. Building Insulation: Division 7 Building Insulation Section.

Related Sections: Section(s) related to this section include

076200 Sheet Metal Flashing

Sheets, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed)

55% Aluminum-Zinc Alloy Coated by the Hot Dip Process. 3. ASTM B209 Standard Specification for Aluminum and

Rate of Air Leakage Through Exterior Windows, Curtain Walls and Doors Under Specified Pressure Differences Across the Specimen.

by the Hot-Dip Process. 2. ASTM A792/A792M Standard Specification for Steel Sheet,

varies slightly. Installations and specifications for existing buildings vary.

Shrink-wrap license terms are included on design manuals, installation

guestions arise, contact the manufacturer prior to installation. On-site

installation training is available for actual expense. The manufacturer's

the Simple Saver System). Call Thermal Design 800.255.0776 for details.

Simple Saver Wall System: Sheet the building with just the thermal break

impaled on Fast-R insulation hangers. Fluff the insulation to the specified

thickness, making sure there are no gaps or voids. Insulate the complete

the pattern and spacings as shown on the project shop drawings. The straps

purlins. Position the pre-folded vapor retarder liner system fabric on the strap

platform along one eave purlin. Clamp the two bottom corners squarely at the

Type 1, ASTM E136 and ASTM E84 or other insulation form as may be

recommended and submitted by the system manufacturer and approved

Sealants: Shall be (select one): Simple Saver System G524 High Tack SealantTM

more than four (4) inches apart in each direction

pitches over 4:12. Coiled hangers are not allowed

and/or if additional depth space is desired

cavities be ventilated to minimize the probability

toll-free hotline is 800.255.0776.

SECTION 07 41 13

Metal Roof Panels

Part 1 GENERAL

flashings and trim.

1.2 REFERENCES

Aluminum-Alloy Sheet and Plate

Pressure Difference.

Pressure Difference.

Resistance of Coatings in 100% Relative Humidity

Degree of Chalking of Exterior Paint Films

Building Construction and Materials

SUMMARY

Maxima

В.

PART III: EXECUTION

Thermal Break: Thermal break shall be (select one

by the architect during submittals

ADMINISTRATIVE REQUIREMENTS

A Pre-installation Meetings

1.3

with ASTM E1646

Uplift Tests

. Fire rating: Class A

Florida State Approval

SUBMITTALS

9. ICC-ES: ESL 108

for specified products.

colors and textures

trim and accessories.

and textures

F. Warranties

Substantial Completion

PART 2 PRODUCTS

Roofing Panels

2.2

2.3

panel face sheet.

factory-applied coating.

hot-melt type

accessories.

tape, AAMA 809.2.

manufacturer of products of this section.

Schedule meeting to discuss roof project requirements substrate conditions, manufacturer's installation instructions and nanufacturer's warranty requirements before start of work onsite. Comply with Division 1 Project Management and Coordination (Project Meetings)

2.4

Required attendees: Contractor, metal deck & roof nstaller, and any other subcontractors who have equipment penetrating the roof or work that requires roof access or traffic.

SYSTEM DESCRIPTION

Performance Requirements: Provide sheet metal roofing which has been manufactured, fabricated and installed to withstand structural and thermal movement, wind loading and weather posure to maintain manufacturer's performance criteria without defect damage, failure or infiltration of water.

Air infiltration: Maximum 0.06 cfm per lineal foot 0.33 m3/hr per linear meter) of seam at static pressure of 6.24 psf 3.0 kPa) when tested per ASTM E168 Water penetration No uncontrolled water penetration through the

oints at a static pressure of 6.24 psf (3.0 kPa) when tested in accordance UL 580 Class 90

FM 4471 (2" only I ASTM E 1592 (1.5", 2" & 3") Miami Dade: 2" x 16" only Class 4 Impact Resistance: UL 2218 Fire Resistance: UL 263

Galvalume steel sheet conforming to ASTM A792, AZ55 coating for bare; AZ50 coating for painted; 24 gauge sheet thickness.

General: Submit listed submittals in accordance with Conditions of the Contract and Division 1 Submittal Procedures Section Product Data: Submit manufacturer's product data

Product Test Reports for applicable sustainable sites

LEED Submittal Documentation

credits: For roof panels, indicating that panels comply with solar reflectance Product Data for applicable materials and resources credits: Indicating percentages by weight of post-consumer and pre-consumer ecvcled content for products having recycled content. Contractor to provide a statement indicating cost for each product having recycled content.

D. Shop Drawings: Submit shop drawings showing layout, profiles and product components, including anchorage, accessories, finish

Indicate layout of roofing panels and roof panel sizes, including custom-fabricated roofing panels if indicated; indicate each item of Indicate in detailed drawings profile and gauge of i nterior and exterior sheets, and locations and types of fasteners; indicate locations, gauges, shapes and methods of attachment of roofing panels iretrim and accessory items Include Sealant location and denote those that are factory and field applied. 4. Indicate products/materials required for construction activities and field worked conditions of this section not supplied by

Samples: Submit selection and verification samples for finishes, colors

Selection Samples: For each product requiring color selection 2 sets of manufacturer's sample chips representing full range of colors and finishes Verification Samples: For each color and finish selected. 2 chips indicating match to selected color and finish

> Substrate Warranty Finish Warrantv

Weather Tightness Warranty (if applicable) G. Test and Evaluation Reports: Showing compliance with specified performance characteristics and physical propB. Underwriters Laboratories (UL 1. UL 263 - Fire Tests of Building Construction and Materials 2 Warranty Term: [5][10][15][20][25] commencing on Date of

Total Manufacturers Liability: [\$0.20 (Joint Only)] [\$7.00] [\$14.00][NRL (No Repair Limit)] /sq. ft. Warranty must cover (choose all that apply) [pipe and curb penetrations][winds up to [75] [80] [90] [100] [105] [110] [120] mph (If Penetrations are chosen) Pipes must be centered in the panel or a pipe curb must be used, Curbs must be all welded (0.0630 minimum) \ aluminum or 18ga. Stainless Steel. (If Wind Rider is chosen) Manufacturer must supply engine nstallation shop drawings, signed and sealed by an Engineer registered in the state in which the project is located Special Warranty: Installer's standard form in which installer agrees to repair or replace panels that fail due to poor workmanship or faulty stallation within the specified warranty period.

I. Warranty Period: 20 years from date of Substantial Completion.

Metal Roof Panels

Manufacturer: McElroy Metal, Inc. Contact: 1500 Hamilton Rd., Bossier City, LA 71111; Telephone: (800) 950-6531; Fax: (318) 747-8099; E-mail: info@mcelroymetal.com; website:

Proprietary Products: McElroy Metal Preformed Sheet Metal

Substitutions:

provide McElroy Metal Maxima Substitution Limitations Requests for approval must be submitted in writing at least ten REQUIRED BY LOCAL CODE. to all bidders. Voluntary alternates will not be considered. Substitutions will not be TEMPLATES FROM HARDWARE SUPPLIER. permitted after the bid date of this project.

Roof panels proposed for substitution shall fully comply with specified requirements in appearance, assembly, and performance.

Forming: Use continuous end rolling method. No end laps are permitted on panels without architect approval. It is the intent of the Architect to provide actory-manufactured panel systems or systems manufactured on-site by factory personnel only for this project

MANUFACTURED UNITS

McElroy Metal Maxima Panels: Profile: Vertical leg standing seam panel with male/female

seam to be mechanically interlocked at jobsite with mechanical seamer specifically designed for Maxima profile 2. Size: [1.5" high seam by 16" width (51 x 406 mm)] [2" high seam by 16" width (51 x 405 mm)] [2" high seam by 18" width] (51 x 457 mm) [3" high seam by 24" width] (76 x 610 mm)]. Length as indicated on drawings Panel Surface: 1.5": [Flat pan] [Bead/pencil ribs] [Striated] 2": [Flat pan] [Bead/pencil ribs] [Striated]. 3": [Striated] [Minor Ribs] Material: Galvalume steel sheet conforming to ASTM A792, AZ50 coating for bare; AZ50 coating for painted; [24; 22] gauge sheet thickness. Panels should be factory formed for lengths below 50 To avoid lap conditions for panels greater than 50', panels should be produced on site but production must be completed by factory technicians.

. GRADES AND MODELS: GRADE II, HEAVY-DUTY, MODEL 4 (SEAMLESS -

. GRADE AND MODEL: GRADE III, EXTRA HEAVY-DUTY, MODEL 4 (SEAMLESS -

PROVIDE VISION PANELS IN THE SIZES AND SHAPES INDICATED ON THE

COMPOSITE CONSTRUCTION).

COMPOSITE CONSTRUCTION).

C. EXTERIOR DOORS

METAL ROOF PANEL ACCESSORIES

A.General: Provide complete metal roof panel assembly incorporating rim, copings, fasciae, gutters and downspouts, and miscellaneous flashings, in manufacturer's standard profiles] [profiles as indicated]. Provide required steners, closure strips, splice plates, support plates, and sealants as indicated in manufacturer's written instructions. B.Flashing and Trim: Match material, thickness, and finish of metal

C.Panel Clips: ASTM A 653/A 653M, G90 (Z180) hot-dip galvanized zinc coating, configured for concealment in panel joints, and identical to clips utilized in tests demonstrating compliance with performance requirements. D.Panel Fasteners: Self-tapping screws and other acceptable corrosion-resistant fasteners recommended by roof panel manufacture

Where exposed fasteners cannot be avoided, supply fasteners with EPDM or neoprene gaskets, with heads matching color of metal panels by means of E.Joint Sealers: Manufacturer's standard or recommended liquid and preformed sealers and tapes, and as follows: 1. Factory-Applied Seam Sealant: Manufacturer's standard

Tape Sealers: Manufacturer's standard non-curing buty Concealed Joint Sealant: Non-curing butyl, AAMA 809.2 F.Steel Sheet Miscellaneous Framing Components: ASTM C 645, with ASTM A 653/A 653M, G60 (Z180) hot-dip galvanized zinc coating.

G.Roof Accessories: Approved by metal roof panel manufacturer Refer to [Section 07 72 00] "Roof Accessories" for requirements for roof H.Snow Guards: Approved by metal roof panel manufacturer. Refer to [Section 07 72 53] "Snow Guards" for requirements for snow guards attached to metal roof panels

FABRICATION COLD-ROLLED OR HOT-ROLLED STEEL. A.General: Provide factory fabricated and finished metal panels and accessories meeting performance requirements, indicated profiles, and F. EXTERIOR DOORS: FABRICATE FROM HOT-DRIP GALVANIZED STEEL. structural requirements B.Fabricate metal panel joints configured to accept factory-applied sealant providing weathertight seal and preventing metal-to-metal contact and G. SEAL TOP AND BOTTOM EDGES INTEGRALLY WITH DOOR CONSTRUCTION, OR ninimizing noise resulting from thermal movemen C.Form panels in continuous lengths for full length of detailed runs, except where otherwise indicated on approved shop drawings. D.Sheet Metal Flashing and Trim: Fabricate flashing and trim to H. EXTERIOR FRAMES: FABRICATE FROM GALVANIZED STEEL comply with manufacturer's written instructions, approved shop drawings, COUNTERSUNK, FLAT PHILLIPS-HEAD FASTENERS. USE SEX BOLTS FOR SURFACE and project drawings. Form from materials matching metal panel substrate. ATTACHMENTS 2.5 FINISHES J. INSULATED ASSEMBLIES: AT EXTERIOR LOCATIONS, PROVIDE INSULATING DOOR AND FRAME ASSEMBLIES WHICH HAVE BEEN TESTED IN ACCORDANCE A. Bare Galvalume steel sheet conforming to ASTM A792, AZ55 WITH ASTM C 236 FOR THERMAL RESISTANCE. . MAXIMUM U-VALUE: 0.10 BTU PER HOUR PER SQUARE FOOT PER DEGREE FOR Roof Related Trim/Accessories Cold REQUIRED BY LOCAL CODE Selected from full range of manufacturer's standard color Color: ['WHITE color.]. K. HARDWARE PREPARATION: COMPLY WITH ANSI A115 SERIES SPECIFICATION Color: As indicated on panel schedule FOR DOOR AND FRAME PREPARATION, USING FINAL HARDWARE SCHEDULE AND TEMPLATES FROM HARDWARE SUPPLIER Bare Galvalume steel sheet conforming to ASTM A792, AZ55 1. REINFORCEMENT: REINFORCE DOORS AND FRAMES FOR FIELD-INSTALLED EXPOSED HARDWARE ITEMS. Sheet Metal and Air Conditioning Contractors' National 2. LOCATIONS: COMPLY WITH FINAL SHOP DRAWINGS Association (SMACNA); "Architectural Sheet Metal Manual" L. SHOP PAINTING SECTION 08110 - STEEL DOORS AND FRAMES 1. PREPARATION: CLEAN SURFACES THOROUGHLY BEFORE BEGINNING PAINTING OPERATIONS, REMOVING RUST, SCALE, OIL, GREASE, AND OTHER PART 1 - GENERAL CONTAMINANTS 2. PRIMER: APPLY PRIMER EVENLY TO ACHIEVE FULL PROTECTION OF ALL 1.01 SUMMARY EXPOSED SURFACES 2.03 STEEL DOORS A. SECTION INCLUDES: 1. STANDARD STEEL DOORS AND FRAMES A. GENERAL: FABRICATE STEEL DOORS IN ACCORDANCE WITH REQUIREMENTS 2. ASSEMBLIES FOR FIRE-RATED OPENINGS. OF ANSI/SDI 100. 3. INSULATED DOORS. 1. TAG DOORS AND PANELS WITH OPENING NUMBER SHOWN IN SCHEDULE. 2. FABRICATE INTERIOR DOORS OF 18 GA. STEEL AND EXTERIOR DOORS OF 16 1.02 REFERENCES GA. STEEL A. ANSI A115 SERIES -- SPECIFICATION FOR STEEL DOOR AND FRAME **B** INTERIOR DOORS PREPARATION FOR HARDWARE- 1980-91. . GRADES AND MODELS: GRADE II, HEAVY-DUTY, MODEL 4 (SEAMLESS -COMPOSITE CONSTRUCTION). 3. ANSI/SDI 100-1985 -- RECOMMENDED SPECIFICATIONS: STANDARD STEEL DOORS AND FRAMES- STEEL DOOR INSTITUTE- 1985. . EXTERIOR DOORS . GRADE AND MODEL: GRADE III, EXTRA HEAVY-DUTY, MODEL 4 (SEAMLESS -ASTM A 153-82 (87) -- STANDARD SPECIFICATION FOR ZINC COATING COMPOSITE CONSTRUCTION). HOT-DIP) ON IRON AND STEEL HARDWARE - 1982 (REAPPROVED 1987) D. ASTM A 366/A 366M-85 -- STANDARD SPECIFICATION FOR STEEL, SHEET, . VISION PANELS . PROVIDE VISION PANELS IN THE SIZES AND SHAPES INDICATED ON THE CARBON, COLD-ROLLED, COMMERCIAL QUALITY - 1985. E. ASTM A 525-91A -- STANDARD SPECIFICATION FOR GENERAL REQUIREMENTS FOR STEEL SHEET, ZINC-COATED (GALVANIZED) BY THE HOT-DRIP PROCESS --SECTION 08710 - DOOR HARDWARE F. ASTM A 526/A 526M-90 -- STANDARD SPECIFICATION FOR STEEL SHEE ZINC-COATED (GALVANIZED) BY THE HOT-DIP PROCESS, COMMERCIAL QUALITY PART 1 - GENERA 1.1 SECTION REQUIREMENTS A. ALLOWANCES: PROVIDE HARDWARE UNDER HARDWARE ALLOWANCE IN G. ASTM A 568-90A -- STANDARD SPECIFICATION FOR STEEL, SHEET, CARBON DIVISION 1 SECTION "PRICE AND PAYMENT PROCEDURES." AND HIGH-STRENGTH, LOW-ALLOY, HOT-ROLLED AND COLD-ROLLED, GENERAL 3. SUBMITTALS: HARDWARE SCHEDULE. **REQUIREMENTS FOR - 1990.** . DELIVER KEYS TO OWNER D. FOR FIRE-RATED OPENINGS PROVIDE HARDWARE TESTED AND LISTED BY UI H. ASTM A 569/A 569M-85 -- STANDARD SPECIFICATION FOR STEEL, CARBON (0.1 ³ OR FMG (NFPA 80). ON EXIT DEVICES PROVIDE UL OR FMG LABEL INDICATING MAXIMUM, PERCENT), HOT-ROLLED SHEET AND STRIP COMMERCIAL QUALITY --"FIRE EXIT HARDWARE PART 2 - PRODUCTS PERFORMANCE OF BUILDING ASSEMBLIES BY MEANS OF A GUARDED HOT BOX- 2.1 HARDWARE A. MANUFACTURER H) HAGAR HINGE CO (B) BEST LOCK CORF J. ASTM E 90-90 -- STANDARD TEST METHOD FOR LABORATORY MEASUREMENT S) SIMPLEX FIREMAR (V) VON DUPRIN OF AIRBORNE SOUND TRANSMISSION LOSS OF BUILDING PARTITIONS - 1990. (L) LCN CLOSERS (F) FALCON LOCK CC K. ASTM E 152-81A -- STANDARD METHODS OF FIRE TESTS OF DOOR ASSEMBLIES-, (R) ROCKWOOD MFG (NG) NATIONAL GUARD PRODUCTS (RX) RIXON-FIREMAR B. HINGES: L. NFPA 80 -- STANDARD FOR FIRE DOORS AND WINDOWS; NATIONAL FIRE 1. STAINLESS-STEEL OR BRASS/BRONZE HINGES WITH STAINLESS-STEEL PINS PROTECTION ASSOCIATION - 1990. FOR EXTERIOR 2. NONREMOVABLE HINGE PINS FOR EXTERIOR AND PUBLIC INTERIOR . SDI 105-87 -- RECOMMENDED ERECTION INSTRUCTIONS FOR STEEL FRAMES-EXPOSURE. STEEL DOOR INSTITUTE - 1987. 3. BALL-BEARING HINGES FOR DOORS WITH CLOSERS AND ENTRY DOORS 4. TWO HINGES FOR 1-3/8-INCH- (35-MM-) THICK WOOD DOORS. 1.03 SUBMITTALS 5. THREE HINGES FOR 1-3/4-INCH- (45-MM-) THICK DOORS 90 INCHES (2300 A. SHOP DRAWINGS: DRAWINGS FOR FABRICATION AND INSTALLATION OF STEEL DOORS AND FRAMES, INCLUDING THE FOLLOWING INFORMATION: OR LESS IN HEIGHT; FOUR HINGES FOR DOORS MORE THAN 90 INCHES (2300 1. DETAILS OF CONSTRUCTION, JOINTS, AND CONNECTIONS 2. DETAILS OF EACH FRAME TYPE, INCLUDING ANCHORAGE IN HEIGHT 3. ELEVATIONS OF EACH OPENING TYPE C. LOCKSETS AND LATCHSETS: . CONDITIONS AT OPENINGS, INCLUDING COORDINATION WITH GLASS AND I. BHMA A156.2, SERIES 4000, GRADE [1] FOR BORED LOCKS AND LATCHES. GLAZING REQUIREMENTS BHMA A156.3, GRADE 1 FOR EXIT DEVICES. 5. LOCATION AND INSTALLATION REQUIREMENTS OF DOOR HARDWARE AND REINFORCEMENTS. 3. BHMA A156.5, GRADE [1] FOR AUXILIARY LOCKS. 6. SCHEDULE OF OPENINGS COORDINATED WITH NUMBERING SYSTEM USED IN 4. BHMA A156.12, SERIES 5000, GRADE [1] FOR INTERCONNECTED LOCKS CONTRACT DOCUMENTS. AND LATCHES. BHMA A156.13, SERIES 1000, GRADE [1] FOR MORTISE LOCKS AND LATCHES. 1.04 QUALITY ASSURANCE 6. [LEVER HANDLES] ON LOCKSETS AND LATCHSETS, BEST 14D. 7. PROVIDE TRIM ON EXIT DEVICES MATCHING LOCKSETS. A. QUALITY STANDARD: COMPLY WITH ANSI/SDI 100. D. KEY LOCKS TO OWNER'S NEW MASTER-KEY SYSTEM. B. LABELED ASSEMBLIES: AT ALL LOCATIONS, WHERE FIRE-RATED DOOR AND 1. CYLINDERS WITH [FIVE] OR [SIX]-PIN TUMBLERS[AND REMOVABLE CORES] FRAME ASSEMBLIES ARE REQUIRED, PROVIDE ASSEMBLIES WHICH COMPLY 2. PROVIDE CONSTRUCTION KEYING. WITH NFPA 80 AND HAVE BEEN TESTED AND LABELED IN ACCORDANCE WITH . PROVIDE KEY CONTROL SYSTEM, INCLUDING CABINET. ASTM E 152 BY AGENCY ACCEPTABLE TO GOVERNING AUTHORITIES. E. CLOSERS: 1.05 DELIVERY, STORAGE, AND HANDLING 1. MOUNT CLOSERS ON INTERIOR SIDE (ROOM SIDE) OF DOOR OPENING PROVIDE REGULAR-ARM, PARALLEL-ARM, OR TOP-JAMB-MOUNTED CLOSERS AS A. DELIVER PRODUCTS IN CRATES OR CARTONS SUITABLE FOR STORAGE NECESSAR) AT THE SITE. 2. ADJUSTABLE DELAYED OPENING (ACCESSIBLE TOPEOPLE WITH DISABILITIES) B. REPLACE ITEMS DAMAGES IN DELIVERY, UNLESS DAMAGE IS MINOR AND FEATURE ON CLOSERS. CAN BE REPAIRED TO MATCH INTACT ITEMS, AS DETERMINED BY THE OWNER F. PROVIDE WALL STOPS OR FLOOR STOPS FOR DOORS WITHOUT CLOSERS OR OWNER'S REPRESENTATIVE. 1. STORE PRODUCTS UNDER COVER, RAISED ABOVE GROUND LEVEL, AND STACKED TO PREVENT WARPING AND TO PROMOTE AIR CIRCULATION. . PREVENT MOISTURE FROM ACCUMULATING AND REMOVE SATURATED PACKAGING BEFORE PRODUCTS CAN BE DAMAGED. COUNTERSUNK, FLAT PHILLIPS-HEAD FASTENERS. USE SEX BOLTS FOR SURFACE ATTACHMENTS J. INSULATED ASSEMBLIES: AT EXTERIOR LOCATIONS, PROVIDE INSULATING Basis of Design Product: Subject to compliance with requirement DOOR AND FRAME ASSEMBLIES WHICH HAVE BEEN TESTED IN ACCORDANCE WITH ASTM C 236 FOR THERMAL RESISTANCE 1. MAXIMUM U-VALUE: 0.10 BTU PER HOUR PER SQUARE FOOT PER DEGREE FOR (10) days prior to bid date, and are accompanied by all related test reports and design calculations listed in section 1.4 and Design and Performance criteria Section 2.2. K. HARDWARE PREPARATION: COMPLY WITH ANSI A115 SERIES SPECIFICATIONS Substitute manufacturers will be approved by written addendum FOR DOOR AND FRAME PREPARATION, USING FINAL HARDWARE SCHEDULE AND 1. REINFORCEMENT: REINFORCE DOORS AND FRAMES FOR FIELD-INSTALLED EXPOSED HARDWARE ITEMS 2. LOCATIONS: COMPLY WITH FINAL SHOP DRAWINGS. SHOP PAINTING PREPARATION: CLEAN SURFACES THOROUGHLY BEFORE BEGINNING PAINTING OPERATIONS, REMOVING RUST, SCALE, OIL, GREASE, AND OTHER CONTAMINANTS 2. PRIMER: APPLY PRIMER EVENLY TO ACHIEVE FULL PROTECTION OF ALL EXPOSED SURFACES 2.03 STEEL DOORS A. GENERAL: FABRICATE STEEL DOORS IN ACCORDANCE WITH REQUIREMENTS OF ANSI/SDI 100. 1. TAG DOORS AND PANELS WITH OPENING NUMBER SHOWN IN SCHEDULE. 2. FABRICATE INTERIOR DOORS OF 18 GA. STEEL AND EXTERIOR DOORS OF 16 B. INTERIOR DOORS:

> ZFM FIRST BAPTIST CHURCH BATESVILLE, ARKANSAS ZFM NFM **SPECIFICATIONS** APPROVED BY OTHER APPROVALS CAGE CODE SP-1 CAD FILE NAME SHEET SP-1 OF FBC FINAL WORKING DWGS..vwx SCALE AS NOTED EST. WGT

SECTION 09260 - GYPSUM BOARD SYSTEMS

PART 1 - GENERA

1.01 REFERENCES

A. ASTM A 446/A446M-89-- STANDARD SPECIFICATION FOR STEEL SHEET, ZINC-COATED (GALVANIZED) BY THE HOT-DIP METHOD; 1989. B. ASTM A 641-89-- STANDARD SPECIFICATION FOR ZINC-COATED (GALVANIZED)CARBON STEEL WIRE - 1989 C. ASTM A 792-89-- STANDARD SPECIFICATION FOR STEEL SHEET, ALUMINUM ZINC ALLOY-COATED BY THE HOT-DIP METHOD - 1989. D. ASTM C 36-90 -STANDARD SPECIFICATION FOR GYPSUM WALLBOARD 1990. F. ASTM C 475-89 -- STANDARD SPECIF ICATION FOR JOINT COMPOUND

AND JOINT TAPE FOR FINISHING GYPSUM BOARD- 1989 F. ASTM C 630-90 -- STANDARD SPECIFICATION FOR WATER-RESISTANT GYPSUM BACKING BOARD - 1990 G. GA-600-88 FIRE RESISTANCE DESIGN MANUAL- GYPSUM ASSOCIATION1988. H. GYPSUM CONSTRUCTION HANDBOOK - USG CORPORATION - 1987.

A. SOUND-RATED CONSTRUCTION: WHERE INDICATED, PROVIDE

ASSEMBLIES WHICH HAVE BEEN LABORATORY-TESTED PER ASTM E 90 FOR DESIGNATED STC RATINGS. STC RATINGS: AS INDICATED ON DRAWINGS B. FIRE RESISTANCE VALUES: WHERE INDICATED, PROVIDE CONSTRUCTION

CONSTRUCTION BUILT IN ACCORDANCE WITH MANUFACTURERS

BUILT IN ACCORDANCE WITH UL AND/OR FM DESIGN PARAMETERS, FOR THE HOURLY RATING NOTED.

1.02 SYSTEM DESCRIPTION

1.03 QUALITY ASSURANCE A. REGULATORY REQUIREMENTS: AT LOCATIONS INDICATED ON DRAWINGS, PROVIDE FIRE-RATED ASSEMBLIES TESTED IN ACCORDANCE WITH ASTM E 119 AND ACCEPTABLE TO AUTHORITIES FOR RATINGS REQUIRED.

PROVIDE ASSEMBLIES AS LISTED IN THE FOLLOWING 1. GA-600, "FIRE RESISTANCE DESIGN MANUAL.

UNDERWRITERS LABORATORIES INC.'S (UL) "FIRE RESISTANCE DIRECTORY.' 1.04 DELIVERY, STORAGE, AND HANDLING

A. DELIVER MATERIALS IN ORIGINAL AND UNOPENED PACKAGES, CONTAINERS, OR BUNDLES, WITH BRAND. NAMES AND MANUFACTURER'S LABELS INTACT AND LEGIBLE. STORE MATERIALS IN DRY LOCATION, FULLY PROTECTED FROM WEATHER AND DIRECT EXPOSURE TO SUNLIGHT.

B. STACK GYPSUM BOARD PRODUCTS F LAT AND LEVEL, PROPERLY SUPPORTED TO PREVENT SAGGING OR DAMAGE TO ENDS AND EDGES.

C. STORE CORNER BEAD AND OTHER METAL AND PLASTIC ACCESSORIES TO PREVENT BENDING, SAGGING, DISTORTION, OR OTHER MECHANICAL DAMAGE.

1.05 PROJECT CONDITIONS

A. TEMPERATURE: MAINTAIN TEMPERATURE IN AREAS OF INSTALLATION BETWEEN 50AND 70 DEGREES F FOR AT LEAST 24 HOURS BEFORE INSTALLATION

BEGINS AND FOR NOT LESS THAN 48 HOURS AFTER JOINT FINISHING HAS VENTILATION: PROVIDE CONTROLLED VENTILATION DURING JOINT FINISHING

- OPERATIONS, TO ELIMINATE EXCESSIVE MOISTURE. AVOID DRAFTS DURING HOT, DRY WEATHER TO PREVENT EXCESSIVELY FAST DRYING OF JOINT COMPOUND PART 2 - MATERIALS
- 2.01 GYPSUM WALL BOARD (GWB)

A. GYPSUM WALL BOARD : ASTM C 36, 5 / 8 " THICK, TYPE X FOR FIRE RESISTANT ASSEMBLIES, AND ALL OTHER LOCATIONS.

2.02 TRIM AND ACCESSORIES

A. GENERAL: EXCEPT AS OTHERWISE SPECIF ICALLY INDICATED. PROVIDE TRIM AND ACCESSORIES BY MANUFACTURER OF GYPSUM BOARD MATERIALS, MADE OF GALVANIZED STEEL OR ZINC ALLOY AND CONF GURED FOR CONCEALMENT IN JOINT COMPOUND 1. INCLUDE CORNER BEADS, EDGE TRIM, AND OTHER TRIM UNITS NECESSARY FOR PROJECT CONDITIONS. PROVIDE ACCESSORIES AS REQUIRED IN ORDER TO ACHIEV DETAILS INDICATED, WHETHER OR NOT SPECIFIC ACCESSORIES ARE SHOWN ON THE DRAWINGS

B. CONTROL JOINTS: AT MAXIMUM SPACING OF 30'-0", PROVIDE MANUFACTURER'S STANDARD ONE-PIECE CONTROL JOINTS OF EXTRUDED VINYL, ZINC ALLOY, OR OTHE NONCORROSIVE METAL.

2.04 JOINT TREATMENT A. GENERAL: PROVIDE PRODUCTS BY MANUFACTURER OF GYPSUM BOARDS. COMPLY WITH ASTM C 475 AND WITH MANUFACTURER'S RECOMMENDATIONS FOR SPECIFIC PROJECT CONDITIONS

B. JOINT TAPE: MANUFACTURER'S STANDARD PAPER TYPE

C. JOINT TAPE: IF RECOMMENDED BY MANUFACTURER, PROVIDE OPEN-WEAVE FIBERGLASS TAPE FOR JOINT TREATMENT OF WATER-RESISTANT GYPSUM BACKING D. JOINT COMPOUND: CHEMICAL HARDENING TYPE, FOR THE FOLLOWING

- APPLICATIONS: INTERIOR US
- a. LAMINATING DOUBLE-LAYER SYSTEMS.
- E. JOINT COMPOUND: VINYL-BASED READY-MIXED TYPE FOR INTERIOR USE, AND AS 1. ALL-PURPOSE TYPE. FOR BOTH EMBEDDING TAPE AND AS TOPPING.
- 2.05 MISCELLANEOUS MATERIALS
- A. GENERAL: PROVIDE MISCELLANEOUS MATERIALS AS PRODUCED OR RECOMMENDED BY MANUFACTURER OF GYPSUM PRODUCTS. B. SCREWS: ASTM C 1002- SELF-DRILLING TYPE-- LENGTHS AS RECOMMENDED BY
- GYPSUM BOARD MANUFACTURER FOR PROJECT CONDITIONS.
- C. LAMINATING ADHESIVE: ASTM C 475, AS RECOMMENDED BY MANUFACTURER OF GYPSUM BOARD.
-]. D. ACOUSTICAL SEALANTS: ASTM C 919- NONDRYING, NONHARDENING, NONSKINNIN TYPE FOR CONCEALED LOCATIONS- NONOXIDIZING, SKINNING TYPE FOR EXPOSED LOCATIONS. E. SEALING: AT WATER-RESISTANT GYPSUM BACKING BOARD. PROVIDE TYPE I
- ORGANIC ADHESIVE PER ANSI A136.1.
- S C. JOINT REINFORCEMENT AS FOLLOWS:
- 1. REINFORCING TAPE: EXTERIOR TAPE, 2 INCHES WIDE, POLYMER-COATED, WOVEN GLASS-FIBER MESH WITH PRESSURE SENSITIVE ADHESIVE ON ONE SIDE. 2. JOINT COMPOUND: EXTERIOR BASECOAT, READY-TO-MIX PORTLAND CEMENT MORTAR CONTAINING DRY LATEX POLYMERS, GRAY.
- D. SURFACE CONTROL JOINT: USG NO. 093 CONTROL JOINT, OR EQUIVILENT, ROLL-FORMED ZINC
- E. TRIM ACCESSORIES: CORNER BEADS AND 5/8 INCH TRIM ANGLES, ZINC ALLOY.

PART 3 - EXECUTION

3.01 INSTALLATION OF GYPSUM BOARD (GWB)

AND WITH ALL JOINTS OFFSET.

SEALING OF PENETRATIONS AND EDGES.

- A. GENERAL: COMPLY WITH ASTM C 840 AND GA-216 EXCEPT WHERE EXCEEDED BY OTHER REQUIREMENTS.
- 1. WHEREVER POSSIBLE, INSTALL GWB OR CBB TO MINIMIZE BUTT END JOINTS. 2. APPLY CEILING BOARDS PRIOR TO INSTAL.LATION OF WALLBOARDS. ARRANGE TO MINIMIZE BUTT END JOINTS NEAR CENTER OF CEILING AREA.
- 3. INSTALL WALLBOARDS IN A MANNER WHICH WILL MINIMIZE BUTT END JOINTS IN CENTER OF WALL AREA. STAGGER VERTICAL JOINTS ON OPPOSITE SIDES OF WALLS. . BUTT ALL JOINTS LOOSELY, WITH MAXIMUM OF 1/16 INCH BETWEEN BOARDS. 5. PLACE WRAPPED EDGES ADJACENT TO ONE ANOTHER; DO NOT PLACE CUT EDGES OR BUTT ENDS ADJACENT TO WRAPPED EDGES. 6. SUPPORT ALL EDGES AND ENDS OF EACH BOARD ON FRAMING OR BY SOLID
- SUBSTRATE, EXCEPT THAT LONG EDGES AT RIGHT ANGLES TO FRAMING MEMBERS IN NON-FIRE-RATED CONSTRUCTION MAY BE LEFT UNSUPPORTED. 7. IN DOUBLE-LAYER CEILING WORK, APPLY BASE LAYER WITH LONG EDGES PERPENDICULAR TO FRAMING MEMBERS, WITH FACE LAYER IN OPPOSITE DIRECTION,
- B. CONTROL JOINTS: FORM CONTROL JOINTS BY MEANS OF 1/4-INCH SPACE BETWEEN ADJACENT GWB OR CBB, WITH EACH EDGE SUPPORTED ON SEPARATE FRAMING MEMBER, READY TO RECEIVE TRIM ACCESSORY, AND LOCATED AS SHOWN ON THE DRAWINGS AND AS FOLLOWS:
- 1. NOT MORE THAN 30 FEET APART ON WALLS WHICH ARE NOT INTERSECTED BY OTHER WALLS FOR 50 FEET OR MORE. 2. AT EXTERIOR SOFFITS, NOT MORE THAN 30 FEET APART IN BOTH DIRECTIONS. C. SOUND-RATED CONSTRUCTION: SEAL PERIMETER OF CONSTRUCTION WITH ACOUSTICAL SEALANT, COMPLYING WITH ASTM C 919. CAREFULLY SEAL AROUND PENETRATIONS AND AT CONTROL JOINTS AND OTHER OPENINGS.
- 1. AT PARTITIONS SHOWN OR WHERE REQUIRED FOR STC RATINGS INDICATED, INSTALL CELBAR SPRAY ON INSULATION AFTER GWB OR CBB HAS BEEN INSTALLED ON ONE SIDE. D. INSTALLATION ON WOOD OR METAL METAL FRAMING AS INDICATED:
- 1. SINGLE-LAYER APPLICATION: INSTALL GWB OR CBB BY MEANS OF SCREW ATTACHMENT. a. ON WALLS AND PARTITIONS, PLAN INSTALLATION SO THAT LEADING EDGE OR END
- E. OF GWB OR CBB IS ATTACHED TO OPEN END OF STUD FLANGE FIRST. 2. FOR FIRE-RATED CONSTRUCTION, INSTALL GWB OR CBB BY MEANS OF SCREWS AS SPECIFIED FOR THE TESTED ASSEMBLY
- 3. AT "WET" LOCATIONS, AND AT ALL AREAS INDICATED TO RECEIVE CERAMIC TILE FINISH, 5/8" CEMENT BOARD, COMPLYING WITH MANUFACTURER'S RECOMMENDATIONS FOR INSTALLATION, INCLUDING MINIMUM CLEARANCES AND

3.02 INSTALLATION OF TRIM AND ACCESSORIES

A. GENERAL: COMPLY WITH MANUFACTURER'S RECOMMENDATIONS FOR INSTALLATION OF TRIM ITEMS. EXCEPT FOR ITEMS INTENDED BY MANUFACTURER TO BE LEFT EXPOSED OR SEMIEXPOSED, INSTALL TRIM UNITS FOR CONCEALMENT IN JOINT F INISHING COMPOUND, WHEREVER POSSIBLE, FASTEN METAL TRIM ITEMS TO SUBSTRATE WITH SAME FASTENERS USED TO INSTALL GYPSUM BOARD PRODUCTS. 1. CORNER BEAD: INSTALL METAL CORNER BEAD AT ALL EXTERNAL CORNERS UNLESS DETAILS CLEARLY INDICATE ITS OMISSION AT SPECIF IC LOCATIONS. 2. EDGE TRIM: INSTALL EDGE TRIM AT LOCATIONS INDICATED AND WHEREVER EDGE OF GYPSUM BOARD OTHERWISE WOULD BE EXPOSED. 3. CONTROL JOINTS: INSTALL ONE-PIECE CONTROL JOINTS AT REQUIRED LOCATIONS DO NOT REMOVE TAPE UNTIL FINISHING OPERATIONS ARE COMPLETE. 3.03 FINISHING

A. GENERAL: COMPLY WITH ASTM C 840 AND GA-216 EXCEPT WHERE EXCEEDED BY OTHER REQUIREMENTS 1. DO NOT MIX JOINT COMPOUNDS EXCEPT AS SPECIF ICALLY RECOMMENDED BY MANUFACTURER.

- B. FINISH GYPSUM BOARD IN ACCORDANCE WITH THE FOLLOWING LEVEL OF FINISH, EXCEPT WHERE INDICATED OTHERWISE ON THE DRAWINGS: 1. LEVEL 4: EMBED TAPE IN JOINT COMPOUND AT ALL JOINTS AND INTERIOR ANGLES PROVIDE THREE SEPARATE COATS OF COMPOUND AT ALL JOINTS, ANGLES, FASTENE HEADS, AND ACCESSORIES. PROVIDE SMOOTH SURFACES FREE OF TOOL MARKS AND
- C. JOINT TREATMENT: TAPE AND FINISH JOINTS IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS FOR COMPOUNDS USED, USING PROPER **TOOLS DESIGNED FOR THE PURPOSE.** 1. AVOID RAISING NAP OF FACE PAPER WHEN SANDING- CAREFULLY SPONGE DOWN ANY AREAS ROUGHENED BY SANDING PROCESS.
- 2. PARTICULAR CARE SHALL BE TAKEN IN ALL TAPING AND FINISHING OPERATIONS TO ENSURE INVISIBILITY OF JOINTS AND PATCHING.
- D.PENETRATIONS: FILL CUTOUTS AND OPENINGS AROUND FIXTURES AND PENETRATIONS WITH JOINT COMPOUND 3.04 CLEANING
- A. PROMPTLY REMOVE ANY RESIDUAL GYPSUM DRYWALL MATERIALS FROM
- ADJACENT OR ADJOINING SURFACES, LEAVING SPACES READY FOR SUBSEQUENT FINISHINGOPERATIONS AND DECORATING.
- END OF SECTION 09260
- SECTION 09653 RESILIENT WALL BASE AND ACCESSORIES
- PART 1 GENERAL 1.1 SECTION REQUIREMENTS
- A. SUBMITTALS: PRODUCT DATA AND SAMPLES.
- B. EXTRA MATERIALS: DELIVER TO OWNER AT LEAST 30 LINEAR FEET , OF EACH TYPE AND COLOR OF RESILIENT WALL BASE INSTALLED.
- PART 2 PRODUCTS 2.1 WALL BASE.
- A. PRODUCTS:
- 1. FLEXCO, A DIVISIN OF TEXTILE RUBBER CO. B. COLOR AND PATTERN: TO BE SELECTED BY CLIENT.
- C. STYLE: [COVE (WITH TOP-SET TOE)]
- F. MINIMUM THICKNESS: [0.080 INCH (2.0 MM). G. HEIGHT: [4 INCHES (101.6 MM)]
- H. LENGTHS: [CUT LENGTHS 48 INCHES (1219.2 MM) LONG] [OR]
- [COILS IN MANUFACTURER'S STANDARD LENGTHS]. I. OUTSIDE CORNERS: [PREMOLDED].
- J. INSIDE CORNERS: [PREMOLDED].
- 2.2 INSTALLATION ACCESSORIES A. TROWELABLE LEVELING AND PATCHING COMPOUNDS:

LATEX-MODIFIED, PORTLAND CEMENT- OR BLENDED HYDRAULIC CEMENT-BASED FORMULATION PROVIDED OR APPROVED BY FLOORING MANUFACTURER FOR APPLICATIONS INDICATED. B. ADHESIVES: WATER-RESISTANT TYPE RECOMMENDED BY

MANUFACTURER TO SUIT PRODUCTS AND SUBSTRATE CONDITIONS.

C. STAIR-TREAD-NOSE FILLER: TWO-PART EPOXY COMPOUND RECOMMENDED BY RESILIENT TREAD MANUFACTURER TO FILL NOSING SUBSTRATES THAT DO NOT CONFORM TO TREAD CONTOURS PART 3 - EXECUTION

- 3.1 INSTALLATION A. PREPARE CONCRETE SUBSTRATES ACCORDING TO ASTM F 710. VERIFY THAT SUBSTRATES ARE DRY AND FREE OF CURING COMPOUNDS, SEALERS, AND HARDFNFRS
- B. ADHESIVELY INSTALL RESILIENT WALL BASE AND ACCESSORIES. . INSTALL WALL BASE IN MAXIMUM LENGTHS POSSIBLE. APPLY TO WALLS
- COLUMNS, PILASTERS, CASEWORK, AND OTHER PERMANENT FIXTURES IN
- ROOMS OR AREAS WHERE BASE IS REQUIRED. D. INSTALL STAIR-TREAD-NOSE FILLER TO NOSING SUBSTRATES THAT DO NOT
- CONFORM TO TREAD CONTOURS. E. INSTALL REDUCER STRIPS AT EDGES OF FLOOR COVERINGS THAT WOULD
- OTHERWISE BE EXPOSED END OF SECTION 09653

SECTION 09900 - PAINTING

PART 1 - GENERAL

1.01 SUMMARY:

- A. SECTION INCLUDES:
- 1. PAINTING AND FINISHING OF EXPOSED INTERIOR ITEMS AND SURFACES.
- 2. SECTION DOES NOT INCLUDE:
- PRE-FINISHED ITEMS.
- 4. CONCEALED SURFACES, UNLESS SPECIFICALLY INDICATED.
- 5. OPERATING PARTS.
- 1.02 DEFINITIONS:
- A. DFM (DRY FILM MILS): THICKNESS, MEASURED IN MILS, OF A COAT OF PAINT IN THE CURED STATE. PLATES

A. PRODUCT DATA: SUBMIT COMPLETE COLOR BOOK AND/OR STAIN SAMPLES ON DENTIFICATION, OF PERFORMANCE RATING, NAME, OR NOMENCLATURE 3.03 SURFACE PREPARATION: 1.03 SUBMITTALS: SPECIFIED WOOD.

B. CERTIFICATION THAT EACH PRODUCT MEETS OR EXCEEDS VOC AND OTHER ENVIRONMENTAL STANDARDS PER FEDERAL, AND LOCAL LAW, AND THE LAWS OF THE STATE IN WHICH THE PROJECT IS BEING BUILT.

C. EQUIVALENCY CHART: CONTRACTORS PROPOSING TO USE A MANUFACTURER C. REMOVE ELECTRICAL PLATES, HARDWARE, LIGHT FIXTURE TRIM, AND NOT LISTED HEREIN SHALL SUBMIT A TABULAR SUMMARY OF EACH PRODUCT FITTINGS PRIOR TO PREPARING OR FINISHING SURFACES. BEING PROPOSED COMPARED TO COMPARABLE PRODUCTS AS MANUFACTURED BY BENJAMIN MOORE. EACH SPACE OR AREA.

1.04 SINGLE SOURCE RESPONSIBILITY:

1.08 COORDINATION:

OTHERS.

A. GLIDDEN

PART 2 - MATERIALS

C. BENJAMIN MOORE

MANUFACTURER.

3.01 INSPECTION:

CONTRACTOR.

SPECIFIED.

PART 3 - EXECUTION

B. SAND SMOOTH THOSE FINISHED SURFACES EXPOSED TO VIEW, AND DUST B. APPLICATOR: FIRM WITH NOT LESS THAN 3 YEARS OF SUCCESSFUL EXPERIENCE IN PAINTING WORK SIMILAR IN SCOPE TO WORK OF THIS PROJECT. 1.05 MAINTAIN THROUGHOUT DURATION OF THE WORK A CREW OF PAINTERS OF WHITE SHELLAC OR OTHER RECOMMENDED KNOT SEALER BEFORE APPLICATION OF PRIMING COAT.

C. SCRAPE AND CLEAN SMALL, DRY, SEASONED KNOTS AND APPLY A THIN COAT MANUFACTURER. 3. APPLY ADDITIONAL COATS AT NO ADDITIONAL COST TO THE OWNER WHEN WHO ARE FULLY QUALIFIED TO SATISFY REQUIREMENTS OF THE NECESSARY TO ACHIEVE COMPLETE HIDING, UNIFORM TEXTURE, OR UNIFORM SPECIFICATIONS. SHEEN AND APPEARANCE. D. AFTER PRIMING, FILL HOLES AND IMPERFECTIONS IN FINISH SURFACES WITH

A. ALL MATERIALS REQUIRED BY THIS SECTION SHALL BE PROVIDED BY A SINGLE MANUFACTURER, UNLESS OTHERWISE REQUIRED OR APPROVED.

1.06 DELIVERY, STORAGE, AND HANDLING: A. REGARDLESS OF THE MANUFACTURER BEING USED, ALL PAINT MATERIALS SHALL BE PURCHASED IN THE STATE WHERE THE PROJECT IS BEING BUILT.

B. DELIVERY: DELIVERY MATERIALS TO PROJECT SITE IN ORIGINAL, NEW AND LABEL AND THE FOLLOWING INFORMATION.

1. NAME OF TITLE OF MATERIAL

2. MANUFACTURER'S STOCK NUMBER AND DATE OF MANUFACTURE. 3. MANUFACTURER'S NAME.

R 4. CONTENTS BY VOLUME FOR MAJOR PIGMENT AND VEHICLE CONSTITUENTS. 3.07 GYPSUM BOARD: 5. THINNING INSTRUCTIONS.

6. APPLICATION INSTRUCTIONS.

COLOR NAME AND NUMBER.

C. STORE MATERIALS IN TIGHTLY COVERED CONTAINERS.

A. GENERAL: PERFORM WORK IN PROPER SEQUENCE WITH WORK OF OTHER TRADES TO AVOID DAMAGE TO FINISHED WORK.

B. PRIMERS: PROVIDE FINISH COATS WHICH ARE COMPATIBLE WITH PRIME COATS USED. REVIEW OTHER SECTIONS OF THESE SPECIFICATIONS IN WHICH COATINGS SYSTEM FOR VARIOUS SUBSTRATES.

C. UPON REQUEST, FURNISH INFORMATION TO OTHER TRADES ON CHARACTERISTICS OF FINISH MATERIALS PROPOSED FOR USE. PROVIDE BARRIER COATS OVER INCOMPATIBLE PRIMERS, OR REMOVE AND RE-PRIME AS A. GENERAL REQUIRED. NOTIFY THE ARCHITECT IN WRITING OF ANY ANTICIPATED PROBLEMS USING SPECIFIED COATING SYSTEMS WITH SUBSTRATES PRIMED BY

2.01 ACCEPTABLE MANUFACTURERS:

1. EXCEPT AS OTHERWISE SPECIFIED, MATERIALS SHALL BE THE PRODUCTS OF THE FOLLOWING MANUFACTURERS:

B. SHERWIN WILLIAMS, CO. (SPECIFIED)

2.02 MATERIALS SELECTED FOR COATING SYSTEMS FOR EACH TYPE SURFACE SHALL BE THE PRODUCT OF A SINGLE MANUFACTURER.

2.03 MIXING AND TINTING:

A. DELIVER PAINTS AND ENAMELS READY-MIXED TO JOB SITE.

INSTRUCTED BY THE PROJECT MANUFACTURER.

B. FUNGICIDAL AGENT SHALL BE INCORPORATED INTO PAINT BY

A. VERIFY THAT SURFACES AND CONDITIONS ARE READY FOR WORK AS

B. EXAMINE SURFACES SCHEDULED TO BE FINISHED, PRIOR TO COMMENCEMENT OF WORK.

C. REPORT ANY UNSATISFACTORY CONDITIONS IN WRITING TO THE

D. DO NOT PROCEED WITH WORK UNTIL UNSATISFACTORY CONDITIONS HAVE BEEN CORRECTED IN A MANNER ACCEPTABLE TO THE APPLICATOR. STARTING OF PAINTING WORK IN ANY PARTICULAR AREA WILL BE CONSTRUED AS ACCEPTANCE OF SURFACES AND CONDITIONS WITHIN THAT AREA.

3.02 DO NOT PAINT OVER ANY CODE-REQUIRED LABELS, EQUIPMENT

A. GENERAL: PREPARE AND CLEAN EACH SUBSTRATE CONDITION IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS AND AS HEREIN

B. PROVIDE BARRIER COATS OR REMOVE AND RE-PRIME INCOMPATIBLE PRIMERS AS REQUIRED.

D. REINSTALL REMOVED ITEMS FOLLOWING THE COMPLETION OF PAINTING OF

E. CLEAN SURFACES BEFORE APPLYING SURFACE TREATMENT.

F. REMOVE OIL AND GREASE PRIOR TO MECHANICAL CLEANING.

G. COORDINATE CLEANING AND PAINTING TO ENSURE THAT NO CLEANING CONTAMINANTS WILL FALL ONTO NEWLY COATED AREAS. 3.04 CEMENTITIOUS MATERIALS:

A. PREPARE CEMENTITIOUS SURFACES TO BE COATED BY REMOVING EFFLORESCENCE, CHALK, DUCT, DIRT, GREASE, AND OILS, AND BY ROUGHENING AS REQUIRED TO REMOVE GLAZE.

B. DETERMINE ALKALINITY AND MOISTURE CONTENT OF SURFACES TO BE COATED BY PERFORMING APPROPRIATE TESTS.

C. DO NOT APPLY COATINGS OVER SURFACES WHERE TEST RESULTS EXCEED PERMITTED IN MANUFACTURER'S PRINTED DIRECTIONS.

D. AFTER AGING AS RECOMMENDED BY COATING MANUFACTURER, PREPARE CONCRETE FLOOR SURFACES TO BE COATED WITH AN ACID ETCHING CLEANER

E. FLUSH FLOOR WITH CLEAN WATER.

F. ALLOW TO DRY BEFORE APPLYING COATINGS.

3.05 WOOD:

A. CLEAN WOOD SURFACES TO BE COATED WITH SCRAPERS, MINERAL SPIRITS, AND SANDPAPER, AS REQUIRED.

PUTTY, PLASTIC WOOD-FILLER, OR EXTERIOR CAULKING COMPOUND AS APPLICABLE.

E. SAND SMOOTH WHEN DRIED.

3.06 FERROUS METALS:

UNOPENED PACKAGES AND CONTAINER BEARING THE MANUFACTURER'S NAME A. CLEAN FERROUS SURFACES WHICH ARE NOT GALVANIZED OR SHOP-COATED, REMOVING OIL, GREASE, DIRT, LOOSE MILL SCALE, OR OTHER FOREIGN SUBSTANCES BY MEANS OF SOLVENTS, WIRE BRUSHING, HAND-OR POWER-TOOL WORK IS NOT IN COMPLIANCE WITH SPECIFIED REQUIREMENTS. CLEANING, OR SANDBLASTING TO ACHIEVE DEGREE OF PREPARATION RECOMMENDED BY COATING MANUFACTURER, EXCEPT WHERE SPECIFIC AND MORE STRINGENT REQUIREMENTS ARE CONTAINED IN THE CONTRACT DOCUMENTS.

- A. LATEX-FILL MINOR DEFECTS.
- B. SPOT-PRIME DEFECTS AFTER REPAIR.
- C. MILDEW: REMOVE MILDEW BY SCRUBBING WITH SOLUTION OF TRISODIUM PHOSPHATE AND BLEACH. RINSE WITH CLEAN WATER AND ALLOW SURFACE TO FINISHING WORK.
- 3.08 MATERIALS PREPARATION:

A. MIX AND PREPARE COATINGS MATERIALS IN ACCORDANCE WITH MANUFACTURER'S DIRECTIONS.

B. STIR MATERIALS BEFORE APPLICATION, TO PRODUCE A MIXTURE OF UNIFORM DENSITY; STIR AS REQUIRED DURING APPLICATION.

C. DO NOT STIR FILM INTO MATERIAL.

PRIME COATS ARE TO BE PROVIDED, TO ENSURE COMPATIBILITY OF TOTAL D. REMOVE FILM, AND IF NECESSARY STRAIN MATERIAL BEFORE USING E. MAINTAIN CONTAINERS USED IN MIXING AND APPLICATION OF COATING IN A

> CLEAN CONDITION, FREE OF FOREIGN MATERIALS AND RESIDUE. 3.09 APPLICATION

OF MATERIAL BEING APPLIED.

1. APPLY COATING IN ACCORDANCE WITH MANUFACTURER'S DIRECTIONS 2. USE APPLICATORS AND TECHNIQUES BEST SUITED FOR SUBSTRATE AND TYPE B. METAL: FACTORY PRIMED (GLOSS)

SURFACE IMPERFECTIONS WILL NOT BE ACCEPTABLE.

4. WHERE ITEMS OR SURFACES ARE NOT SPECIFICALLY MENTIONED, COAT THE SAME AS SIMILAR ADJACENT MATERIALS OR AREAS. 5. IF COLOR OR FINISH IS NOT DESIGNATED, THE OWNER OR OWNER'S

REPRESENTATIVE WILL SELECT THESE FROM STANDARD COLORS OR FINISH AVAILABLE.

6. APPLY ADDITIONAL COATS UNTIL DRY FILM IS OF UNIFORM FINISH, COLOR AND APPEARANCE.

7. ENSURE THAT ALL SURFACES RECEIVE A DRY FILM THICKNESS EQUIVALENT TO THOSE OF FLAT SURFACES.

8. COAT SURFACES BEHIND MOVABLE EQUIPMENT AND FURNITURE THE SAME AS SIMILAR EXPOSED SURFACES.

9. COAT SURFACES BEHIND PERMANENTLY FIXED EQUIPMENT OR FURNITURE WITH PRIME COAT ONLY, BEFORE FINAL INSTALLATION OF EQUIPMENT.

- 10. PAINT INTERIOR SURFACES OF DUCTS WHERE VISIBLE THROUGH REGISTERS OR GRILLES WITH A FLAT NON-SPECULAR BLACK PAINT. 11. COAT BACK SIDES OF ACCESS PANELS AND REMOVABLE OR HINGED COVERS
- TO MATCH EXPOSED SURFACES.

12. FINISH EXTERIOR DOORS ON TOP, BOTTOMS, AND SIDE EDGES THE SAME AS EXTERIOR FACES UNLESS OTHERWISE INDICATED.

13. SAND LIGHTLY BEFORE EACH SUCCEEDING ENAMEL OR VARNISH COAT.

3.10 SCHEDULING:

A. APPLY FIRST COAT MATERIAL TO PREPARED SURFACES AS SOON AS PRACTICABLE AND BEFORE SURFACE DETERIORATION.

B. APPLY SUCCESSIVE COATS WITHIN THE TIME LIMITS RECOMMENDED BY THE MANUFACTURER.

3.11 PRIME COATS: A. GENERAL:

1. APPLY PRIME COAT ON MATERIAL WHICH IS REQUIRED TO BE PAINTED OR FINISHED, AND WHICH HAS NOT BEEN PRIME COATED BY OTHERS.

2. OMIT BOTTOM COAT (PRIMER) ON METAL SURFACES WHICH HAVE BEEN SHOP-PRIMED, UNLESS OTHERWISE INDICATED.

3. TOUCH UP SHOP-APPLIED PRIME COATS WHEREVER DAMAGED OR BARE. CLEAN AND TOUCH UP WITH SAME TYPE SHOP PRIMER.

4. PRIMERS FOR WOOD AND WOOD PRODUCTS:

5. PRIME, STAIN OR SEAL WOOD REQUIRED TO BE FIELD COATED IMMEDIATELY UPON DELIVERY TO PROJECT SITE.

6. PRIME ALL SURFACES OF INTERIOR WOOD, INCLUDING EDGES, ENDS, FACES, UNDERSIDES, AND BACK SIDES.

3.12 FINISH COATS:

A. GENERAL

1. APPLY NOT LESS THAN THE NUMBER OF COATS INDICATED.

2. APPLY MATERIALS AT RATE TO ESTABLISH A TOTAL DRY FILM THICKNESS AS INDICATED OR, IF NOT INDICATED, AS RECOMMENDED BY COATING

4. APPLY BLOCK FILLERS USING MANUFACTURER'S RECOMMENDED APPLICATION TECHNIQUES AND ACHIEVING A PIN-HOLE FREE SURFACE. 3.13 COMPLETED WORK:

A. MATCH APPROVED SAMPLES FOR COLOR, TEXTURE, AND COVERAGE.

B. REMOVE, REFINISH, OR REPAINT WORK AS DIRECTED BY THE OWNER WHEN

3.14 CLEANING AND PROTECTION:

A. CLEANING:

1. DURING PROGRESS OF WORK, REMOVE FROM SITE DISCARDED MATERIALS, RUBBISH, CANS, AND RAGS AT END OF EACH WORK DAY. 2. UPON COMPLETION OF PAINTING WORK, CLEAN WINDOW GLASS AND OTHER PAINT-SPATTERED SURFACES.

B. PROTECTION

1. PROTECT WORK OF OTHER TRADES AGAINST DAMAGE BY PAINTING AND

2. CORRECT ANY DAMAGE TO THE OWNER'S SATISFACTION.

3. PROVIDE "WET PAINT" SIGNS AS REQUIRED TO PROTECT NEWLY COATED FINISHES.

4. REMOVE TEMPORARY PROTECTIVE WRAPPINGS PROVIDED BY OTHERS FOR PROTECTION OF THEIR WORK, AFTER COMPLETION OF PAINTING OPERATIONS.

5. AT COMPLETION OF WORK OF OTHER TRADES, TOUCH UP AND RESTORE ALL DAMAGED OR DEFACED COATED SURFACES.

3.15 STANDARD OF COMPARISON:

3.16 EXTERIOR PAINTING SCHEDULE:

3.17 INTERIOR PAINT SCHEDULE

SEMI-GLOSS ENAMEL

SEMI-GLOSS ENAMEL

END OF SECTION 9900

PART 1 - GENERAL

1.01 SUBMITTALS

1.02 PRODUCTS

OPTIONS AND FINISHES.

A. GYPSUM WALL BOARD & WOOD (FLAT)

B. GYPSUM WALL BOARD & WOOD (SEMI-GLOSS)

C. METAL: FACTORY PRIMED (EGG-SHELL)

D. METAL: FACTORY PRIMED (SEMI-GLOSS)

1. AMERICAN SPECIALTIES, INC. (SPECIFIED).

BOBRICK WASHROOM EQUIPMENT, INC.

2. GALVANIZED STEEL MOUNTING DEVICES: ASTM A 153, HOT-DIP

1. TOILET PAPER DISPENSER (DOUBLE): ASI 0264-1A.

PAPER TOWEL DISPENSER: ASI 0210

5. GRAB BAR: 36" & 42" ASI 3954 - TYPE 01.

3. SOAP DISPENSER: ASI 0342

PART 3 - EXECUTION

3.01 INSTALLATION:

3. BRADLEY CORPORATION.

GALVANIZED AFTER FABRICATION.

PART 2 - MATERIALS

ACCESSORY ITEMS:

OBTAIN RECEIPT.

2.02 PRODUCTS:

2.01 GENERAL:

A. METAL: GALVANIZED (GLOSS)

1. PRIMER: GALVITE HS-B5OWZ30

A. PRODUCTS SPECIFIED, UNLESS OTHERWISE INDICATED, ARE AS MANUFACTURED BY SHERWIN WILLIAMS, CO. (S-W). SIMILAR PRODUCTS OF ACCEPTABLE MANUFACTURERS LISTED MAY BE FURNISHED IN PLACE OF THOSE

1. PRIMER: PREP-RITE 200 INTERIOR LATEX WALL PRIMER

1. PRIMER: PREP-RITE 200 INTERIOR LATEX WALL PRIMER

2. SECOND AND THIRD COATS: PROMAR 200 INTERIOR LATEX

1. SECOND AND THIRD COATS: PROMAR 200 INTERIOR LATEX

1. SECOND & THIRD COATS: POMAR 200 INTERIOR LATEX

2. SECOND AND THIRD COATS: PROMAR 200 INTERIOR LATEX

SECTION 10800 - TOILET & BATH ACCESSORIES

A. MANUFACTURER'S PRODUCT DATA FOR EACH TOILET AND ACCESSORY ITEM SPECIFIED, INCLUDING DETAILS OF CONSTRUCTION RELATIVE TO MATERIALS DIMENSIONS, GAGES, PROFILES, METHOD OF MOUNTING, SPECIFIED

A. MANUFACTURERS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE TOILET ACCESSORIES BY OR ONE OF THE FOLLOWING:

A. FABRICATE TOILET ACCESSORY ITEMS FROM THE FOLLOWING MATERIALS AND IN ACCORDANCE WITH REQUIREMENTS SPECIFIED FOR INDIVIDUAL 1. STAINLESS STEEL: AISI TYPE 302/304, WITH POLISHED NO. 4 FINISH, 22-GAGE(.034-INCH) MINIMUM THICKNESS, UNLESS OTHERWISE INDICATED.

3. FASTENERS: SCREWS, BOLTS AND OTHER DEVICES OF SAME MATERIALS AS ACCESSORY UNIT OR OF GALVANIZED STEEL WHERE CONCEALED. 4. KEYS: PROVIDE UNIVERSAL KEYS FOR ACCESS TO TOILET ACCESSORY UNITS REQUIRING INTERNAL ACCESS FOR SERVICING, RE-SUPPLY, ETC. PROVIDE MINIMUM OF SIX (6) KEYS TO OWNER'S REPRESENTATIVE AND

A. INSTALL TOILET AND BATH ACCESSORY UNITS IN ACCORDANCE WITH MANUFACTURERS' PRINTED INSTALLATION INSTRUCTIONS, USING FASTENERS APPROPRIATE TO SUBSTRATE AS RECOMMENDED BY MANUFACTURER OF UNIT.

| DRAWN BY ZFM BATESVILLE, ARKANSAS CHECKED BY NFM APPROVED BY TITLE DTHER APPROVALS SIZE CAD FILE NAME FBC FINAL WORKING DWGSvwx SCALE AS NOTED EST. WGT | | FIRST BAPTIST CHURCH BATESVILLE, ARKANSAS | | | | | |
|---|---------------------------|--|-----------|------|------------------------|---------------|-----|
| CHECKED BY NFM APPROVED BY SPECIFICATIONS OTHER APPROVALS SIZE CAGE CODE DRAWING NUMBER REV CAD FILE NAME FBC FINAL WORKING DWGSvwx SCALE AS NOTED EST. WGT SHEET SP-2 OF | DRAWN BY ZFM | | | | | | |
| APPROVED BY SFECTFICATIONS DTHER APPROVALS SIZE CAGE CODE DRAWING NUMBER REV CAD FILE NAME FBC FINAL WORKING DWGSvwx SCALE AS NOTED EST. WGT SHEET SP-2 | CHECKED BY NFM | | | | | | |
| DTHER APPROVALS SIZE CAGE CODE DRAWING NUMBER SP-2 REV CAD FILE NAME FBC FINAL WORKING DWGSvwx SCALE AS NOTED EST. WGT SHEET SP-2 OF | APPROVED BY | | | Эг | CIFICATION | 3 | |
| FBC FINAL WORKING DWGSvwx SCALE AS NOTED EST. WGT SHEET SP-2 OF | OTHER APPROVALS | SIZE | CAGE CODE | | DRAWING NUMBER SP-2 | | REV |
| | FBC FINAL WORKING DWGSvwx | SCALE | AS NOTED | EST. | WGT | SHEET SP-2 OF | |