PART 1 GENERAL

CONDITIONS OF THE CONTRACT AND ARCHITECTURAL SECTIONS APPLY TO THIS SECTION.

1.01 DESCRIPTION

SOKIMITION
PROVIDE MATERIALS, EQUIPMENT, LABOR AND SERVICES NECESSARY FOR THE
INSTALLATION AND PLACING INTO OPERATION, COMPLETE HEATING, EVITILATING,
AIR-CONDITIONING, PLUMBING AND FIRE PROTECTION SYSTEMS AS SPECIFIED AND

1.02 GENERAL REQUIREMENTS
A. EQUIPMENT AND SYSTEMS FURNISHED SHALL FIT IN AVAILABLE SPACE. WITH ADEQUATE SPACE FOR OPERATION AND SERVICING. THE DRAWINGS ARE GENERALLY DIAGRAMMATIC, CONTRACTOR SHALL VERIFY EXACT CONDITIONS.

DIAGRAMMATIC, CONTRACTOR SHALL VERIFY EXACT CONDITIONS.

1.03 REFERENCES

A. ARI 210/240 — UNITARY AIR—CONDITIONING EQUIPMENT.

B. ARI 270 — SOUND RATING OF OUTDOOR UNITARY EQUIPMENT.

D. ASME B16.3 — MALLEABLE IRON THREADED FITTINGS.

E. ASME B16.3 — CAST COPPER ALLOY SOLDER PIGNT PRESSURE FITTINGS.

F. ASME B16.22 — WROUGHT COPPER AND SOLDER PRESSURE FITTINGS.

C. ASME B31.9 — BUILDING SERVICES PIPING.

H. ASME B16.39 — MALLABLE IRON THREADED PIPE UNIONS.

I. ASTM A53 — PIPE, STEEL, BLACK AND ZINC—COATED, WELDED, SEAMLESS.

J. ASTM A74 — CAST IRON SOLI PIPE AND FITTINGS.

K. ASTM A74 — CAST IRON SOLI PIPE AND FITTINGS.

K. ASTM A90 — WEIGHT OF COATING ON GALVANIZED STEEL ARTICLES.

L. ASTM A234 — PIPING FITTINGS OF WROUGHT CARBON STEEL AND ALLOY...

M. ASTM A525 — SPECIFICATION FOR GENERAL REQUIREMENTS FOR STEEL SHEET...

N. ASTM A527 — STEEL SHEET, HOT—DIP GALVANIZED, LOCK—FORMING.

O. ASTM B32 — SOLDER METAL.

P. ASTM B88 — SEAMLESS COPPER WATER TUBE.

Q. ASTM C518 — STEADY—STATE THERMAL TRANSMISSION PROPERTIES...

R. ASTM C534 — PEPFORMED FLESIBLE ELASTOMERIC CELLULAR THERMAL...

S. ASTM C612 — MINERAL FIBER BLOCK AND BOARD THERMAL INSULATION.

U. ASTM C921 — PROPERTIES OF JACKETING MATERIALS FOR THERMAL...

V. ASTM D2613 — SPECIFICATION FOR POLYETHYLENG GAS PRESSURE PIPE...

X. ASTM D2635 — SECLIPICATION FOR POLYETHYLENG GAS PRESSURE PIPE...

X. ASTM D2636 — PECY PLASTIC GRAIN, WASTE, AND VENT PIPE AND FITTINGS.

Y. ASTM D2638 — TEST METHOD FOR REAL DENSITY OF CALCINED PETROLEUM...

Z. ASTM D2635 — SPECIFICATION FOR POLYETHYLENE GAS PRESSURE PIPE...

X. ASTM D2636 — SOLVENT CEMENTS FOR PVC PLASTIC PIPE AND FITTINGS.

A. ASTM D2636 — SOLVENT CEMENTS FOR PVC PLASTIC PIPE AND FITTINGS.

A. ASTM D2636 — TEST METHODS FOR AND AND THE PICA DITTINGS.

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A. ASTM D2665 — PVC PLASTIC GRAIN, WASTE, AND VENT PIPE AND FITTINGS.

A. ASTM D2666 — SOURFACE FLAMMABILITY OF MATERIALS US

PART 2 PRODUCTS

2.01 PIPE HANGERS AND SUPPORTS

"FIPE HANGERS AND SUPPORTS HANGERS FOR PIPE SIZES 1/2 INCH TO 1-1/2 INCH: MALLEABLE IRON OR CARBON STEEL, ADJUSTABLE, SWIVEL SPLIT RING. HANGERS FOR PIPE SIZES 2 INCH & OVER: CARBON STEEL, ADJUSTABLE CLEVIS. COPPER PIPE SUPPORTS SHALL BE COPPER PLATED. PLUMBING PIPING SUPPORTED PER ASME B31-9.

2.02 SLEEVES
A. SLEEVES FOR PIPES THROUGH NON RATED WALLS: STEEL PIPE OR 18 GAGE

A. SLEEVES FOR PIPES IMMOUSH MOST MALES TRADES AND ANALYZED STEEL.

B. SLEEVES FOR PIPES THROUGH RATED WALLS: PREFABRICATED FIRE RATED SLEEVES INCLUDING SEALS, UL LISTED.

C. SLEEVES FOR ROUND DUCTWORK: GALVANIZED STEEL.

D. SLEEVES FOR RECTANGULAR DUCTWORK: GALVANIZED STEEL OR WOOD.

E. FIRE STOPPING INSULATION: GLASS FIBER TYPE, NON-COMBUSTIBLE.

A. WATER AND CONDENSATE PIPING: 1/2" CELLULAR FOAM, ASTM C534, FLEXIBLE, CELLULAR, ELASTOMERIC, MOLDED SHEET, JOINTS SEALED WITH WATERPROOF ADHESIVE.

2.04 DUCTWORK INSULATION

A. RETURN DUCTS SHALL BE LINED WITH 1" RIGID GLASS FIBER. ASTM C612.

NONCOMBUSTIBLE BOARD WITH POLYWINY ACETATE POLYMER IMPREGNATED SURFACE AND EDGE COAT. ADHESIVE AND FASTENERS SHALL BE INSTALLED ACCORDING TO NAMA STANDARDS.

B. CONCALED SUPPLY DUCTS SHALL BE EXTERNALLY WRAPPED WITH 2" FLEXIBLE GLASS FIBER, ASTM C653, NONCOMBUSTIBLE BLANKET. VAPOR BARRIER JACKFET SHALL BE KRATT PAPER, WITH GLASS FIBER YARN, BONDED TO ALUMINIZED FILM. FASTEN AND TAPE ACCORDING TO NAMA STANDARDS.

C. EXPOSED—TO—VEW SUPPLY AND RETURN DUCTS SHALL BE INTERNALLY LINED WITH 1" GLASS FIBER BOARD INSULATION.

D. EXTERIOR DUCTWORK SHALL BE INTERNALLY LINED WITH VAPOR—PROOF 2" THICK GLASS FIBER BOARD INSULATION.

2.05 DOMESTIC WATER PIPING
A. COPPER TUBING, ASTM B88, TYPE L, HARD DRAWN.
1. FITTINGS: ASME B16.18, CAST COPPER ALLOY OR ASME B16.22, WROUGHT COPPER AND

1. FITTINGS: ASME BIOLIO, CAST COLLECTION
BRONZE.
2. JOINTS: ASTM B32, SOLDER, GRADE 95TA.
B. CROSS-LINK PEX "A" ASTM F 877, SDR 9 TUBING.
1. FITTINGS AND JOINTS FOR PEX-A TUBE: ASTM F 1960 COMPATIBLE COLD EXPANSION FITTINGS, MATCHING PEX TUBE DIMENSIONS.

2.06 SANITARY SEWER AND VENT PIPING
A. CAST IRON PIPE: ASTM A74, SERVICE WEIGHT. FITTINGS: CAST IRON. JOINT ASTM C564, NEOPRENE CASKET SYSTEM OR LEAD AND OAKUM.
B. PVC PIPE: ASTM D2665. PVC FITTINGS. JOINTS: ASTM D2855, SOLVENT WELL WITH ASTM D2564 SOLVENT CEMENT. USE ONLY WHERE ALLOWED THORIT HAVING JURISDICTION.

2.07 CONDENSATE DRAIN PIPING
A. COPPER TUBING, ASTM B88, TYPE L, HARD DRAWN.
B. FITTINGS: ASME B16.18, CAST COPPER ALLOY OR ASME B16.22 COPPER

C. JOINTS: ASTM B32. SOLDER, GRADE 95TA.

2.08 DUCTWORK

A. ALL DUCTWORK SHALL BE FABRICATED, INST.
WITH SMACHA HVAC DUCT CONSTRUCTION STATEMENSIONS, QUTSIDE DIMENSION SHALL
B. INCREASE DUCT SIZE TRADUALLY ROSE
PROVIDE 45 DEGREE TRADUALLY ROSE
PROVIDE 45 DEGREE TRADUALLY TAKE RDS. DUCT SIZES ARE INSIDI ADJUSTED FOR DUCT LINER

30 DEGREES DIVERGENCE

SAGE UP TO 8 INCHES, 26 GAGE FOR 9

KNESS: 26 GAGE UP TO 12 INCHES, 24 GAGE DE MECTANGULAR SHEET METAL DUCTWORK SHALL BE

2.09 FLEXIB

DUCTIVIET BERGLASS INSULATION, VAPOR BARRIER FILM, PRESSURE RATING: 10 W.G. POSITIVE AT 1.0 INCHES W.G. NEGATIVE.

PERFORMANCE A. CONSTANT VOLUME SUPPLY AIR SYSTEMS: +2" STATIC PRESSURE CLASSIFICATION, DUCT SEAL CLASS B.

C. BUILDING EXHAUST SYSTEMS: -1" STATIC PRESSURE
CLASSIFICATION, DUCT SEAL CLASS B.
C. BUILDING EXHAUST SYSTEMS: -1" STATIC PRESSURE CLASSIFICATION, DUCT SEAL
CLASS

D. OTHER DUCT SYSTEMS NOT LISTED: STATIC PRESSURE AVAILABLE FROM FAN SEAL CLASSIFICATION TO STATIC PRESSURE CLASS BUT NOT LESS THAN SEAL CLASS C

1 AIR DEVICES, GRILLES AND DIFFUSERS SHALL BE PROVIDED IN SIZES SHOWN ON DRAWINGS. PROVIDE DAMPERS AND OTHER INDICATED ACCESSORIES. AIR DEVICES SHALL BE SPECIFIED MANUFACTURER AND MODEL.

SHALL BE SPECIFIED MANUFACTURER AND MODEL.
ALL AIR DEVICES SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S
SPECIFICATIONS. INSTALL WITH AN AIRTIGHT CONNECTION TO DUCTWORK. INSTALL
PLUMB, LEVEL AND PARALLEL WITH BUILDING WALLS. ADJUST POSITION IF
NECESSARY TO CONFORM WITH ARCHITECTURAL FEATURES, SYMMETRY OR LIGHTING
ARRANGEMENT.

2.12 DUCTWORK ACCESSORIES

A. PROVIDE FLEXIBLE DULCT CONNECTIONS AT DUCT CONNECTIONS TO EACH FAN OR
AIR HANDLER. CONNECTOR SHALL BE UL LISTED FIRE RETARDANT NEOPRENE
COATED WOVEN GLASS FIBER TO NFPA 90A. CONNECTOR WIDTH SHALL BE 3" WITH

DUCT SUPPORTED TO ACHIEVE 1" OF SLACK.

B. VOLUME CONTROL DAMPERS FABRICATED PER SMACNA STANDARDS

2.13 DUCTWORK INSULATION

OLASS FIBER, FLEXIBLE

OLASS FIBER, FLEXIBLE

MANUFACTURER: OWENS—CORNING, MODEL TYPE IV.

OTHER ACCEPTABLE MANUFACTURERS OFFERING EQUIVALENT PRODUCTS:

a. KNAUF.
b. MANVILLE
3. INSULATION: ASTM C553; FLEXIBLE, NONCOMBUSTIBLE BLANKET

INSULATION: ASIM C553; FLEXIBLE, NONCOMBUSTIBLE BLANKET.
0. 'N' VAULE: ASIM C518. 0.31 AT 75 DEGREES F.
b. MAXIMUM SERVICE TEMPERATURE: 250 DEGREES F.
c. MAXIMUM MOSTURE ABSORPTION: 0.20 PERCENT BY VOLUME.
VAPOR BARRIER JACKET:
a. KRAFT PAPER WITH GLASS FIBER YARN AND BONDED TO ALLIMINIZED FILM.
b. MOISTURE VAPOR TRANSMISSION: ASTM E96; 0.02 PERM.
c. SECURE WITH PRESSURE SENSITIVE TAPE.
VAPOR BARRIER TAPE: KRAFT PAPER REINFORCED WITH GLASS FIBER YARN
AND BONDED TO ALLIMINIZED FILM, WITH PRESSURE SENSITIVE RUBBER BASED
ADHESIVE.

B. JACKETS

1. CANVAS JACKET: UL LISTED. FABRIC: ASTM C921, 6 OZ/SQ YD, PLAIN WEAVE COTTON TREATED WITH DILUTE FIRE RETARDANT LAGGING ADHESIVE.

C. GLASS FIBER DUCT LINER, FLEXIBLE.

1. INSULATION: ASTM C1071; FLEXIBLE, NONCOMBUSTIBLE BLANKET WITH FIRE RESISTANT, POLYVINIL ACETATE POLYMER IMPREGNATED SURFACE AND EDGE COAT. ALL LINERS SHALL BE COATED WITH AN ANTIMICROBIAL AGENT.

o. 'K' VALUE: ASTM C1071, 0.31 AT 75 DEGREES F.

b. MAXIMUM SERVICE TEMPERATURE: 250 DEGREES F.

c. MAXIMUM SERVICE TEMPERATURE: 250 DEGREES F.

d. MAXIMUM VELOCITY ON COATED AIR SIDE: 5,000 FPM.

d. MINIMUM NOISE REDUCTION CRITERIA: ASTM C1071, 2 INCH THICKNESS.

2. ADHESINE: WATERROOF, ASTM E162 FIRE-RETARDANT TYPE.

3. LINER FASTENERS: GALVANIZED STEEL, SELF-ADHESIVE PAD IMPACT APPLIED WITH INTEGRAL HEAD.

FLAME SPREAD SHALL BE 25 OR LESS IN ACCORDANCE WITH ASTM E84.
 SMOKE DEVELOPED SHALL BE 50 OR LESS IN ACCORDANCE WITH ASTM E84.

ONINCUS.

GUARANTEE: THE CONTROLS SHALL BE FREE OF DEFECTS IN WORKMANSHIP AND MATERIAL UNDER NORMAL USE AND SERVICE, AND SHALL BE REPLACED AT NO ADDITIONAL COST TO OWNER FOR A PERIOD OF 12 MONTHS AFTER FINAL

ADDITIONAL CUST TO UNKER FOR A PERIOD OF 12 MONTHS AFTER FINAL ACCEPTANCE.

SERVICE: CONTRACTOR SHALL PROVIDE ANY SERVICE INCIDENTAL TO PROPER PERFORMANCE OF THE CONTROLS FOR A PERIOD OF ONE YEAR. THE CONTRACTOR SHALL PLACE CONTROLS IN OPERATING CONDITION SUBJECT TO THE APPROVAL OF THE OWNER.

THERMOSTATS, REFER TO DRAWINGS FOR MANUFACTURER AND MODEL.

INSTALL IN ACCORPANCE WITH REQUIREMENTS OF AUTHORITY HAVING JURISDICTION AND HEATING/COOLING UNIT MANUFACTURER RECOMMENDATIONS.

2.15 FLASHING

A. ARCHITECTURAL SPECIFICATIONS SUPERCEDE THIS SECTION.

B. FLASH VENT PIPES PROJECTING 3 INCHES MINIMUM ABOVE FINISHED ROOF SURFACE WITH 5 POUND PER SOUARE FOOT LEAD FLASHING WORKED ONE INCHMINIMUM INTO HUB, 8 INCHES MINIMUM CLEAR ON SIDES WITH 24×24 INCH-SHE

MINIMOM INTO 100, 6 HOLLS MINIMOM CELLS
SIZE.

C. FLASH COUIPMENT CURBS WITH 26 GAGE GALVANIZED STEEL, COUNTERFOR
22 GAGE GALVANIZED STEEL, SEAL WATERTICHT. ATTACH COUNTERFLASHII
EQUIPMENT AND LAP BASE FLASHING ON ROOF CURBS, FLAT

2.16 EQUIPMENT CURBS

ARCHITECTURAL SPECIFICATIONS SUPERCEDE THIS SECTION.
WELDED 18 GAGE GALVANIZED STEEL SHELL AND BASE, MITERED 3 IN VARIABLE SLOPE TO MATCH ROOF, MINIMUM BIGHT 14 INCHES, 1-1/2 IN INSULATION, FACTORY INSTALLED WOOD NAILER (NAMER IF REQUIRED FOR

2.17 NATURAL GAS PIPING

AIURAL GAS PIPING
MINIMUM OPERATING—PRESSURB
1. PIPING AND VALVES: 100 p
2. SERVICE REGULATORS: 100
NATURAL—GAS SYSTEM PRESSU

M UNITS OTH RWGE INDICATED.

JUM UN SS OFFER INSE INDICATED.

BUILDING: TO PRESSURE RANGES.

JUM ORE THAN 2 psig, AND

JUM OR LESS.

FITTINGS: ALLEABLE IRON.

ASME B16.3, CASS 150, STANDARD PRIMARY PRESSURE IS MORE

REDUCED TO SECONDARY PRESS
C. STEEL PIPE: ASTM A53, SCHEDUS
1. MALLEABLE THREADED F
2. WROUGH STEEL WELDED FITTI SASS 150, STANDARD PATTERN ASTM A 234/ 234M FOR BUTT WELDING AND

CLASS 150, MALLEABLE IRON WITH BRASS-TOIRON SEAT, GROUND :NUS. OR UNDERGROUND PIPING: FACTORY—APPLIED, THREE—LAYER

OF SCOUNT ADHESIVE AND PE.

JM DOWN, SDR 11

SSR ASTM D 2683, SOCKET-FUSION TYPE OR ASTM D 3261, BUTT-FUSION

TYPE W DIMENSIONS MATCHING PE PIPE.

2. DE TRANSITION FITTINGS: FACTORY-FABRICATED FITTINGS WITH PE PIPE COMPLYING WITH STEEL, SCHEDULE 40, TYPE E OR S. GRAD B.

3. ANDDELESS SERVICE-LINE RISERS: FACTORY FABRICATED AND LEAK TESTED.

COMPLY WITH 2006 INTERNATIONAL FUEL GAS CODE.

2.18 FLOOR DRAINS
A. ANSI A112.21.1, REFER TO PLUMBING FIXTURE AND SPECIALTIES SCHEDULES.

2.19 PLUMBING FIXTURES

.19 PLUMBING FIXTURES

A. WATER CLOSETS/JURINALS: ADA, ASME 112.19.2 & 112.19.5, REFER TO DRAWINGS.

B. LAVATORIES: ADA, ASME 112.6.1, REFER TO DRAWINGS.

C. SINKS, OTHER FIXTURES: REFER TO DRAWINGS.

D. VERIFY THAT WALLS AND FLOOR FINISHES ARE PREPARED AND READY FOR INSTALLATION OF FIXTURES.

E. INSTALL EACH FIXTURE WITH TRAP, EASILY REMOVABLE FOR SERVICING AND CLEANING.

PROVIDE CHROME PLATED RIGID OR FLEXIBLE SUPPLIES TO FIXTURES WITH WHEEL STOPS, REDUCERS, AND ESCUTCHEONS.

G. INSTALL COMPONENTS LEVEL AND PLUMB.

H. INSTALL AND SECURE FIXTURES IN PLACE WITH WALL SUPPORTS AND BOLTS.

I. SEAL FIXTURES TO WALL AND FLOOR SURFACES WITH SEALANT AS SPECIFIED IN DIMISION 7, COLOR TO MATCH FIXTURE.

J. SOLIDLY ATTACH WATER CLOSETS TO FLOOR WITH LAG SCREWS. LEAD FLASHING IS NOT INSTROLE TO HOLD FIXTURE IN PLACE.

K. CLEAN PLUMBING FIXTURES AND EQUIPMENT.

2.20 PLUMBING SPECIALTIES

PLUMBING SPECIALTIES

A. BACKFLOW PREVENTERS: REFER TO DRAWINGS.

1. ASSE 1012 - PERFORMANCE REQUIREMENTS FOR BACKFLOW PREVENTER WITH INTERMEDIATE ATMOSPHERIC VENT.

2. ASSE 1013 - PERFORMANCE REQUIREMENTS FOR REDUCED PRESSURE PRINCIPLE BACKFLOW PREVENTERS AND REDUCED PRESSURE FIRE PROTECTION PRINCIPLE BACKFLOW PREVENTERS AND REDUCED PRESSURE FIRE PROTECTION PRINCIPLE BACKFLOW PREVENTERS FOR BEVERAGE DISPENSING EQUIPMENT.

3. ASSE 1022 - PERFORMANCE REQUIREMENTS FOR BACKFLOW PREVENTERS FOR BEVERAGE DISPENSING EQUIPMENT.

1. CONTRACTOR SHALL BE RESPONSIBLE FOR PROMDING A WATER FLOW AND PRESSURE TEST FOR EVALUATING INCOMING DOMESTIC AND FIRE PROTECTION SERVICE PRESSURES.

2.21 NOT LISED

2.22 NOT USED

2.23 CENTRIFUGAL EXHAUST FANS

MANUFACTURER/MODEL: REFER TO DRAWINGS.
OTHER ACCEPTIBLE MANUFACTURES OFFERING EQUIVALENT PRODUCTS:

ACME.
 GREENHECK.
 FERNMANCE: REFER TO DRAWINGS.
 PERFORMANCE RATING: CONFORM TO AMCA 21D.
 SOUND RATING: AMCA 301, TESTED TO AMCA 300.
 FABRICATION: CONFORM TO AMCA 90.
 ACCESSORIES: REFER TO DRAWINGS.

PART 3 INSTALLATION

3.01 TESTING, ADJUSTING AND BALANCING:

A. TESTING AND BALANCING SHALL BE PERFORMED BY AN INDEPENDENT, AABC OR NEBB CERTIFIED AIR BALANCE CONTRACTOR.

B. PROVIDE INSTRUMENTS REQUIRED FOR TESTING, ADJUSTING, AND BALANCING OPERATIONS, ALL INSTRUMENTS SHALL BE RECENTLY TESTED AND CALIBRATED.

C. VERRY THAT SYSTEMS ARE COMPLETE AND OPERABLE BEFORE COMMENCING WORLD.

D. ADJUST AIR HANDLING AND DISTRIBUTION SYSTEMS TO PROVIDE REQUIRED OR DESIGN SUPPLY AND RETURN AIR QUANTITIES.

E. SUBMIT FIELD REPORTS: REPORT DEFECTS AND DEFICIENCIES NOTED DURING PERFORMANCE OF SERVICES WHICH PREVENT SYSTEM BALANCE.

F. SUBMIT DRAFT COPIES OF REPORT TO THE OWNER FOR REVIEW AND APPROVAL PRIOR TO FINAL ACCEPTANCE OF PROJECT. PROVIDE FINAL COPIES FOR ARCHITECT/FRIGHTER AND RAINTENANCE

ARCHITECT/ENGINEER AND FOR INCLUSION IN OPERATING AND MAINTENANCE MANUALS. PROVIDE 2 COPIES OF FINAL CERTIFIED REPORT TO BUILDING OWNER. 3.02 GUARANTEE:
A. THE CONTRACTOR SHALL PROVIDE SPECIFIED EQUIPMENT WARRANTIES AND GENERAL WARRANTY AS STATED IN ARCHITECTURAL SECTIONS. THE CONTRACTOR SHALL REPLACE OR REPAIR AT NO COST ALL DEFECTIVE MATERIAL AND WORKMANSHIP DURING THE WARRANTY PERIOD.

3.03 INSTRUCTIONS:
A. THE CONTRACTOR SHALL INSTRUCT THE OWNER AND PROVIDE MANUALS FOR PROPER OPERATION AND MAINTENANCE OF THE EQUIPMENT. PROVIDE INITIAL MONTH SUPPLY OF FILTERS OR OTHER COMPONENTS REPLACED DURING REGU

3.04 GENERAL INSTALLATION:
A. ROUTE PIPING AND DUCTWORK IN ORDERLY MANNER AND MAINTAIN GROUTE PARALLEL AND PERPENDICULAR TO WALLS. INSTALL TO MAINTAIN ROOM, GROUP WHENEVER PRACTICAL AT COMMON ELEVATIONS.
B. PROVIDE CLEARANCES FROM STRUCTURE AND OTHER EQUIPMENT FOR INSTALLATION OF INSULATION, EQUIPMENT CLEARAND AND ACCESS TO AND DAMPERS.
C. PROVIDE ACCESS PANELS FOR VALVES AND DAMPERS. BAT ARE ENCLOSE WALLS OF CEILINGS. AT ARE ENCLOSED

WALLS OR CEILINGS.

D. PROVIDE DIELECTRIC UNIONS WHEN JOYANG DISSIMILAR

PART 4 VIBRATION ISOLATORS

4.01 OPEN SPRING ISOLATORS:

SPRING ISOLATORS:

1. FOR EXTERIOR AND HUMAN NEOPRENE TED SPRING PROVIDE HOT DIPPER GALVANIZED HOUSINGS AND

LOA RYING CAPACITY.
STIFF NEE EQUAL TO 75 PERCENT VERTICAL
CTION BE WEEN 0.3 AND 0.6 OF MAXIMUM

NTS: PROVIDE WILL EVELING DEVICES, MINIMUM 0.25 INCH THICK DUND PADS, AND ZNIC CHROMATE PLATED HARDWARE.

SIZE FOR MINIMUM DEFLECTION OF 0.05 INCH; MEET REQUIREMENTS

TO DEPLY HADDEN

S ANNED MAIN ISOLATORS:
PPING ISOLATORS:
PPING ISOLATORS
OF EXTERIOR AND HUMID AREAS: PROVIDE HOT DIPPED GALVANIZED HOUSINGS AND

GEOFERICA AND HOMIN AREAS: PROVIDE HOT DIPPED GALVANIZED H
SEOPRENE COATED SPRINGS.
2. DDE: COLOR CODE SPRINGS FOR LOAD CARRYING CAPACITY.
SPRINGS: MINIMUM HORIZONTAL SITEFNESS EQUAL TO 75 PERCENT VERTICAL
STIFFNESS, WITH WORKING DEFLECTION BETWEEN 0.3 AND 0.6 OF MAXIMUM
DEFLECTION. STIFFNESS, WITH WORKING DEFLECTION BETWEEN 0.3 AND 0.6 OF MAXIMOM DEFLECTION.

C. SPRING MOUNTS: PROVIDE WITH LEVELING DEVICES, MINIMUM 0.25 INCH THICK NEOPRENE SOUND PADS, AND ZINC CHROMATE PLATED HARDWARE.

D. SOUND PADS: SIZE FOR MINIMUM DEFLECTION OF 0.05 INCH; MEET REQUIREMENTS FOR NEOPRENE PAD ISOLATORS.

E. RESTRAINT: PROVIDE HEAVY MOUNTING FRAME AND LIMIT STOPS.

4.04 CLOSED SPRING ISOLATORS:

A. SPRING ISOLATORS:

1. FOR EXTERIOR AND HUMID AREAS: PROVIDE HOT DIPPED GALVANIZED HOUSINGS AND NEOPRENE COATED SPRINGS.

2. CODE: COLOR CODE SPRINGS FOR LOAD CARRYING CAPACITY.

B. TYPE: CLOSED SPRING MOUNT WITH 10P AND BOTTOM HOUSING SEPARATED WITH NEOPRENE RUBBER STABILIZERS.

NEOPRENE RUBBER STABILIZERS. C SPRINGS: MINIMUM HORIZONTAL STIFFNESS EQUAL TO 75 PERCENT VERTICAL STIFFNESS, WITH WORKING DEFLECTION BETWEEN 0.3 AND 0.6 OF MAXIMUM

DEFLECTION DEFLECTION.
HOUSINGS: INCORPORATE NEOPRENE ISOLATION PAD MEETING REQUIREMENTS FOR NEOPRENE PAD ISOLATORS, AND NEOPRENE SIDE STABILIZERS WITH MINIMUM 0.25

INCH CLEARANCE.

4.05 RESTRAINED CLOSED SPRING ISOLATORS: .05 RESTRAINED CLOSED SPRING ISOLATORS:

1. SPRING ISOLATORS:

1. FOR EXTERIOR AND HUMID AREAS: PROVIDE HOT DIPPED GALVANIZED HOUSINGS AND NEOPRENE COATED SPRINGS.

2. CODE: COLOR CODE SPRINGS FOR LOAD CARRYING CAPACITY.

8. TYPE: CLOSED SPRING MOUNT WITH TOP AND BOTTOM HOUSING SEPARATED WITH NEOPRENE RUBBER STABILIZERS.

C. SPRINGS: MINIMUM HORIZONTAL STIFFNESS EQUAL TO 75 PERCENT VERTICAL STIFFNESS, WITH WORKING DEFLECTION BETWEEN 0.3 AND 0.6 OF MAXIMUM DEFLECTION.

D. HOUSINGS: INCORPORATE NEOPRENE ISOLATION PAD MEETING REQUIREMENTS FOR NEOPRENE PAD ISOLATORS, AND NEOPRENE SIDE STABILIZERS WITH MINIMUM 0.25 INCH CLEARANCE AND LIMIT STOPS.

4.06 SPRING HANGER:

D6 SPRING HANGER:
A. SPRING ISOLATORS:
1. FOR EXTERIOR AND HUMID AREAS: PROVIDE HOT DIPPED GALVANIZED HOUSINGS AND NEOPRENE COATED SPRINGS.
2. CODE: COLOR CODE SPRINGS FOR LOAD CARRYING CAPACITY.
B. SPRINGS: MINIMUM HORIZONTAL STIFFNESS EQUAL TO 75 PERCENT VERTICAL STIFFNESS, WITH WORKING DEFLECTION BETWEEN 0.3 AND 0.6 OF MAXIMUM

C. HOUSINGS: INCORPORATE [NEOPRENE ISOLATION PAD MEETING REQUIREMENTS FOR NEOPRENE PAD ISOLATORS].

D. MISALIGNMENT: CAPABLE OF 20 DEGREE HANGER ROD MISALIGNMENT.

4.07 NEOPRENE PAD ISOLATORS: RUBBER OR NEOPRENE WAFFLE PADS

30 DUROMETER.

1. 30 DOROMETER.

2. MINIMUM 1/2 INCH THICK.

3. MAXIMUM LOADING 40 PSI.

4. HEIGHT OF RIBS SHALL NOT EXCEED 0.7 TIMES WIDTH.

CONFIGURATION: SINGLE LAYER:1/2 INCH THICK WAFFLE PADS BONDED EACH SIDE OF 1/4 INCH THICK STEEL PLATE.

O KUDBER MUUNI OR HANGER: A. MOLDED RUBBER DESIGNED FOR 0.5 INCHES (13 MM) DEFLECTION WITH THREADED INSERT. 4.08 RUBBER MOUNT OR HANGER:

4.09 GLASS FIBER PADS: A. NEOPRENE JACKETED PRE-COMPRESSED MOLDED GLASS FIBER.

4.10 SEISMIC SNUBBERS:

A. TYPE: NON-DIRECTIONAL AND DOUBLE ACTING UNIT CONSISTING OF INTERLOCKING STEEL MEMBERS RESTRAINED BY NEOPRENE ELEMENTS.

B. NEOPRENE ELEMENTS: REPLACEABLE, MINIMUM OF 0.75 INCH THICK.

C. CAPACITY: 4 TIMES LOAD ASSIGNED TO MOUNT GROUPINGS AT 0.4 INCH

C. CAPACITY 4 IMMES LOAD ASSIGNED TO MOUNT GROUPINGS AT 0.4 INCH DEFLECTION.

D. ATTACHMENT POINTS AND FASTENERS: CAPABLE OF WITHSTANDING 3 TIMES RATED LOAD CAPACITY OF SEISMIC SNUBBER.

PART 5 VIBRATION ISOLATOR INSTALLATION

5.01 INSTALL IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.

5.02 INSTALL ISOLATION FOR MOTOR DRIVEN EQUIPMENT.

5.03 BASES:
A. SET STEEL BASES FOR 1 INCH CLEARANCE BETWEEN HOUSEKEEPING PAD AND BASE.
B. SET CONCRETE INERTIA BASES FOR 2 INCH CLEARANCE BETWEEN HOUSEKEEPING PAD AND BASE.
C. ADJUST EQUIPMENT LEVEL.

DIVISI

5.04 INSTALL SPRING HANGERS WITHOUT BINDING. 5.05 ON CLOSED SPRING ISOLATORS, ADJUST SO SIDE STABILIZERS ARE CLEANUL NORMAL OPERATING CONDITIONS.

5.06 PRIOR TO MAKING PIPING CONNECTIONS TO EQUIPMENT WITH OF SUBSTANTIALLY DIFFERENT FROM INSTALLED WEIGHTS, BLOCK UF TEMPORARY SHIMS TO FINAL HEIGHT. WHEN FULL IS APPLISOLATORS TO LOAD TO ALLOW SHIM REMOVA 5.07 PROVIDE PAIRS OF HORIZONTAL LIMIT SPRI

FANS WITH WE THAN 6.0 INCH STATIC PRESSURE, AND ON H

RESILIENTLY TO NEAREST

JUR PINIS OF SUPPORT.

STATE POINTS OF SUPPORT.

O VIBRATION SOURCE FOR MINIMUM 1.0 INCH
DEFLECTION OF ISOLATED EQUIPMENT. SELECT

IMUM 1.0 INCH STATIC DEFLECTION OR 1/2 STATIC TIC DEFLECTION

LATED EQUIPMENT WITH FLEXIBLE HANGING LOOP





CLIENT PROJECT # 5879 DRAWN BY CHECKED BY ммм

> DOMINO'S PIZZA 'D WRIGHT DOWN TEL: 314.910.85



DOMINO'S PIZZA #5879 3871 AIRPORT BLVD. MOBILE, AL 36608

REVISIONS

BUILDING REVIEW ISSUE DATE:

NSTRUCTION ISSUE DATE:

MPW

MECHANICAL DIV 15 SPECS 09/24/2018

09/24/2018

09/242018

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