

Order Plans

23 05 00 GENERAL PROVISIONS FOR HVAC

- A. PROVIDE ALL MATERIALS AND EQUIPMENT AND PERFORM ALL LABOR REQUIRED TO INSTALL A HEATING, VENTILATING, AIR CONDITIONING SYSTEM, COMPLETE AS INDICATED ON THE DRAWINGS, AS REQUIRED BY CODE AND AS SPECIFIED HEREIN.
B. THE ELECTRICAL CONTRACTOR, UNLESS OTHERWISE NOTED IS TO PROVIDE POWER WIRING FOR EACH ITEM OF ELECTRICAL EQUIPMENT AND MAKE FINAL CONNECTIONS TO MOTORS.
C. ALL FINISH PAINTING IS TO BE PERFORMED BY THE MECHANICAL CONTRACTOR, EXCEPT AS NOTED ELSEWHERE. GENERAL CONTRACTOR, AT THIS CONTRACTOR'S EXPENSE, SHALL RESTORE TO ORIGINAL CONDITION ANY PAINTING DEFACED DURING CONSTRUCTION AND AFTER ORIGINAL PAINTING.
D. ALL WORK SHALL CONFORM TO CODES, RULES, AND REGULATIONS:
1. NATIONAL ELECTRICAL CODE.
2. STANDARD FOR INSTALLATION OF AIR CONDITIONING AND VENTILATING SYSTEMS, NFPA 90A.
3. CODE FOR SAFETY TO LIFE FROM FIRE IN BUILDINGS AND STRUCTURES, NFPA 101.
4. FEDERAL OCCUPATIONAL SAFETY AND HEALTH STANDARDS.
5. STATE MECHANICAL CODE.
6. STATE BUILDING CODE.
7. STATE INDUSTRIAL COMMISSION REQUIREMENTS.
8. LOCAL BUILDING CODE REQUIREMENTS.
9. BUILDING INSURING AGENCY REQUIREMENTS.
10. STATE PLUMBING CODE.
11. NFPA.
E. ALL PERMITS REQUIRED BY LAWS, ORDINANCES AND BUILDING CODES HAVING JURISDICTION SHALL BE OBTAINED AT THE PROPER TIME BY AND AT THE EXPENSE OF THIS CONTRACTOR.
F. THIS CONTRACTOR SHALL OBTAIN ALL INSPECTIONS REQUIRED BY ALL LAWS, ORDINANCES AND PUBLIC AUTHORITY HAVING JURISDICTION AND SHALL OBTAIN CERTIFICATES OF SUCH INSPECTIONS AND SUBMIT SAME TO THE ARCHITECT AND SHALL PAY ALL FEES, CHARGES, ASSESSMENTS AND OTHER EXPENSES IN CONNECTION THEREWITH.
G. PIPING AND EQUIPMENT LAYOUT IS SCHEMATIC. EXACT LOCATIONS ARE DETERMINED BY STRUCTURAL AND OTHER CONDITIONS. DESIGN OF SYSTEM MAY NOT BE CHANGED. ONLY EXACT LOCATION OF PIPING AND DUCTS MAY BE REVISED TO SUIT CONSTRUCTION CONDITIONS AND AID IN COORDINATION WITH WORK OF OTHER CONTRACTORS.
H. THE MATERIALS AND EQUIPMENT INSTALLED IN THE WORK SHALL MEET THE REQUIREMENTS OF THE CONTRACT DOCUMENTS AND NO MATERIALS OR EQUIPMENT SHALL BE ORDERED UNTIL REVIEWED BY THE ENGINEER, LANDLORD AND/OR ARCHITECT.
I. MECHANICAL CONTRACTOR SHALL SUBMIT SHOP DRAWINGS PER THE DOCUMENTS PROVIDED BY THIS CONTRACTOR.
J. CATALOG DATA FOR EQUIPMENT REVIEWED BY THE ARCHITECT SHALL NOT SUPERSEDE THE ENGINEER'S CONTRACT DOCUMENTS. THE REVIEW OF THE ENGINEER SHALL NOT RELIEVE THIS CONTRACTOR FROM RESPONSIBILITY FOR DEVIATION FROM DRAWINGS OR SPECIFICATIONS, PROVIDING PROPER CLEARANCE, FABRICATION PROCESS AND COORDINATION WITH OTHER TRADES.
K. WHEN SUBMITTED FOR THE ARCHITECT'S REVIEW, SHOP DRAWINGS SHALL BEAR MECHANICAL CONTRACTOR'S CERTIFICATION THAT THE MECHANICAL CONTRACTOR HAS REVIEWED, CHECKED AND APPROVED THE SHOP DRAWINGS, THAT THEY ARE IN HARMONY WITH THE REQUIREMENTS OF THE PROJECT AND WITH THE PROVISIONS OF THE CONTRACT DOCUMENTS AND THAT THIS CONTRACTOR HAS VERIFIED ALL FIELD MEASUREMENTS AND CONSTRUCTION CRITERIA, MATERIALS, CATALOG NUMBERS AND SIMILAR DATA. MECHANICAL CONTRACTOR SHALL ALSO CERTIFY THAT THE WORK REPRESENTED BY THE SHOP DRAWINGS AS RECOMMENDED BY THIS CONTRACTOR AND THE MECHANICAL CONTRACTOR'S GUARANTEE WILL FULLY APPLY.
L. ALL CONTRACTORS SUBMITTING PROPOSALS FOR THIS WORK SHALL FIRST EXAMINE THE SITE AND ALL CONDITIONS THEREIN. ALL PROPOSALS SHALL TAKE INTO CONSIDERATION ALL SUCH CONDITIONS AS MAY AFFECT THE WORK UNDER THIS CONTRACT. THE SUBMITTING OF A BID AUTOMATICALLY IMPLIES THAT THIS EXAMINATION OF SITE HAS BEEN DONE.
M. MECHANICAL CONTRACTOR SHALL VERIFY LOCATION OF UTILITIES AND NOTE CONDITIONS WHICH WOULD AFFECT THE WORK. ALL DISCREPANCIES SHALL THEN BE REPORTED PRIOR TO THE BID AWARD.
N. PROVIDE INSTRUCTION TO LANDLORD'S OPERATING PERSONNEL AS NECESSARY, SHOWING LOCATIONS AND PROPER OPERATION OF MAJOR ITEMS OF EQUIPMENT AND SYSTEM COMPONENTS AND REFERRING TO THE OPERATING INSTRUCTION MANUAL DESCRIBED BELOW AS A GUIDE.
O. COMPILER WRITTEN MANUAL OF OPERATING INSTRUCTIONS INCLUDING COPIES OF SHOP DRAWINGS AND A LISTING OF EQUIPMENT SUPPLIERS. ASSEMBLE IN 8-1/2" X 11" HARD BACKED INDEXED BINDER. MATERIAL SHALL BE AS FOLLOWS:
1. TITLE PAGE: TITLE OF JOB, LANDLORD/TENANT, ADDRESS, DATE, SUBMISSION, CONTRACTOR AND ENGINEER.
2. INDEX.
3. LIST OF MAJOR EQUIPMENT USED IN PROJECT ACCOMPANIED BY MECHANICAL CONTRACTOR PURCHASE ORDER NUMBERS AND SUPPLIERS NAMES AND ADDRESSES.
4. ONE COPY OF EACH SHOP DRAWING GROUPED BY TYPES OF EQUIPMENT (I.E., ROOFTOP UNIT FANS, ETC.)
5. SECTION FOR EACH SYSTEM INCLUDING:
a. BRIEF DESCRIPTION OF SYSTEM OPERATION WITH LOCATION OF MAJOR COMPONENTS.
b. HVAC SYSTEM MAINTENANCE AND CALIBRATION INFORMATION, INCLUDING WIRING DIAGRAMS AND SCHEMATICS.
P. SUBMIT A COMPLETED COPY TITLED 'HVAC OPERATING INSTRUCTION MANUAL' TO THE BINDER OF BINDER TO ARCHITECT FOR APPROVAL. AFTER ARCHITECT'S REVIEW AND ANY REVISIONS REQUIRED ARE COMPLETED, SUBMIT A COPY OF THE MANUAL TO THE LANDLORD.
Q. WITHIN 90 DAYS AFTER THE DATE OF SYSTEM ACCEPTANCE, RECORD DRAWINGS OF THE FINAL INSTALLATION SHALL BE PROVIDED TO THE BUILDING LANDLORD. RECORD DRAWINGS SHALL INCLUDE AS A MINIMUM THE LOCATION AND PERFORMANCE DATA ON EACH PIECE OF EQUIPMENT, GENERAL CONFIGURATION OF DUCT DISTRIBUTION SYSTEM INCLUDING SIZES, AND THE AIR DESIGN FLOW RATES.
R. ANY REFERENCE TO TENANT OR TENANT CONSTRUCTION MANAGER, OR FURNISHED BY ANY OF THE ABOVE, REFERS TO UNTUCKIT.
S. REFER TO RESPONSIBILITY SCHEDULE ON SHEET G12 FOR INFORMATION IN REGARD TO RESPONSIBILITY OF WORK OR ITEMS WHICH MAY AFFECT BID.
T. TRADE NAMES, MANUFACTURERS AND SHOP DRAWING:
1. WHERE TRADE NAMES OR MANUFACTURERS ARE USED ON THE DRAWINGS OR IN THE SPECIFICATIONS, THE EXACT EQUIPMENT SHALL BE USED. THE USE OF ANY UNAUTHORIZED EQUIPMENT SHALL BE SUBJECT TO REMOVAL AND REPLACEMENT AT THIS CONTRACTOR'S EXPENSE.
2. MECHANICAL CONTRACTOR SHALL SUBMIT ONLY SUBSTITUTION REQUESTS TO TENANT CONSTRUCTION MANAGER FOR APPROVAL. SUBMISSIONS SHALL BE MADE EARLY ENOUGH IN PROJECT TO ALLOW FOUR (4) WORKING DAYS FOR TENANT CONSTRUCTION MANAGER'S REVIEW AND FOR RESOLUTION OF ANY CONFLICTS TO THE JOB'S PROGRESS. SUBMITTALS SHALL BEAR THE STAMP OF THE MECHANICAL CONTRACTOR AND THE SUB-CRTRACTOR SHOWING THAT HE HAS REVIEWED AND CONFIRMED THAT THE SUBMITTALS ARE IN CONFORMANCE WITH THE CONTRACTOR DRAWINGS AND SPECIFICATIONS OR INDICATE WHERE EXCEPTIONS HAVE BEEN TAKEN.

- DEMOITION
MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR THE DEMOLITION AND REMOVAL OF EXISTING WORK. FIELD VERIFY AND COORDINATE ANY EXISTING EQUIPMENT REQUIRED TO BE LEFT INTACT AND PROTECT EQUIPMENT TO REMAIN DURING CONSTRUCTION.
V. FINAL HVAC INSPECTIONS
1. ASIDE FROM NORMAL INTERIM INSPECTIONS OF WORK IN PLACE, TENANT SHALL HAVE AN INDEPENDENT CONTRACTOR INSPECT THE FINISHED INSTALLATION UPON COMPLETION FOR COMPLIANCE WITH THE PLANS, SPECIFICATIONS AND CODES. THE INSTALLING CONTRACTOR WILL BE RESPONSIBLE TO BRING ALL ITEMS REPORTED BY THE INDEPENDENT CONTRACTOR UP TO PLANS AND SPECIFICATION REQUIREMENTS.
W. WARRANTY AND GUARANTEE
1. MECHANICAL CONTRACTOR SHALL GUARANTEE ALL MATERIALS AND LABOR PROVIDED UNDER THIS CONTRACT AND SHALL MAKE GOOD, REPAIR OR REPLACE AT NO ADDITIONAL COST ANY DEFECTIVE WORK, MATERIAL, OR EQUIPMENT DISCOVERED WITHIN 12 MONTHS FROM THE DATE OF CERTIFICATE OF OCCUPANCY. THIS GUARANTEE SHALL EXTEND TO LABOR AND MISCELLANEOUS MATERIALS REQUIRED FOR THE INSTALLATION OF EQUIPMENT, BUT SHALL NOT OVERLAP WITH WARRANTY PROVIDED BY MANUFACTURER. THE CONTRACTOR IS RESPONSIBLE TO VERIFY, COORDINATE AND FOLLOW ALL PROPER HANDLING AND INSTALLATION TECHNIQUES WITH MANUFACTURER(S) IN ORDER TO MAINTAIN MANUFACTURER'S WARRANTY.
2. ALL MANUFACTURER WARRANTIES SHALL BE INCLUDED AND SHALL NOT OVERLAP WITH MECHANICAL CONTRACTOR WARRANTY. MECHANICAL CONTRACTOR SHALL INCLUDE ANY LABOR COSTS REQUIRED TO REPLACE OR REPAIR ANY DEFECTIVE PART OR EQUIPMENT FOR A PERIOD OF 12 MONTHS FROM THE DATE OF CERTIFICATE OF OCCUPANCY IF LABOR IS NOT COVERED BY MANUFACTURER. IT IS THE MECHANICAL CONTRACTOR'S RESPONSIBILITY TO VERIFY AND FOLLOW ALL MANUFACTURER WARRANTY REQUIREMENTS.

- 23 05 01 HVAC BASIC MATERIALS AND METHOD
A. THIS CONTRACTOR IS TO BECOME INFORMED OF THE EXACT DIMENSIONS OF FINISHED WORK WHERE PIPES, DUCTS AND EQUIPMENT ARE TO BE PLACED AND WILL ARRANGE THE WORK ACCORDINGLY, ASSUMING ALL RESPONSIBILITY FOR PROPER LOCATION AND COORDINATION OF THE WORK.
B. IN THE ERECTION OF THE DUCTWORK, SPECIAL CARE SHALL BE USED PROVIDING SUPPORT.
C. ALL DUCTWORK SHALL BE PLACED SO AS TO AVOID INTERFERENCE WITH PLUMBING PIPES, ELECTRIC CONDUITS OR PIPES OF OTHER CONTRACTORS.
D. ALL DUCTWORK MUST BE PROVIDED WITH SUFFICIENT DISTANCE FROM WALLS, PIPES AND OTHER OBSTACLES TO PERMIT THE APPLICATION OF FULL THICKNESS OF INSULATION SPECIFIED.
E. THIS CONTRACTOR SHALL PERFORM AN ACCURATE AND COMPLETE BALANCE OF AIR SYSTEMS AS PART OF THIS CONTRACT, WHICH SHALL BE COMPLETED BEFORE FINAL ACCEPTANCE OF THE WORK OF THIS CONTRACT. AIR BALANCE SHALL BE SUBCONTRACTED TO A CERTIFIED MEMBER OF ASSOCIATED AIR BALANCE CONSULT.
F. VIBRATION ISOLATION DEVICES
1. VIBRATION ISOLATION DEVICES SHALL BE FURNISHED AND INSTALLED WITH SUPPORTS BETWEEN VIBRATING EQUIPMENT AND THE STRUCTURE (FANS, AIR HANDLERS, ETC.) BY THIS CONTRACTOR.
2. VIBRATING EQUIPMENT HUNG FROM STRUCTURE SHALL BE ISOLATED WITH RUBBER AND SPRING DEVICES. VIBRATING EQUIPMENT SUPPORTED FROM FLOOR OR DECK SHALL BE ISOLATED WITH HOUSED SPRING MOUNT DEVICES.
3. EXAMINE DEAD LOAD AND OPERATING LOAD CONDITIONS WHEN SELECTING DEVICES, ADJUST FOR PROPER ALIGNMENT AND LOADING. AVOID 'GROUNDING' THE ISOLATOR.
4. CHECK HANGER ROD SIZE FOR ALLOWABLE LOADS AT THE ISOLATING DEVICE AND AT THE UPPER AND LOWER ATTACHMENTS TO STRUCTURES, DUCTS, EQUIPMENT, ETC.
5. CONSULT MANUFACTURER FOR APPLICATION DATA.
23 05 93 TESTING, ADJUSTING AND BALANCING FOR HVAC
A. ALL AIR DISTRIBUTION SYSTEMS ARE TO BE BALANCED IN ACCORDANCE WITH GENERALLY ACCEPTED ENGINEERING STANDARDS BY AN INDEPENDENT AABC OR NEBS CERTIFIED CONTRACTOR. MECHANICAL CONTRACTOR SHALL PAY FOR ALL COSTS FOR THIS WORK AND SHALL COORDINATE THIS WORK WITH AND BETWEEN ALL TRADES.
B. AFTER CORRECTING BALANCE OF ALL AIR SYSTEMS TO WITHIN 10% OF DESIGNED VALUES, SUBMIT FINAL AIR BALANCE REPORTS TO ARCHITECT, ENGINEER AND UNTUCKIT. FINAL BALANCE REPORT MUST INDICATE AIR VALUES WITHIN 10% OF DESIGN, OR MUST STATE THE REASON THAT THE APPROPRIATE BALANCE COULD NOT BE ACHIEVED.
C. MECHANICAL CONTRACTOR SHALL REVIEW AIR BALANCE REPORT PRIOR TO SUBMISSION OF REPORT TO ENGINEER AND ARCHITECT. IF ENGINEER OR ARCHITECT REVISE THE AIR BALANCE REPORT MULTIPLE TIMES DUE TO THE CONTRACTOR NOT FOLLOWING THESE GUIDELINES OR SENDING A PRELIMINARY REPORT FOR REVIEW IN LIEU OF THE FINAL REPORT, THE MECHANICAL CONTRACTOR WILL BE BACKCHARGED FOR ALL REVIEWS BEYOND THE FIRST.
D. VERIFY CONTROLS DURING BALANCING, INCLUDING HUMIDITY CONTROLS WHERE APPLICABLE.
E. AT THE COMPLETION OF THE PROJECT, THE MECHANICAL CONTRACTOR SHALL SUBMIT FINAL AIR/WATER BALANCE REPORT TO LANDLORD AND AUTHORITY HAVING JURISDICTION AS REQUIRED.
23 07 00 HVAC INSULATION
A. DUCT INSULATION AND APPURTENANCES SHALL HAVE A FLAME SPREAD RATING NOT EXCEEDING TWENTY-FIVE (25) AND A SMOKE DEVELOPED RATING NOT EXCEEDING FIFTY (50).
B. RECTANGULAR DUCTWORK CONCEALED FROM VIEW SHALL HAVE 1" THICK FIBERGLASS DUCT LINER LAMINATED AND PINNED TO DUCT WITH 1.0" DENSITY AND R-VALUE OF 4.2 MIN. OWENS-CORNING COMMERCIAL GRADE FIBERGLASS DUCT LINER.
C. ROUND DUCTWORK CONCEALED FROM VIEW SHALL HAVE FLEXIBLE FIBERGLASS DUCT WRAP LAMINATED TO FOIL REINFORCED RAFT VAPOR BARRIER FACING WITH CRAPPLING FLANGE AND MIN. INSTALLED R-VALUE OF 4.2. OWENS-CORNING COMMERCIAL GRADE FIBERGLASS DUCT WRAP TYPE 100.
D. EXPOSED ROUND AND RECTANGULAR DUCTWORK SHALL HAVE 1" INSULATION.
E. ALL DUCTWORK UNCONDITIONED SPACES SHALL HAVE INSULATION DUCT WRAP WITH A MINIMUM INSTALLED R-VALUE OF 5.0. UNCONDITIONED SPACES SHALL HAVE INSULATION DUCT WRAP WITH A MINIMUM INSTALLED R-VALUE OF 5.0.
F. INSULATION SHALL NOT BE APPLIED UNTIL THE GENERAL CONSTRUCTION HAS PROGRESSED SUFFICIENTLY TO INSURE AGAINST PHYSICAL OR MOISTURE DAMAGE TO THE INSULATION. ALL INSULATION THROUGH FAILURE TO OBSERVE THIS DIRECTIVE SHALL BE REPLACED AT THIS CONTRACTOR'S EXPENSE.
G. HANGER RODS SHALL BE PERPENDICULAR TO DUCTWORK BEFORE INSULATION IS INSTALLED.
H. INSULATE ALL INSULATION ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.
I. INSULATION SHALL BE APPLIED OVER FLANGES, JOINTS AND SEAMS IN PIPING AND DUCTWORK.
J. ALL JOINTS AND SEAMS IN INSULATION SHALL BE PROPERLY SEALED TO MAINTAIN VAPOR BARRIER INTEGRITY.
K. INSULATION SHALL BE OWENS-CORNING, EQUAL PRODUCT BY ARMSTRONG, CERTANTEED, SCHULLER OR KNAUF MAY BE FURNISHED AT THE CONTRACTOR'S OPTION.
23 31 13 HVAC AIR DISTRIBUTION AND RETURN SYSTEMS
A. PROVIDE AND INSTALL DUCTWORK AND PLENUMS OF SIZE AND LOCATION AS SHOWN ON DRAWINGS. ALL DUCTS FOR AIR VELOCITIES LESS THAN 2000 FPM AND STATIC PRESSURE IN DUCT 2" OR LESS SHALL BE CONSTRUCTED OF GALVANIZED SHEET METAL. THE GAUGE OF STEEL USED IN ALL DUCTS SHALL BE AS FOLLOWS:
1. WHERE GREATER RECTANGULAR DIMENSION IS 12" OR LESS USE 26 GAUGE.
2. WHERE GREATER RECTANGULAR DIMENSION IS FROM 12" THROUGH 30" USE 24 GAUGE.
3. WHERE GREATER RECTANGULAR DIMENSION IS FROM 31" THROUGH 54" USE 22 GAUGE.
4. WHERE GREATER RECTANGULAR DIMENSION IS FROM 55" THROUGH 84" USE 20 GAUGE.
B. TRANSVERSE JOINTS AND BRACING TO CONFORM TO 'HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE' (CURRENT SMACNA).
C. ALL DUCTS SHALL BE RIGID AND SHALL BE CROSS-BROKEN, PROPERLY STIFFENED WITH SUITABLE BRACES, TOES, OR ANGLES TO KEEP THEM TRUE TO SHAPE AND PREVENT BUCKLING. ALL VERTICAL DUCTS SHALL BE OF STRONG ENOUGH CONSTRUCTION TO CARRY 100 LBS. SUSPENDED LOAD FROM HANGERS WITHOUT BUCKLING. SOLDER ALL JOINTS WHERE NECESSARY TO INSURE TIGHT WORK. SEAMS OF ALL DUCTS AND JOINTS SHALL BE HAMMERED TO A SMOOTH SURFACE ON THE INSIDE.
D. CONSTRUCTION INCLUDING HANGERS AND SUPPORTING SYSTEMS OF ALL DUCTWORK SHALL ALSO BE IN ACCORDANCE WITH 'HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE' (CURRENT SMACNA).
E. FLEXIBLE CONNECTIONS SHALL BE INSTALLED ON THE OUTLET AND INTAKE OF AIR HANDLING UNITS AND FANS. THESE CONNECTIONS SHALL BE AT LEAST 6' LONG, MADE OF NFPA 90A APPROVED FLAMEPROOF FABRIC.
F. FURNISH AND INSTALL VOLUME CONTROLLER AND EXTRACTOR AT ALL BRANCH TAKEOFFS IN SUPPLY AND RETURN FROM MAIN DUCTS TO ALL BRANCH DUCTS WHERE SHOWN. UNIT SHALL BE OF TWO GAUGES HEAVIER THAN THE DUCT.
G. PROVIDE MANUAL ADJUSTING LEVER FOR EACH UNIT. UNITS SHALL MOVE FROM FULL OPEN TO FULLY CLOSED POSITION TO CONTROL AIR DIRECTION AND VOLUME.
H. FURNISH AND INSTALL TURNING VANES IN ALL ELBOWS OF RECTANGULAR DUCTS. THE BLADES TO BE HOLLOW-FORMED DOUBLE THICKNESS VANES.
I. INSTALL SUPPLY AND RETURN REGISTERS, GRILLES AND DIFFUSERS AS SHOWN ON THE DRAWINGS AND SCHEDULE.
J. FLEXIBLE SUPPLY AIR DUCTWORK SHALL BE BY FLEXMASTER TYPE 'B' OR EQUAL, WITH 1" THICK FIBERGLASS BLANKET INSULATION WITH METALIZED FILM VAPOR BARRIER OUTER JACKET. FLEXIBLE DUCT IN RETURN AIR PLENUM TO BE CLEARLY LABELED 'CLASS 1' EVERY FOUR FEET. FLEXIBLE DUCT LENGTH MAY NOT EXCEED FIVE FEET. INSULATION SHALL HAVE MIN. INSTALLED R-VALUE OF 4.2.
K. METAL DUCTWORK - NO FIBERGLASS DUCT ALLOWED.
L. DUCT CONSTRUCTION SHALL BE AS FOLLOWS:
1. EXCEPT WHERE OTHERWISE INDICATED, CONSTRUCT ALL LOW PRESSURE DUCT IN ACCORDANCE WITH THE LATEST EDITION OF SMACNA STANDARDS WITH THE FOLLOWING PRESSURE CLASSIFICATIONS:
a. SUPPLY DUCTS: 2" W.G. POSITIVE.
b. RETURN AND EXHAUST DUCTS: 2" W.G. NEGATIVE.
2. SEAL ALL LOW PRESSURE DUCTS PER SMACNA CLASS B AND ALL MEDIUM PRESSURE DUCTS TO SMACNA CLASS A.
3. REGARDLESS OF ABOVE DUCT CONSTRUCTION AND SEALANT PRESSURE CLASSIFICATIONS, MAXIMUM DUCT AIR LEAKAGE WILL NOT EXCEED 5% AS REQUIRED FOR FINAL AIR BALANCE APPROVAL.

- M. ROUND DUCTWORK SHALL BE GALVANIZED STEEL WITH SPIRAL LOCK SEAM CONSTRUCTION FOR ALL SIZES 12" DIAMETER AND LARGER. ROUND DUCTWORK SIZES 10" DIAMETER AND SMALLER MAY BE SNAP-LOCK CONSTRUCTION. ALL SNAP-LOCK SEAMS SHALL BE SEALED AS DESCRIBED IN THESE SPECIFICATIONS. ROUND FITTINGS SHALL BE GALVANIZED STEEL WITH SPOT WELDED AND BONDED CONSTRUCTION. DUCTWORK SHALL BE AS MANUFACTURED BY UNITED MCGILL, SERCO, OR APPROVED EQUAL.
N. ALL JOINTS AND SEAMS SHALL BE SEALED WITH 2" WIDE, GLASS-FIBER FABRIC REINFORCED TAPE. JOINTS ALSO SHALL BE RIVETED OR CONNECTED WITH SHEET METAL SCREWS. LIQUID SEALANTS BY UNITED MCGILL CORP., DOW CORNING, MIRACLE ADHESIVES AND SUREBOND INC. WILL BE ACCEPTED IN LIEU OF TAPE.
O. DUCT TRANSITIONS SHALL NOT EXCEED 30 DEGREES SLOPE EXCEPT AS SPECIFICALLY NOTED OTHERWISE.
23 33 00 DAMPERS
A. RECTANGULAR DUCT GALVANIZED STEEL MANUAL BALANCE AND MOTORIZED DAMPERS SHALL BE 16 GAUGE OPPOSED BLADES, CHANNEL FRAME WITH BRACED CORNERS, CONCEALED LIPGAGE, LONG FILLED BEARINGS, 3/8" DIAMETER AXLE, 6" LONG CONTROL SHAFT, MOTORIZED DAMPER TO HAVE REPLACEABLE BUTYL RUBBER SEALS INSTALLED ALONG THE TOP, BOTTOM AND SIDES OF THE FRAME, AS WELL AS, ALONG ALL SIDES OF EACH BLADE.
B. ROUND GALVANIZED STEEL MANUAL BALANCE DAMPER WITH SINGLE 16 GAUGE BLADE, CHANNEL FRAME, STAINLESS STEEL SLEEVE BEARINGS PRESSED INTO FRAME 3/8" DIAMETER, EXTENDED 6" FOR CONTROL SHAFT, BLADE STOP.
C. EQUIP DAMPERS WITH LOCKING QUADRANTS.
D. INSTALL BALANCE DAMPERS WHERE SHOWN ON THE DRAWINGS AND ELSEWHERE AS NECESSARY TO OBTAIN PROPER SYSTEM BALANCE.
E. CHECK DAMPERS FOR PROPER OPERATION BEFORE AND AFTER INSTALLATION.
F. DAMPERS SHALL BE BRUSKIN, EQUAL PRODUCT BY AMERICAN HEATING AND VENTILATING, LOUVERS AND DAMPERS, OR PREFCO MAY BE FURNISHED AT THE CONTRACTOR'S OPTION.
23 37 13 AIR DISTRIBUTION DEVICES
A. LINEAR SLOT SUPPLY AND DIFFUSER - ALUMINUM LINEAR SLOT DIFFUSER. PROVIDE WITH INSULATED PLENUM, PRICE MODEL 5810.
B. LINEAR SLOT RETURN AIR DIFFUSER - ALUMINUM LINEAR SLOT DIFFUSER, REMOVE MODEL 5810Q.
C. SQUARE CEILING SUPPLY AIR DIFFUSER - STEEL SQUARE CEILING DIFFUSER, PRICE MODEL 5810. FACE SHALL BE FLAT, ROUND NECK, PRICE MODEL 58D.
D. RETURN AIR GRILLE - STEEL RETURN AIR GRILLE, 1/2" BLADE SPACING WITH 45° FIXED DEFLECTION BLADES, FRONT EDGES PARALLEL TO THE SHORT DIMENSION, PRICE MODEL 530.
E. SUPPLY AIR GRILLE - STEEL DOUBLE DEFLECTION SUPPLY GRILLE, 3/4" BLADE SPACING, FRONT EDGES PARALLEL TO THE SHORT DIMENSION, PRICE MODEL 520.
F. FINISHES - FURNISH ALL AIR DISTRIBUTION DEVICES WITH PRIME COATED AND WHITE BAKED ENAMEL FINISH COAT UNLESS SPECIFIED OTHERWISE.
G. COORDINATE AIR DISTRIBUTION DEVICE LOCATIONS WITH ALL AFFECTED CONTRACTORS BEFORE INSTALLING DUCTWORK. SIGNIFICANT DEVIATIONS IN LOCATIONS FROM THOSE SHOWN ON THE DRAWINGS MUST BE APPROVED BY ARCHITECT BEFORE INSTALLATION.
H. SUSPEND CEILING AIR DEVICES FROM STRUCTURE ON WIRE HANGERS OR FROM RIGID DUCTWORK. CEILING MUST NOT BE USED TO SUPPORT AIR DISTRIBUTION DEVICES.
I. SECURELY FASTEN SIDE WALL AIR DEVICES TO RIGID DUCTWORK OR STRUCTURE.
J. AIR DISTRIBUTION DEVICES FURNISHED AND INSTALLED BY THE MECHANICAL CONTRACTOR SHALL BE PRICE OR EQUALS BY TITUS, KRUEGER OR NAILOR MEETING REQUIREMENTS AS SHOWN ON SHEET M2.0.
(END OF MECHANICAL SPECIFICATIONS)

- OWNER:
UNTUCKIT
SHIRTS DESIGNED TO BE WORN UNTUCKED.
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North Carolina Firm
License Number #C-3048
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2024 THE ARCHITECT/ENGINEER ASSUMES NO RESPONSIBILITY OR LIABILITY FOR THE USE OF THESE PLANS FOR ANY PROJECT OTHER THAN SPECIFICALLY AUTHORIZED BY THEM AND BOUND AND SEALED TO SUCH SPECIFIC LOCATION IN THE STATE. PROVISIONS OF THESE TERMS SHOWN ON THE BIAL. THIS BUILDING USE IS ONLY APPLICABLE IN AREAS MEETING THE STATE DESIGN CRITERIA.

OWNER:
UNTUCKIT
SHIRTS DESIGNED TO BE WORN UNTUCKED.
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STORE NO:
PROJECT LOCATION:
THE STREETS AT
SOUTHPOINT
6910 FAYETTEVILLE RD
SPACE# 1140
DURHAM, NC 27713
DESIGN TYPE:
REVISIONS:
REQUIRED BY: DATE

DRAWN BY: CMH
CHECKED BY: JTP
* INDICATES NO REVISION TO THIS SET

Bid Set
TRCI
04.10.18

DRAWING TITLE:
MECHANICAL
SPECIFICATIONS

DATE ISSUED:
03/30/2018

PROJECT NO:
180088

DRAWING NO:
M3.0