

HVAC SPECIFICATIONS

CODES AND PERMITS: ALL WORK TO BE DONE IN ACCORDANCE WITH APPLICABLE LOCAL AND STATE CODES. PERMIT AND CONNECTION FEES TO BE PAID BY CONTRACTORS AS REQUIRED.

WARRANTY: WORK AND MATERIALS TO BE WARRANTED FOR ONE (1) YEAR AFTER PROJECT COMPLETION.

DUCTWORK:
RIGID - GALVANIZED SHEET METAL. CONSTRUCT DUCTWORK IN ACCORDANCE WITH SMACNA "HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE", 1985 EDITION. FOLLOW THESE STANDARDS IN ALL CASES WHERE DRAWINGS ARE UNCLEAR OR DO NOT REFLECT EXACT FIELD CONDITIONS.

FLEXIBLE DUCT RUNOUTS:
CONSTRUCT DUCT OF AIRTIGHT POLYESTER CORE WITH GALVANIZED WIRE HELIX, FACTORY INSULATED WITH 0.75 POUND DENSITY FIBERGLASS BLANKET WITH WOVEN GLASS METALLIZED SCRIM AND SEAMLESS VAPOR BARRIER JACKET. DUCT TO BE U.L.L. LABELED CLASS 1 AIR DUCT. FLEXIBLE DUCT TO BE RATED THROUGH SIZE 16" AT 6" W.G. POSITIVE WORKING PRESSURE, AND 0.5" W.G. NEGATIVE WORKING PRESSURE.

DUCT INSTALLED INSIDE BUILDING THERMAL ENVELOPE TO HAVE MINIMUM R-VALUE OF 6.0. DUCT INSTALLED OUTSIDE BUILDING THERMAL ENVELOPE TO HAVE MINIMUM R-VALUE OF 8.0.

INSTALLATION: SEAL ALL CONCEALED DUCT JOINTS (LONGITUDINAL AND TRAVERSE) WITH MASTIC SEALANT PRIOR TO INSTALLING INSULATION. OPEN DUCTS TO HAVE HEMMED TERMINATIONS ON ALL SIDES.

AIR DISTRIBUTION DEVICES: INSTALL DEVICES FLUSH, LEVEL, AND TIGHT AGAINST WALL OR CEILING, WITH GASKET BEHIND EACH DEVICE. DEVICES IN CEILING TO BE COORDINATED WITH LIGHTING FIXTURES, AND BE LOCATED SYMMETRICALLY WITH THE CEILING GRID.

TEST AND BALANCE:
WORK INCLUDE PROVIDING TESTING, ADJUSTING AND BALANCING OF ENVIRONMENTAL SYSTEMS INCLUDING BUT NOT LIMITED TO HYDRONIC AND AIR DISTRIBUTION SYSTEMS AND EQUIPMENT AND APPARATUS CONNECTED THERETO.

WHEN POSSIBLE, TAB WORK TO BE DONE DURING PEAK LOAD CONDITIONS. WORK TO BE ACCOMPLISHED, AND REPORTS SUBMITTED, PRIOR TO PROJECT FINAL INSPECTION BY ARCHITECT.

AIR DISTRIBUTION SYSTEM TO BE ADJUSTED TO QUANTITIES INDICATED AND AS REQUIRED TO ELIMINATE ANY TEMPERATURE GRADIENTS BETWEEN ROOMS OR WITHIN ANY ROOMS GREATER THAN 3 F.

WORK TO BE PERFORMED BY A FIRM CERTIFIED BY NATIONAL ENVIRONMENTAL BALANCING BUREAU, OR EQUIVALENT.

INSULATION:
DUCTWORK, SUPPLY (CONCEALED) - 2" THICK 1.0 LB. DENSITY FIBERGLASS BLANKET WITH VAPOR BARRIER, SECURED WITH STAPLES 2" O.C.

DUCTWORK, SUPPLY (EXPOSED AND FIRST 10' FROM BLOWER) - 1" THICK DUCT LINER. DUCT SIZES NOTED ARE NET INTERNAL.

DUCTWORK, RETURN - SAME AS SUPPLY DUCTWORK.

DUCTWORK, TOILET EXHAUST - NO INSULATION IS REQUIRED.

DUCT LINER, ELASTOMERIC (LOW PRESSURE SYSTEMS)
GENERAL: DUCT LINER TO BE CLOSED-CELL ELASTOMERIC FLAT SHEET TYPE, MEETING ASTM C-534, TYPE II, WITH "K" FACTOR OF .25 OR BETTER AT 75 F MEAN TEMPERATURE. LINER TO BE FIBER-FREE, NON-PARTICULATING, FORMALDEHYDE-FREE, AND FREE OF POBE FLAME RETARDANTS. LINER SHALL HAVE A FACTORY APPLIED COATING WITH EPA-REGISTERED ANTI-MICROBIAL AGENT.

DUCT LINER SHALL HAVE COMPOSITE FIRE AND SMOKE RATINGS NOT EXCEEDING 20' FOR 1 HOUR SPREAD 50 FOR SMOKE CONTRIBUTED AND DEVELOPED.

THICKNESS: VALUES SPECIFIED BELOW ARE MINIMUM, AND MAY NEED TO BE INCREASED TO MEET ENERGY CODES OR CRITERIA OF LOCAL AUTHORITIES.

INTERIOR LOCATIONS (WITHIN THERMAL ENVELOPE): 1" THICK LINER VALUE TO MEET NOISE REDUCTION CRITERIA (NRC) OF 0.40

FIRESTOPPING AND FIRE/SMOKE CAULKING:
PENETRATIONS OF FIRE-RATED BUILDING COMPONENTS BY PIPES, TUBING, DUCTWORK, RACENWAYS, AND WIRING/CABLING SHALL BE PROVIDED WITH APPROPRIATE FIRE BARRIERS. METHODS AND MATERIALS SHALL BE UL LISTED AND SHALL CONFORM TO THE REQUIREMENTS OF ASTM-E814/UL1479.

VOIDS AND OPENINGS SHALL BE SEALED WITH INTUMESCENT CAULK/SEALANT, EQUAL TO STI "LCI SEALANT", 3M #CP-25, OR DOW CORNING #2000. INSTALLATION SHALL BE IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.

WHERE PLASTIC PIPES OR TUBING PENETRATE RATED ASSEMBLIES, PROVIDE INTUMESCENT COLLARS, EQUAL TO STI "SERIES SSP" OR LCC FIRESTOP COLLARS".

WHERE ELECTRICAL BOXES ARE INSTALLED IN STUD WALL RATED ASSEMBLIES, PROVIDE INTUMESCENT PUTTY PADS AROUND EXTERIOR OF BOX, EQUAL TO STI "SSP PUTTY PADS".

WHERE UL LISTED SYSTEMS (KHEZ THROUGH-PENETRATION FIRESTOP SYSTEMS) ARE REQUIRED, USE COMPONENTS AS MANUFACTURED BY 3M, DOW CORNING, HILTI, METALINES, STI, HEVI-DUTY NELSON, OR JOHNS-MANVILLE.

PENETRATIONS OF SMOKE-TIGHT BUILDING COMPONENTS BY PIPES, TUBING, DUCTWORK, RACENWAYS, AND WIRING/CABLING SHALL BE PROVIDED WITH APPROPRIATE SMOKE-TIGHT CAULKING. METHODS AND MATERIALS SHALL BE UL LISTED AND SHALL CONFORM TO THE REQUIREMENTS OF APPLICABLE ASTM/UL STANDARDS.

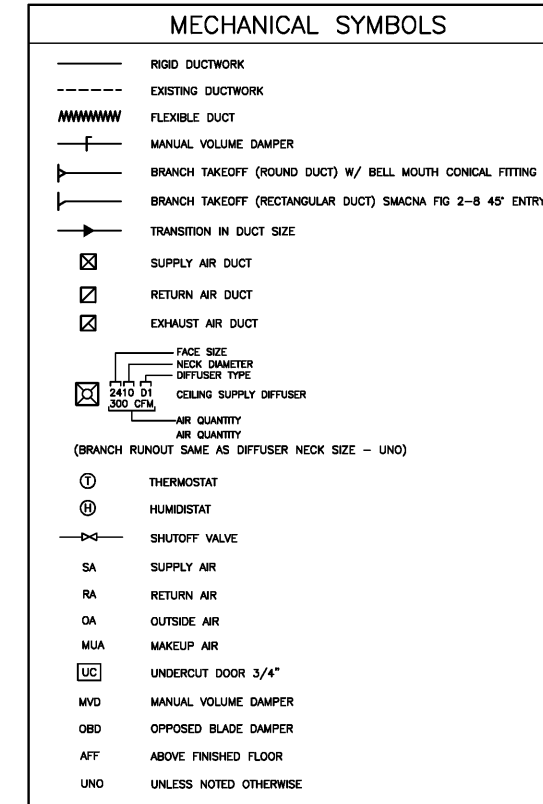
HVAC EQUIPMENT: AS SCHEDULED, WITH CONTROLS AND ACCESSORIES FOR A COMPLETE, FUNCTIONAL SYSTEM.

VENTILATING FAN SCHEDULE									
MARK	DESCRIPTION	CFM	EXT. S.P.	HP	RPM DRIVE	SONES	VOLTS PHASE	MANUFACTURER & CATALOG NO.	ACCESSORIES/REMARKS
EF-4	CENTRIFUGAL CEILING EXHAUST	75	0.250"	50W	800 DIRECT	2.5	115 1	GREENHECK SP-B90	W/ AUTO. BACKDRAFT DAMPER, DISCONNECT SWITCH, INTEGRAL GRILLE, BVE808 VENT, NOTE 2

NOTES:
1. ACCEPTABLE MFR'S: AOME, COOK, GREENHECK, PENN. TWIN CITY
2. EXTEND 6" RD. EXHAUST DUCT TO BRICK VENT, AS DIRECTED. TRANSITION AS REQUIRED.

AIR DISTRIBUTION DEVICE SCHEDULE						
TYPE	DESCRIPTION	MOUNTING	MANUFACTURER AND CATALOG NO.	MATERIAL	FINISH	ACCESSORIES AND REMARKS
D1	SUPPLY DIFFUSER LOUVER FACE, RD. NECK 24"X 24" FACE	CEILING	TITUS TMS W/ DAMPER D-100 (6"-12")	STEEL	WHITE ENAMEL	CONCENTRIC LOUVER CONFIGURATION, VOLUME DAMPER, TYPE 3 BORDER, TRM FRAME AT SURFACE LOCATIONS
D2	SUPPLY DIFFUSER LOUVER FACE, RD. NECK 12"X 12" FACE	CEILING	TITUS TMS W/ D-100	STEEL	WHITE ENAMEL	CONCENTRIC LOUVER CONFIGURATION, OB VOLUME DAMPER, TYPE 1 BORDER FOR SURFACE INSTALLATION
G1	RETURN/EXH GRILLE EGGRATE GRID	CEILING	TITUS TMS W/ PRICE "RAC"	ALUMINUM	WHITE ENAMEL	1/2"X1/2"X1/2" GRID, TYPE 3 BORDER, TRM FRAME AT SURFACE LOCATIONS
R1	RETURN/EXH REGISTER EGGRATE GRID	CEILING	TITUS TMS W/ PRICE "RAC"	ALUMINUM	WHITE ENAMEL	1/2"X1/2"X1/2" GRID, TYPE 3 BORDER, TRM FRAME AT SURFACE LOCATIONS, OB DAMPER

NOTES:
1. ACCEPTABLE MFR'S: TITUS, TUBS & BAILEY, KRUEGER, METALAIRE, ANEMOSTAT, PRICE, NAILOR
2. PROVIDE TRANSITION FROM DIFFUSER NECK TO ROUND DUCT RUNOUT SIZE IF REQUIRED.
WHERE INDICATED OR REQUIRED, PROVIDE PRICE "RAC" RETURN AIR CANOPY ABOVE GRILLE.



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Revision Schedule		
Rev. #	Rev. Date	Revision Description

Release Date: 05.10.2020
Project No.: 20021

PRELIMINARY
PRICING SET
NOT FOR CONSTRUCTION

Project #: AZ021
HVAC DETAILS

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M2.01