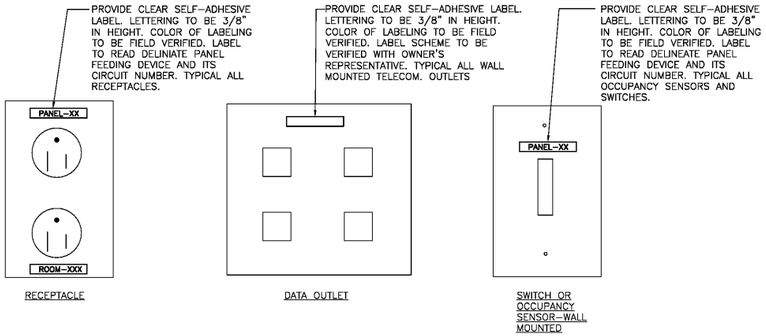
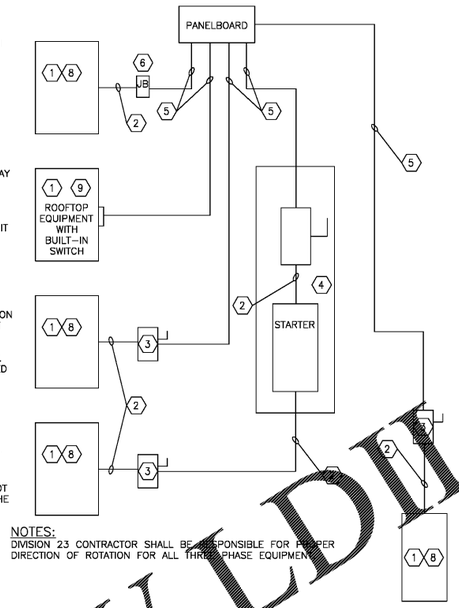


F1 DEVICE LABELING DETAILS
1/4" = 1'-0"

KEYED NOTES:

1. EQUIPMENT OF TRADES OTHER THAN ELECTRICAL.
2. CONDUIT & WIRING BY HVAC, PLUMBING CONTRACTOR OR OTHER TRADES.
3. IF AN ADDITIONAL DISCONNECT IS REQUIRED BY NEC, IT SHALL BE PROVIDED AND INSTALLED BY THE EQUIPMENT CONTRACTOR.
4. A COMBINATION STARTER OR VFD MAY BE USED IN LIEU OF A SEPARATE DISCONNECT SWITCH AND STARTER. LOCATED ADJACENT TO EQUIPMENT.
5. FEEDER CIRCUIT WIRING AND CONDUIT IN ELECTRICAL WORK. SEE PANELBOARD SCHEDULES FOR WIRE AND BREAKER SIZES.
6. JUNCTION BOX MAY BE SHOWN ON ELECTRICAL PLANS FOR SOME EQUIPMENT. IF NO STARTER OR DISCONNECT IS SUPPLIED, A JUNCTION BOX SHALL BE INSTALLED ADJACENT TO EQUIPMENT. THE ELECTRICAL CONTRACTOR SHALL PROVIDE LINE SIDE WIRING TO THE JUNCTION BOX. LOAD SIDE WIRING WILL BE PROVIDED BY MECHANICAL CONTRACTOR OR OTHER TRADES.
7. NOT USED.
8. IN ALL CASES THE EQUIPMENT CONTRACTOR SHALL MAKE FINAL CONNECTIONS, START UP, AND TEST EQUIPMENT.
9. IF THE ROOF TOP EQUIPMENT IS NOT PROVIDED WITH BUILT IN SWITCH, THE ELECTRICAL CONTRACTOR SHALL PROVIDE A DISCONNECT SWITCH.

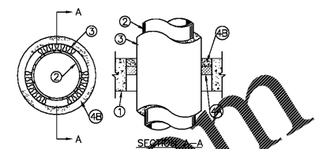


NOTES:
DIVISION 23 CONTRACTOR SHALL BE RESPONSIBLE FOR PROPER DIRECTION OF ROTATION FOR ALL THREE PHASE EQUIPMENT.

E4 ELECTRICAL CONNECTIONS TO MECHANICAL EQUIPMENT DETAIL
NO SCALE

SYSTEM NO. C-AJ-5001
MARCH 05, 2007

F RATINGS – 1-1/2, 2 AND 3 HR (SEE ITEM 4)
T RATINGS – 0, 1/2, 3/4 AND 1 HR (SEE ITEMS 1A AND 4)
L RATING AT AMBIENT – 2 CFM PER SQ FT
L RATING AT 400 F – LESS THAN 1 CFM PER SQ FT



SECTION A-A

1. FLOOR OR WALL ASSEMBLY – MIN 2-1/2 IN. THICK REINFORCED LIGHTWEIGHT OR NORMAL WEIGHT (100-150 PCF) CONCRETE. WALL MAY ALSO BE CONSTRUCTED OF ANY UL CLASSIFIED CONCRETE BLOCKS*. MAX DIAM OF OPENING IS 18 IN.

   SEE CONCRETE BLOCKS (CAZT) CATEGORY IN THE FIRE RESISTANCE DIRECTORY FOR NAMES OF MANUFACTURERS.

1A. STEEL SLEEVE – (OPTIONAL, NOT SHOWN) – NOM 10 IN. (OR SMALLER) SCHEDULE 10 (OR HEAVIER) STEEL SLEEVE CAST OR GROUTED INTO FLOOR OR WALL ASSEMBLY. SLEEVE MAY EXTEND A MAX OF 2 IN. ABOVE TOP OF FLOOR OR BEYOND EITHER SURFACE OF WALL. AS AN ALTERNATE, NOM 10 IN. DIAM (OR SMALLER) SLEEVE FABRICATED FROM NOM 0.019 IN THICK GALV STEEL CAST OR GROUTED INTO FLOOR OR WALL ASSEMBLY FLUSH WITH FLOOR OR WALL SURFACES. I RATING IS 0 HR WHEN SLEEVE IS USED.

2. THROUGH PENETRANT – NOM 4 IN. DIAM (OR SMALLER) TYPE L (OR HEAVIER) COPPER PIPE, NOM 12 IN. DIAM (OR SMALLER) SERVICE WEIGHT (OR HEAVIER) CAST IRON SOIL PIPE, NOM 12 IN. DIAM (OR SMALLER) CLASS 50 (OR HEAVIER) DUCTILE IRON PRESSURE PIPE OR NOM 12 IN. DIAM (OR SMALLER) SCHEDULE 10 (OR HEAVIER) STEEL PIPE CENTERED IN THE OPENING AND RIGIDLY SUPPORTED ON BOTH SIDES OF THE FLOOR OR WALL ASSEMBLY.

3. PIPE COVERING* – NOM 1/2 TO 2 IN. THICK HOLLOW CYLINDRICAL HEAVY DENSITY (MIN. 3.5 PCF) GLASS FIBER UNITS JACKETED ON THE OUTSIDE WITH AN ALL SERVICE JACKET. LONGITUDINAL JOINTS SEALED WITH METAL FASTENERS OR FACTORY-APPLIED SELF-SEALING LAP TAPE. TRANSVERSE JOINTS SECURED WITH METAL FASTENERS OR WITH BUTT STRIP TAPE SUPPLIED WITH THE PRODUCT.

   SEE PIPE AND EQUIPMENT COVERING – MATERIALS* (BRGU) CATEGORY IN BUILDING MATERIALS DIRECTORY FOR NAMES OF MANUFACTURERS. ANY PIPE COVERING MATERIAL MEETING THE ABOVE SPECIFICATIONS AND BEARING THE UL CLASSIFICATION MARKING WITH A FLAME SPREAD INDEX OF 25 OR LESS AND A SMOKE DEVELOPED INDEX OF 50 OR LESS MAY BE USED.

4. FIRESTOP SYSTEM – THE DETAILS OF THE FIRESTOP SYSTEM SHALL BE AS FOLLOWS:

   A. PACKING MATERIAL – MIN 1 IN. THICKNESS OF FIRMLY PACKED MINERAL WOOL BATT INSULATION USED AS A PERMANENT FORM. PACKING MATERIAL TO BE RECESSED FROM TOP SURFACE OF FLOOR OR SLEEVE OR FROM BOTH SURFACES OF WALL AS REQUIRED TO ACCOMMODATE THE REQUIRED THICKNESS OF CAULK FILL MATERIAL (ITEM B).

   B. FILL, VOID OR CAVITY MATERIAL* – CAULK OR SEALANT – APPLIED TO FILL THE ANNULAR SPACE FLUSH WITH THE TOP SURFACE OF THE FLOOR OR SLEEVE OR FLUSH WITH BOTH SURFACES OF WALL. WHEN NOM PIPE COVERING THICKNESS IS 2 IN., MIN THICKNESS OF CAULK FILL MATERIAL IS 2 IN. WHEN NOM PIPE COVERING THICKNESS IS 1-1/2 IN. OR LESS, MIN THICKNESS OF CAULK FILL MATERIALIS 1 IN. THE HOURLY F AND T RATINGS OF THE FIRESTOP SYSTEM ARE DEPENDENT UPON THE THICKNESS OF THE FLOOR OR WALL, THE SIZE OF PIPE, THE THICKNESS OF PIPE COVERING MATERIAL AND THE SIZE OF THE ANNULAR SPACE (BETWEEN THE PIPE COVERING MATERIAL AND THE EDGE OF THE CIRCULAR THROUGH OPENING), AS SHOWN IN THE FOLLOWING TABLE:

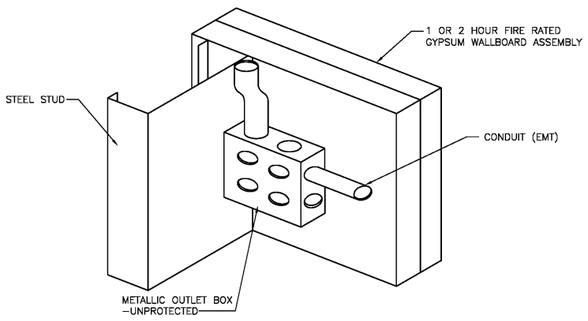
MIN FLOOR OR WALL THKNS IN.	MAX PIPE DIAM. IN.	NOM. PIPE COVERING THKNS. IN.	ANNULAR SPACE IN.	F RATING HR.	T RATING HR.
2-1/2	4	1 or 1-1/2	1/2 to 2-3/8	2	1
4-1/2	4	2	1/4 to 3-5/8	2	1-1/2
2-1/2	12	1	1/2 to 1-1/2	2	1/2
4-1/2	12	1	1/2 to 2-3/8	3	1
2-1/2	12	1/2	1/2 to 2-3/8	2	0

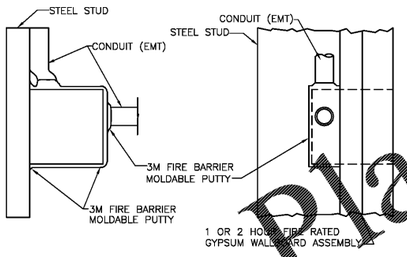
3M COMPANY – CP 25WB+ OR FB-3000 WT

*INDICATES SUCH PRODUCTS SHALL BEAR THE UL OR cUL CERTIFICATION MARK FOR JURISDICTIONS EMPLOYING THE UL OR cUL CERTIFICATION (SUCH AS CANADA), RESPECTIVELY.

COPYRIGHT © 2017 UNDERWRITERS LABORATORIES, INC. REPRODUCED FROM THE UL ONLINE CERTIFICATIONS DIRECTORY WITH PERMISSION FROM UNDERWRITERS LABORATORIES, INC.

B7 UL PENETRATION DETAIL
1/4" = 1'-0"





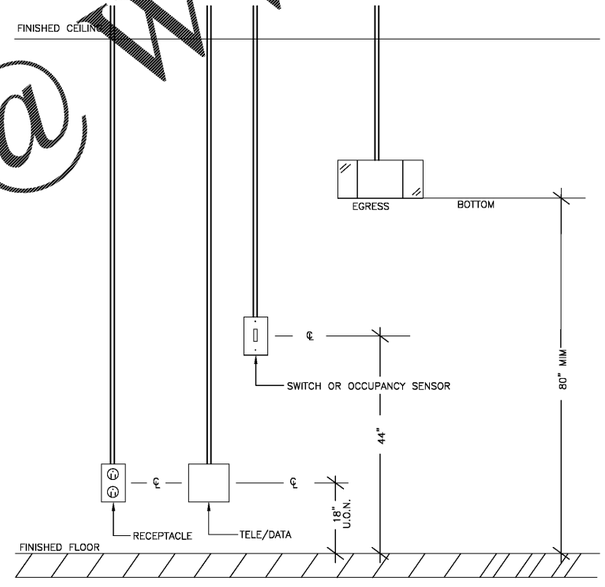
SYSTEM DETAILS

1. DRAWING NO.: 5300-ICG85.01
2. SYSTEM JUSTIFICATION: UL TEST REPORT R9700, 89NK19577 (11/9/89) AND R9700, 91NK21798 (10/10/91), TESTS CONDUCTED IN ACCORDANCE WITH THE STANDARD, FIRE TESTS OF BUILDING CONSTRUCTION AND MATERIALS, ANSI/UL 263 (ASTM E119, CAN/ULC-S101).
3. ASSEMBLY: 1 OR 2 HR FIRE RATED GYPSUM WALLBOARD/STUD WALL. WALL FRAMING MAY CONSIST OF EITHER WOOD STUDS, STEEL CHANNEL STUDS – 1 HR. RATING OR STEEL CHANNEL STUDS – 2 HR. RATING.
4. RATING – 1 HR. OR 2 HR.
5. ITEM TO BE PROTECTED: METALLIC OUTLET BOX – UP TO 4S. NOTE: THIS APPLICATION IS INTENDED TO PREVENT FLAME THROUGH AND SMOKE PROPAGATION BY SEALING "KNOCK-OUTS" AND OPENINGS IN THE BOX/ ASSEMBLY. IT ALSO INHIBITS HEAT TRANSFER TO THE NON-FIRESIDE SURFACE OF THE WALL.

APPLICATION DETAILS

1. APPLY A LAYER OF 3M FIRE BARRIER MOLDABLE PUTTY PAD TO THE METALLIC OUTLET BOX, COVERING ALL EXPOSED SURFACES. NOMINAL PUTTY THICKNESS IS 1/8 IN. (MPP1 = 4"x8"x1/8", MPP – 4S = 6"x7"x1/8")
2. PRESS THE PUTTY INTO THE INTERFACE PERIMETER OF THE OUTLET BOX AND THE STUD AND ALSO THE INTERFACE OF THE OUTLET BOX AND THE GYPSUM WALLBOARD.
3. SEAL ANY "KNOCK-OUT" HOLE CONTAINING WIRE OR CONDUIT WITH A GENEROUS AMOUNT OF MOLDABLE PUTTY.

A1 PUTTY-PAD DETAIL
1/4" = 1'-0"



NOTE:
NOT ALL DEVICES MAY BE USED IN CONSTRUCTION.

A4 RECEPTACLE INSTALLATION DETAIL
1/4" = 1'-0"

Order Plans @ WWW.LDILibrary.com

Davis Kane ARCHITECTS, P.A.
ARCHITECTURE . PLANNING . INTERIORS
503-300 OBERLIN ROAD, RALEIGH, NC 27605
919.833.3737 WWW.DAVISKANE.COM

CONSULTANT
Sigma Engineered Solutions, PC
3100 Gateway Centre Drive
Suite 100
Morrisville, NC 27560
Ph.: 919.840.9300
Fx.: 919.840.9600
www.sigmaes.com
North Carolina License #: C-2480
Sigma Project #: 19027

PROJECT INFORMATION

UNCG ATHLETICS COLEMAN BUILDING WEIGHT ROOM

SCO ID No. 19-20597-01A | Code: 41825 | Item: 304
1408 Walker Ave. Greensboro, NC 27402

SEALS

NORTH CAROLINA PROFESSIONAL SEAL 019668 ENGINEER REINALD D. JONES
10-18-19

DKA JOB NUMBER

REVISIONS

These drawings are the property of Davis Kane Architects, P.A. They may not be reused for any purpose without written permission.
Copyright ©2018 by Davis Kane Architects, P.A. All rights reserved.

PE: RDA
PM: PJR
Drawn By: SDR
Plot Date: 10/18/2019 10:00:00 PM

DATE ISSUED
BID DOCUMENTS
10/22/2019

SHEET TITLE
ELECTRICAL DETAILS

E-3.1