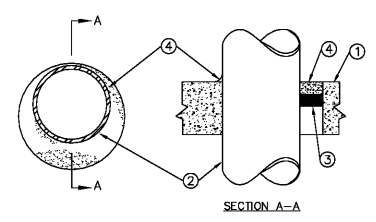


SYSTEM NO. C-AJ-1001  
 MARCH 05, 2007  
 F RATINGS-3 HR  
 T RATINGS-0 HR  
 W RATING - CLASS 1 (SEE ITEM 4)



1. FLOOR OR WALL ASSEMBLY - MIN 4-1/2 IN. THICK LIGHTWEIGHT OR NORMAL WEIGHT (100-150 PCF) CONCRETE. WALL MAY ALSO BE CONSTRUCTED OF ANY UL CLASSIFIED CONCRETE BLOCKS\*. MAX DIAM OF CIRCULAR THROUGH OPENING IS 32-1/2 IN.

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

1A. STEEL SLEEVE - (OPTIONAL, NOT SHOWN) - NOM 12 IN. DIAM (OR SMALLER) SCHEDULE 40 (OR HEAVIER) STEEL PIPE SLEEVE CAST INTO CONCRETE FLOOR OR WALL. SLEEVE TO BE FLUSH WITH OR PROJECT MAX 2 IN. FROM TOP SURFACE OF FLOOR OR FROM BOTH SURFACES OF WALL. AS AN ALTERNATE, NOM 12 IN DIAM (OR SMALLER) SLEEVE FABRICATED FROM NOM 0.019 IN THICK GALV STEEL CAST OR GROUNDED INTO FLOOR OR WALL ASSEMBLY FLUSH WITH FLOOR OR WALL SURFACE.

2. THROUGH-PENETRANT - ONE METALLIC PIPE, CONDUIT OR TUBING INSTALLED EITHER CONCENTRICALLY OR ECCENTRICALLY WITHIN THE FIRESTOP SYSTEM. THE ANNULAR SPACE BETWEEN PIPE, CONDUIT OR TUBING AND PERIPHERY OF OPENING SHALL BE MIN OF 0 IN. (POINT CONTACT) TO MAX 1-3/8" IN. PIPE, CONDUIT OR TUBING TO BE RIGIDLY SUPPORTED ON BOTH SIDES OF WALL ASSEMBLY. THE FOLLOWING TYPES AND SIZES OF METALLIC PIPES, CONDUITS OR TUBING MAY BE USED:

- A. STEEL PIPE-NOM 30 IN. DIAM (OR SMALLER) SCHEDULE 10 (OR HEAVIER) STEEL PIPE.
- A1. IRON PIPE-NOM 30 IN. DIAM (OR SMALLER) CAST OR DUCTILE IRON PIPE.
- B. CONDUIT-NOM 6 IN. DIAM (OR SMALLER) RIGID STEEL CONDUIT.
- C. CONDUIT- NOM 4 IN. DIAM (OR SMALLER) STEEL ELECTRICAL METALLIC TUBING.

3. PACKING MATERIAL - POLYETHYLENE BACKER ROD OR NOM 1 IN. THICKNESS OF TIGHTLY-PACKED CERAMIC (ALUMINA SILICA) FIBER BLANKET, MINERAL WOOL BATT OR GLASS FIBER INSULATION MATERIAL USED AS A PERMANENT FORM. PACKING MATERIAL TO BE RECESSED FROM TOP SURFACE OF FLOOR OR FROM BOTH SURFACES OF SOLID CONCRETE OR CONCRETE BLOCK WALL AS REQUIRED TO ACCOMMODATE THE REQUIRED THICKNESS OF CAULK FILL MATERIAL (ITEM 4). AS AN ALTERNATE WHEN MAX PIPE DIAM IS 10 IN. DIAM AND WHEN MAX ANNULAR SPACE IS 1 IN., A MIN 1 IN. THICKNESS OF TIGHTLY-PACKED CERAMIC FIBER BLANKET OR MINERAL WOOL BATT PACKING MATERIAL MAY BE RECESSED MIN 1/2 IN. FROM BOTTOM SURFACE OF FLOOR OR FROM EITHER SIDE OF SOLID CONCRETE WALL.

4. FILL, VOID OR CAVITY MATERIALS\* - CAULK - APPLIED TO FILL THE ANNULAR SPACE TO THE MIN THICKNESS SHOWN IN THE FOLLOWING TABLE:

MAX PIPE DIAM IN	MAX ANNULAR SPACE IN.	PACKING MATERIAL TYPE (A)	MIN. CAULK THICKNESS IN.
10	1	BR, CF, GF OR MW	2 (B)
10	1	CF OR MW	1 (C)
30	2-1/2	BR, CF, GF OR MW	1 (B)

(A) BR= POLYETHYLENE BACKER ROD  
 CF= CERAMIC FIBER BLANKET.  
 GF= GLASS FIBER INSULATION.  
 MW= MINERAL WOOL BATT

CAULK IS INSTALLED FLUSH WITH TOP SURFACE OF FLOOR OR BOTH SURFACES OF WALL  
 (B) CAULK IS FLUSH WITH BOTTOM SURFACE OF FLOOR OR ONE SURFACE OF SOLID (NON-CONCRETE BLOCK) WALL.

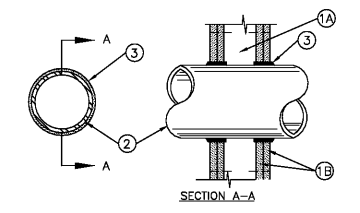
3M COMPANY- TYPE CP 25WB+ OR FB-3000 WT

NOTE - W RATING APPLIES ONLY WHEN FB-3000 WT IS USED ON TOP SURFACE OF FLOOR AND WHEN IT LAPS ONTO CONCRETE FOR SLEEVED OPENING.)

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

COPYRIGHT © 2019 UNDERWRITERS LABORATORIES, INC. REPRODUCED FROM THE UL ONLINE CERTIFICATIONS DIRECTORY WITH PERMISSION FROM UNDERWRITERS LABORATORIES, INC.

SYSTEM NO. W-L-1001  
 JUNE 15, 2005  
 F RATINGS-1, 2, 3 AND 4 HR (SEE ITEMS 2 AND 3)  
 T RATING-0, 1, 2, 3, AND 4 HR. (SEE ITEM 3)  
 L RATING AT AMBIENT - LESS THAN 1 CFM/SQ. FT.  
 L RATING AT 400°F - LESS THAN 1 CFM/SQ. FT.



1. WALL ASSEMBLY-THE 1, 2, 3 OR 4 HR FIRE-RATED GYPSUM WALLBOARD/STUD WALL ASSEMBLY SHALL BE CONSTRUCTED OF THE MATERIALS AND IN THE MANNER DESCRIBED IN THE INDIVIDUAL U300 OR U400 SERIES WALL OR PARTITION DESIGNS IN THE UL FIRE RESISTANCE DIRECTORY AND SHALL INCLUDE THE FOLLOWING CONSTRUCTION FEATURES:

A. STUDS - WALL FRAMING MAY CONSIST OF EITHER WOOD STUDS (MAX 2 H FIRE RATED ASSEMBLIES) OR STEEL CHANNEL STUDS. WOOD STUDS TO CONSIST OF NOM 2 BY 4 IN. LUMBER SPACED 16 IN. OC WITH NOM 2 BY 4 IN. LUMBER END PLATES AND CROSS BRACES. STEEL STUDS TO BE MIN 3-5/8 IN. WIDE BY 1-3/8 IN. DEEP CHANNELS SPACED MAX 24 IN. OC.

B. GYPSUM BOARD\* - NOM 1/2 OR 5/8 IN. THICK, 4 FT. WIDE WITH SQUARE TAPERED EDGES. THE GYPSUM WALLBOARD TYPE, THICKNESS, NUMBER OF LAYERS, FASTENER TYPE AND SHEET ORIENTATION SHALL BE AS SPECIFIED IN INDIVIDUAL U300 OR U400 SERIES DESIGN IN THE UL FIRE RESISTANCE DIRECTORY. MAX DIAM OF OPENING IS 26 IN.

2. THROUGH-PENETRANT - ONE METALLIC PIPE, CONDUIT OR TUBING INSTALLED EITHER CONCENTRICALLY OR ECCENTRICALLY WITHIN A FIRESTOP SYSTEM. THE ANNULAR SPACE BETWEEN PIPE, CONDUIT OR TUBING AND PERIPHERY OF OPENING SHALL BE MIN OF 0 IN. (POINT CONTACT) TO MAX 2 IN. PIPE, CONDUIT OR TUBING TO BE RIGIDLY SUPPORTED ON BOTH SIDES OF WALL ASSEMBLY. THE FOLLOWING TYPES AND SIZES OF METALLIC PIPES, CONDUITS OR TUBING MAY BE USED:

- A. STEEL PIPE - NOM 30 IN. DIAM (OR SMALLER) SCHEDULE 10 (OR HEAVIER) STEEL PIPE.
- B. IRON PIPE - NOM 24 IN. DIAM (OR SMALLER) SERVICE WEIGHT (OR HEAVIER) CAST IRON-SEAL PIPE, NOM 12 IN. DIAM (OR SMALLER) OR CLASS 50 (OR HEAVIER) DUCTILE IRON PRESSURE PIPE.
- C. CONDUIT - NOM 6 IN. DIAM (OR SMALLER) STEEL CONDUIT OR NOM 4 IN. DIAM (OR SMALLER) STEEL ELECTRICAL METALLIC TUBING.
- D. COPPER PIPING - NOM 6 IN. DIAM (OR SMALLER) TYPE L (OR HEAVIER) COPPER TUBING.
- E. COPPER PIPE - NOM 6 IN. DIAM (OR SMALLER) REGULAR (OR HEAVIER) COPPER PIPE.
- F. THROUGH PENETRATING PRODUCT\* - FLEXIBLE METAL PIPING THE FOLLOWING TYPES OF STEEL FLEXIBLE METAL GAS PIPING MAY BE USED:

1. NOM 2 IN. DIAM (OR SMALLER) STEEL FLEXIBLE METAL GAS PIPING. PLASTIC COVERING ON PIPING MAY OR MAY NOT BE REMOVED ON BOTH SIDES OF FLOOR OR WALL ASSEMBLY.

OMEGA FLEX INC

2. NOM 1 IN. DIAM (OR SMALLER) STEEL FLEXIBLE METAL GAS PIPING. PLASTIC COVERING ON PIPING MAY OR MAY NOT BE REMOVED ON BOTH SIDES OF FLOOR OR WALL ASSEMBLY.

GASTILE, DIV OF TITFLEX

3. NOM 1 IN. DIAM (OR SMALLER) STEEL FLEXIBLE METAL GAS PIPING. PLASTIC COVERING ON PIPING MAY OR MAY NOT BE REMOVED ON BOTH SIDES OF FLOOR OR WALL ASSEMBLY.

WARD MFG L L C

3. FILL, VOID OR CAVITY MATERIAL\* - CAULK OR SEALANT - MIN 5/8, 1-1/4, 1-7/8 AND 2-1/2 IN. THICKNESS OF CAULK FOR 1, 2, 3, AND 4 HR RATED ASSEMBLIES, RESPECTIVELY, APPLIED WITHIN ANNULUS, FLUSH WITH BOTH SURFACES OR WALL. MIN 1/4 IN. DIAM BEAD OF CAULK APPLIED TO GYPSUM BOARD/PENETRANT INTERFACE AT POINT CONTACT LOCATION ON BOTH SIZE OF WALL. THE HOURLY F RATING OF THE FIRESTOP SYSTEM IS DEPENDENT UPON THE HOURLY FIRE RATING OF THE WALL ASSEMBLY IN WHICH IT IS INSTALLED, AS SHOWN IN THE FOLLOWING TABLE. THE HOURLY T RATING OF THE FIRESTOP SYSTEM IS DEPENDENT UPON THE TYPE OR SIZE OF THE PIPE OR CONDUIT AND THE HOURLY FIRE RATING OF THE WALL ASSEMBLY IN WHICH IT IS INSTALLED, AS TABULATED BELOW.

MAX PIPE OR CONDUIT DIAM, IN	F RATING HR	T RATING HR
1	1 or 2	0+, 1 or 2
1	3 or 4	3 or 4
4	1 or 2	0
6	3 or 4	0
12	1 or 2	0

+WHEN COPPER PIPE IS USED, T RATING IS 0 H.  
 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 © 2019 UNDERWRITERS LABORATORIES, INC. REPRODUCED FROM THE UL ONLINE CERTIFICATIONS DIRECTORY WITH PERMISSION FROM UNDERWRITERS LABORATORIES, INC.

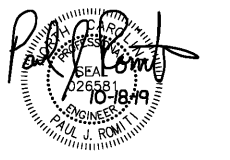
Order Plans @ [www.dlLine.com](http://www.dlLine.com)

**Davis Kone**  
 ARCHITECTS, P.A.  
 ARCHITECTURE · PLANNING · INTERIORS  
 503-300 OBERLIN ROAD, DALEIGHT, NC 27616  
 919-653-3737 · WWW.DAVISKONE.COM

CONSULTANT  
**Sigma**  
 Sigma Engineering Solutions, PC  
 2100 Gateway Center Drive  
 Suite 100  
 Raleigh, NC 27601  
 Tel: 919-848-9332  
 Fax: 919-848-9590  
 www.sigmapro.com  
 North Carolina License # 0-2489  
 Sigma Project # 14827  
 S-01 LICENSE  
 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



DKA JOB NUMBER

REVISIONS

NO.	DATE	DESCRIPTION

These drawings are the property of Davis Kone Architects, P.A. They may not be reused for any purpose without written permission. Copyright © 2019 by Davis Kone Architects, P.A. All rights reserved.

PE: PAUL J. ROMITI  
 PM: PJR  
 Drawn By: JRE  
 Plot Date: 10/18/2019 10:00:00 PM

DATE ISSUED

BID DOCUMENTS  
 10/22/2019

SHEET TITLE  
 FIRE PROTECTION  
 DETAIL

FP-5.1