

THROUGH PENETRATION FIRESTOP SCHEDULE

- A. THIS SCHEDULE IDENTIFIES REQUIREMENTS FOR ACCEPTABLE THROUGH PENETRATION FIRESTOPS FOR THIS PROJECT BASED ON BARRIER TYPE, BASIS OF BARRIER CONSTRUCTION, AND PENETRANT TYPE.
- B. THROUGH PENETRATION FIRESTOPS ARE NOT REQUIRED FOR FLOOR PENETRATIONS CONTAINED TOTALLY WITHIN A RATED SHAFT ENCLOSURE.
- C. FOR EACH PENETRATION, SELECT A THROUGH PENETRATION FIRESTOP BASED ON ACTUAL FIELD CONDITIONS, WHICH INCLUDE BUT ARE NOT LIMITED TO PENETRATION SIZE, PENETRATION SHAPE, PENETRANT MATERIAL(S), QUANTITY OF PENETRANTS PER PENETRATION, AND LOCATION(S) OF PENETRANT(S) WITHIN PENETRATION.
- D. NOMENCLATURE OF UL CLASSIFIED FIRESTOP ASSEMBLIES USED IN THIS SCHEDULE IS IDENTICAL TO THAT USED IN CATALOGS OF APPROVED FIRESTOP MANUFACTURERS (SEE DIVISION 15) AND IN UNDERWRITERS LABORATORIES "FIRE RESISTANCE DIRECTORY."

| RATED BARRIER | | PENETRANT TYPE | | | | | | |
|---------------|--|--------------------------------|---------------------|--|---|--|---|---|
| TYPE | BASIS OF CONSTRUCTION | FIRESTOP ASSEMBLY REQUIREMENTS | NO PENETRANTS | METALLIC, UNINSULATED PIPE OR TUBING (EX. COPPER, IRON, STEEL) | NONMETALLIC, UNINSULATED PIPE OR TUBING (EX. PVC, PP, FRPP) | INSULATED PIPES (EX. COPPER, IRON, PLASTIC, STEEL) IN SYSTEMS OPERATING BETWEEN 32°F AND 122°F | INSULATED PIPES (EX. COPPER, IRON, PLASTIC, STEEL) IN SYSTEMS OPERATING BELOW 32°F OR ABOVE 122°F | METAL DUCT (NOTE 1) |
| WALL | METAL STUDS & GYPSUM WALLBOARD (U400 SERIES) | UL CLASSIFIED SERIES | SINGLE PENETRANT | W-L-0000 SERIES OR NOTE 2 | W-L-1000 SERIES | W-L-2000 SERIES | W-L-5000 SERIES | W-L-5000 SERIES |
| | | | MULTIPLE PENETRANTS | | W-L-8000 SERIES (NOTE 3) | | W-L-8000 SERIES (NOTE 3) | W-L-8000 SERIES (NOTE 3) |
| | | | F RATING | EQUAL TO WALL RATING | EQUAL TO WALL RATING | EQUAL TO WALL RATING | EQUAL TO WALL RATING | EQUAL TO WALL RATING |
| | | | T RATING | NOTE 5 | NOTE 5 | NOTE 5 | NOTE 5 | NOTE 5 |
| | | EXCEPTIONS/ ADDED REQUIREMENTS | NONE | NOTE 8 | NOTE 8 | NOTE 4 | NOTE 4 | |
| WALL | POURED CONCRETE, CONCRETE BLOCK OR MASONRY (BLOCK & U900 SERIES) (ANY THICKNESS) | UL CLASSIFIED SERIES | SINGLE PENETRANT | W-J-0000 SERIES OR NOTE 2 | C-AJ-1000 OR W-J-1000 SERIES | C-AJ-2000 OR W-J-2000 SERIES | C-AJ-5000 OR W-J-5000 SERIES | C-AJ-5000 OR W-J-5000 SERIES |
| | | | MULTIPLE PENETRANTS | | C-AJ-8000 OR W-J-8000 SERIES (NOTE 3) | | C-AJ-8000 OR W-J-8000 (NOTE 3) | C-AJ-8000 OR W-J-8000 (NOTE 3) |
| | | | F RATING | EQUAL TO WALL RATING | EQUAL TO WALL RATING | EQUAL TO WALL RATING | EQUAL TO WALL RATING | EQUAL TO WALL RATING |
| | | | T RATING | NOTE 5 | NOTE 5 | NOTE 5 | NOTE 5 | NOTE 5 |
| | | EXCEPTIONS/ ADDED REQUIREMENTS | NONE | NOTES 7 & 8 | NOTE 8 | NONE | NOTE 4 | |
| FLOOR | POURED CONCRETE (ANY THICKNESS) | UL CLASSIFIED SERIES | SINGLE PENETRANT | C-AJ-0000 SERIES F-A-0000 SERIES OR NOTE 2 | C-AJ-1000 OR F-A-1000 SERIES | C-AJ-2000 OR F-A-2000 SERIES | C-AJ-5000 OR F-A-5000 SERIES | C-AJ-5000 OR F-A-5000 SERIES |
| | | | MULTIPLE PENETRANTS | | C-AJ-8000 OR F-A-8000 SERIES (NOTE 3) | | C-AJ-8000 OR F-A-8000 (NOTE 3) | C-AJ-8000 OR F-A-8000 (NOTE 3) |
| | | | F RATING | EQUAL TO FLOOR RATING, BUT NOT LESS THAN 1 HR | EQUAL TO FLOOR RATING, BUT NOT LESS THAN 1 HR | EQUAL TO FLOOR RATING, BUT NOT LESS THAN 1 HR | EQUAL TO FLOOR RATING, BUT NOT LESS THAN 1 HR | EQUAL TO FLOOR RATING, BUT NOT LESS THAN 1 HR |
| | | | T RATING | NOTE 6 | NOTE 6 | NOTE 6 | NOTE 6 | NOTE 6 |
| | | EXCEPTIONS/ ADDED REQUIREMENTS | NONE | NOTE 7 | NONE | NONE | NOTE 4 | |

NOTES:

- THIS SCHEDULE'S DATA APPLY ONLY TO PENETRATIONS WITHOUT DAMPERS. FOR DAMPERED PENETRATIONS, REFER TO SPECIFICATIONS. AT DAMPERS, DO NOT APPLY MATERIAL THAT IS NOT INCLUDED IN THE DAMPER'S CLASSIFICATION.
- SEAL OPENING USING BARRIER'S ORIGINAL CONSTRUCTION.
- WHERE A SERIES 8000 CLASSIFIED SYSTEM IS NOT AVAILABLE, INSTALL PENETRANTS SINGLY, AND PROVIDE SINGLE-PENETRANT SYSTEMS.
- FOR SYSTEMS THAT OPERATE BELOW 32°F OR ABOVE 122°F, COMPLY WITH THE FOLLOWING ADDITIONAL REQUIREMENTS:
 - PROVIDE TPFS SYSTEM USING INTUMESCENT ELASTOMERIC WRAP STRIP AS ITS FILL, VOID, OR CAVITY MATERIAL.
 - DO NOT USE SERIES 8000 PENETRATIONS. PROVIDE ONLY SINGLE PENETRATIONS.
- TEMPERATURE (T) RATINGS OF ASSEMBLIES IN WALLS MAY EQUAL ZERO.
- TEMPERATURE (T) RATINGS OF ASSEMBLIES IN FLOORS SHALL EQUAL THE GREATER OF EITHER THE BARRIER RATING OR ONE HOUR EXCEPT AS FOLLOWS:
 - AN ASSEMBLY'S T RATING MAY EQUAL ZERO WHEN THE PENETRANT ABOVE THE FLOOR PENETRATION IS CONTAINED AND LOCATED WITHIN THE CAVITY OF A WALL.
- CLASSIFIED TPFS ASSEMBLY IS NOT REQUIRED WHEN ALL THE FOLLOWING CONDITIONS ARE MET:
 - PENETRANT HAS A MAXIMUM NOMINAL DIAMETER OF 6-INCHES.
 - PENETRATION HAS A MAXIMUM AREA OF 144 SQUARE INCHES.
 - ANNULAR SPACE IS COMPLETELY FILLED WITH CONCRETE, GROUT, OR MORTAR THE FULL THICKNESS OF THE BARRIER.

SUPPLY VAV UNIT SCHEDULE

| SCHED. NO. | SCHED. TYPE | SERVICE | AIRFLOW (CFM) | | | INLET SIZE (IN) | OUTLET SIZE (IN) | MAXIMUM NO. | MAXIMUM AIR PRESSURE DROP (IN WG) | EAT (°F) | MIN LAT (°F) | HEATING COIL PERFORMANCE | | | | MAX WATER PD (FT WG) | BASIS OF DESIGN | REMARKS |
|------------|-------------|-----------------------|---------------|---------|---------|-----------------|------------------|-------------|-----------------------------------|----------|--------------|--------------------------|----------|-------------------|------------------|----------------------|-----------------|---------|
| | | | MAXIMUM | MINIMUM | HEATING | | | | | | | CAPACITY (BTUHR) | EWT (°F) | COIL DELTA T (°F) | WATER FLOW (GPM) | | | |
| VAV-1 | A | OFFICE #1 & OFFICE #2 | 240 | 100 | 140 | 5 | 12x8 | 25 | 0.15 | 55 | 95 | 5292 | 200 | 20 | 0.6 | 5 | TITUS / DESV | |

AIR DEVICE SCHEDULE

| NUMBER | DUTY | TYPE | CFM | | FACE/ MODULE SIZE | NOMINAL DUCT SIZE | BLOW | MAX TOTAL AIR PD (IN H2O) | MAX NOISE CRITERIA VALUE | BASIS OF DESIGN | | REMARKS |
|--------|--------|------|-----|-----|-------------------|-------------------|------------|---------------------------|--------------------------|-----------------|--------|---------|
| | | | MIN | MAX | | | | | | MANUFACTURER | MODEL | |
| A1 | SUPPLY | A | 0 | 150 | 24"x24" | 6"ø | 4-WAY | 0.10 | 20 | TITUS | TDC-AA | |
| A2 | SUPPLY | A | 151 | 400 | 24"x24" | 12"ø | 4-WAY | 0.10 | 20 | TITUS | TDC-AA | |
| B1 | RETURN | B | 0 | 150 | 24"x24" | 8"x8" | PERFORATED | 0.10 | 20 | TITUS | PAR-AA | |
| B2 | RETURN | B | 151 | 400 | 24"x24" | 12"x12" | PERFORATED | 0.10 | 20 | TITUS | PAR-AA | |

DUCT CONSTRUCTION AND LEAK TEST SCHEDULE

| DUCT SYSTEM | MAXIMUM OPERATING PRESSURE (IN WG) | DUCT CONSTRUCTION | | | DUCT PRESSURE TEST | | | REMARKS | |
|-------------|------------------------------------|------------------------|----------------------|------------------------|------------------------|-----------------------|------------------------------|---------|---|
| | | PRESSURE CLASS (IN WG) | POSITIVE OR NEGATIVE | SMACNA DUCT SEAL CLASS | TEST REQUIRED (YES/NO) | TEST PRESSURE (IN WG) | DUCT LEAK CLASS RECT / ROUND | | |
| SUPPLY AIR | 4" | 4" | POSITIVE | A | NO | 4" | 4 | 2 | 1 |
| SUPPLY AIR | 2" | 2" | POSITIVE | A | NO | 2" | 4 | 2 | 2 |
| RETURN AIR | -2" | 2" | NEGATIVE | B | NO | 2" | 8 | 4 | |

- UPSTREAM OF SUPPLY TERMINAL UNIT (FROM AIR HANDLING UNIT TO TERMINAL UNIT).
- DOWNSTREAM OF SUPPLY TERMINAL UNIT (FROM TERMINAL UNIT TO AIR DEVICE).



SEALS
 © COPYRIGHT 2017 ROSENBLUM COE ARCHITECTS, INC.
 THIS DRAWING HAS BEEN PREPARED BY ROSENBLUM COE ARCHITECTS, INC. FOR THE PROJECT AND IS THE PROPERTY OF ROSENBLUM COE ARCHITECTS, INC. IT IS TO BE USED ONLY FOR THE PROJECT AND NOT FOR ANY OTHER PROJECT. ALL RIGHTS ARE RESERVED. NO PART OF THIS DOCUMENT MAY BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT PERMISSION IN WRITING FROM ROSENBLUM COE ARCHITECTS, INC.

NOTES:

MUSC
 MEDICAL UNIVERSITY
 of SOUTH CAROLINA
 PROJECT NUMBER: H51-50068
 DHEC PROJECT NUMBER: 580145
CONSTRUCTION DOCUMENTS

STORM EYE INSTITUTE
 OPTICAL SHOP
 H51-50068
 167 ASHLEY AVE
 CHARLESTON, SC 29425

ROSENBLUM COE ARCHITECTS, INC.
 1643 MEANS STREET
 CHARLESTON, SC 29412
 843.577.6073

MECHANICAL SCHEDULES

| | |
|----------------|-------------|
| SHEET NAME | |
| PROJECT NUMBER | 17016 |
| DRAWN BY | TSN |
| CHECKED BY | CRB |
| DATE | 05/09/2018 |
| SCALE | 12" = 1'-0" |

M301

Order Plans @ WWW.DLINE.COM