STAFF REPORT
WEST ALLIS PLAN COMMISSION
Wednesday, August 27, 2025
6:00 PM

2. Site, Landscaping, and Architectural Design Review for exterior alterations to Aurora West Allis Hospital, an existing hospital use, at 8901 W. Lincoln Ave. & 2349 & 2400 S. 90 St. (Tax Key: 487-9001-000).

Overview

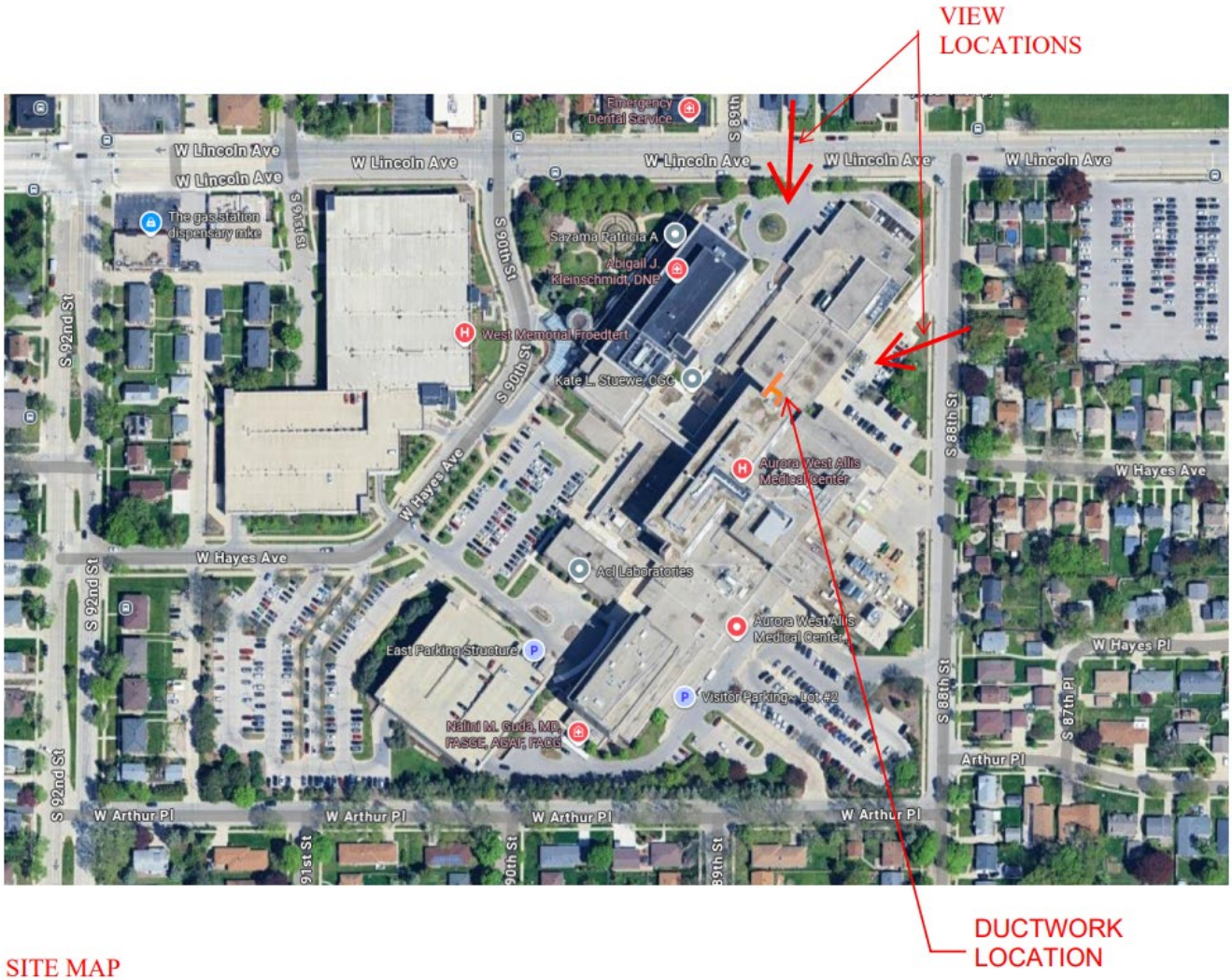
The project consists of relocating the existing ICU from the 7th floor to the 4th floor, approximately half of the 4th floor will be renovated (11,414 sf) creating a new ICU Suite with 12 rooms, team stations and all required support areas. The project requires a new Air Handling Unit to serve the new ICU Unit; it will be in the first-floor mechanical room. All existing shafts in the building housing the ICU Unit are serving other floors and need to remain operational during this renovation. The new ductwork feeding the 4th floor ICU project will run on the 2nd floor roof above the mechanical and up the Northeast elevation and enter at the 4th floor. The ductwork will match existing exposed ductwork located on campus (White - Thermaduct)

The applicant is requesting a review of the exterior ductwork proposal.

Staff notes that the hospital already has a significant amount of roof top units, throughout the various buildings on site. The proposed additional ductwork would not substantially change the look of the building or be a departure from what's been done in adjacent areas. Refer to the photo exhibits indicating the location of proposed work and sight lines from S. 88 St. and W. Lincoln Ave.

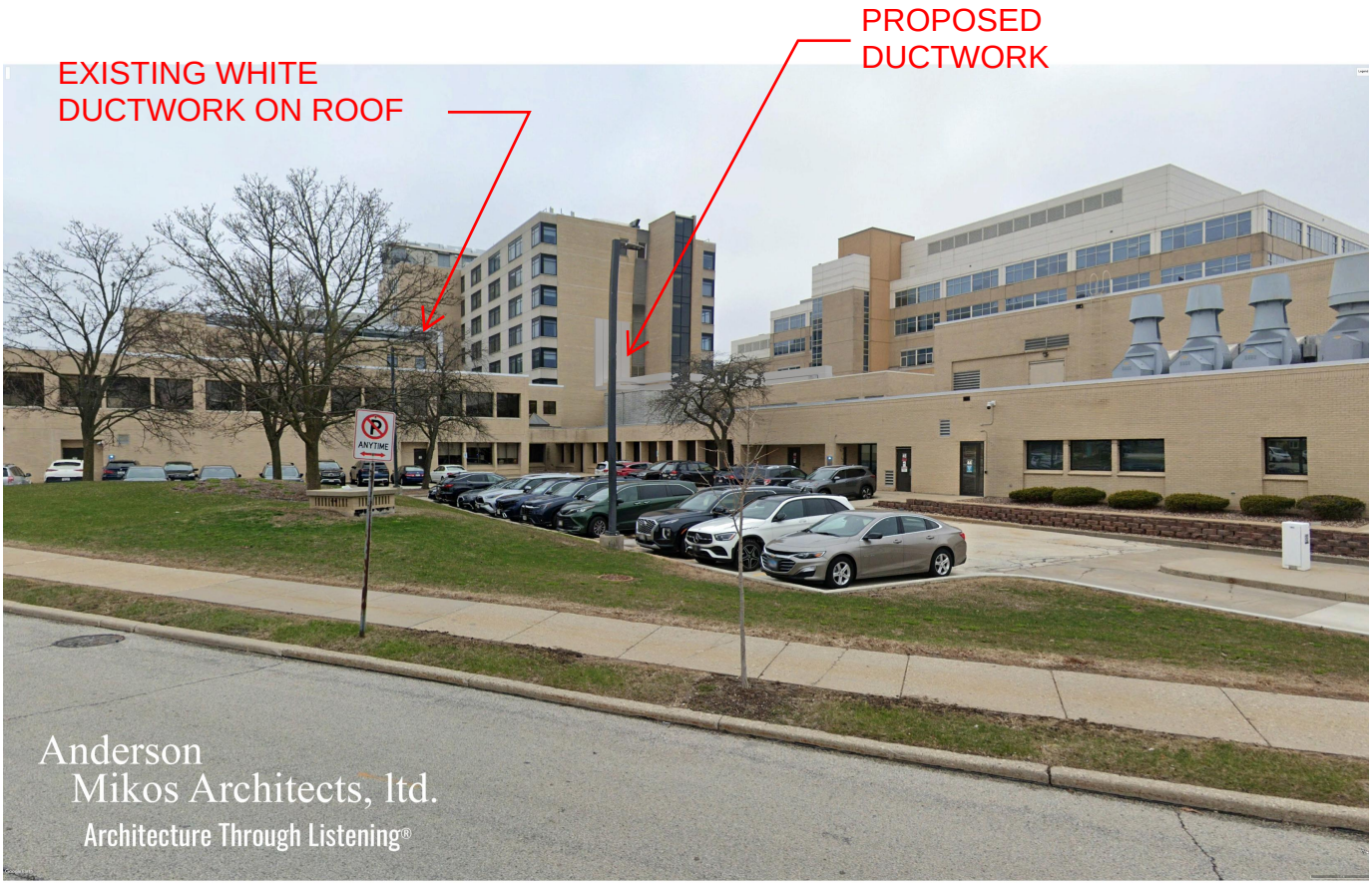
The project is scheduled to start November 2025 and be completed by July 2026. The completed project will be submitted to DHS on 8-20-25 for review and approval.

Recommendation: Approval of the Site, Landscaping, and Architectural Design Review for exterior alterations to Aurora West Allis Hospital, an existing hospital use, at 8901 W. Lincoln Ave. & 2349 & 2400 S. 90 St. (Tax Key: A487-9001-000).

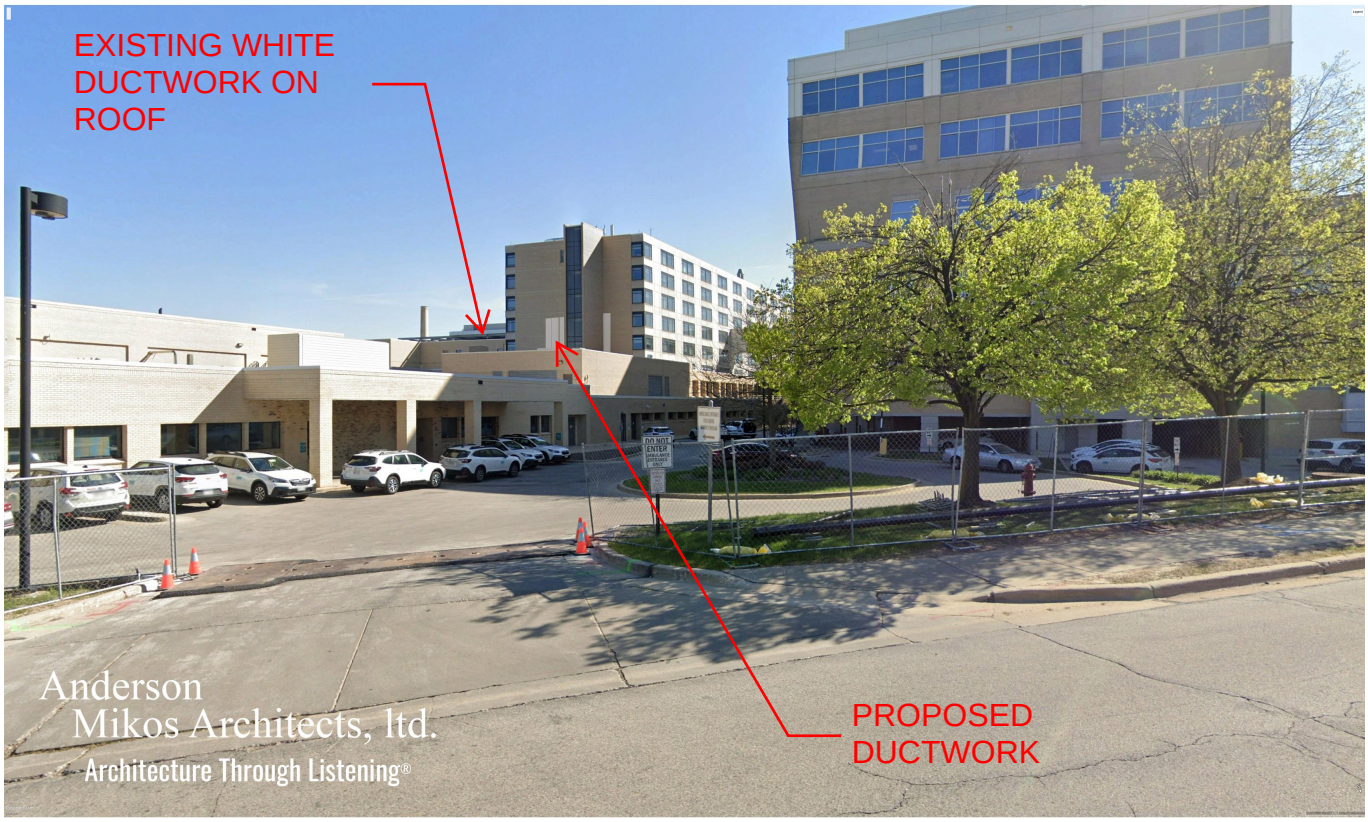

VIEW
LOCATIONS
W Lincoln Ave
W Hayes Ave
W Arthur Pl
S 92nd St
S 91st St
S 90th St
S 89th
S 88th St
S 87th Pl
Emergency Dental Service
The gas station dispensary inke
Sayama Patricia A
Abigail J. Kleinschmidt, DNP
West Memorial Froedtert
Kate L. Stuewe, CGC
Aurora West Allis Medical Center
Acl Laboratories
East Parking Structure
Visitor Parking - Lot #2
Nalini M. Guda, MD, FASCE, ABAF, FACC
DUCTWORK
LOCATION

SITE MAP

EXISTING VIEW FROM 81st ST.



EXISTING VIEW FROM LINCOLN



1 OVERALL LEVEL 4
1/8" = 1'-0"

SCALE: 1/8" = 1'-0"

GENERAL PROJECT NOTES

1. THESE NOTES SHALL APPLY TO ALL SHEETS OF THE CONTRACT DOCUMENTS. REFER TO ADDITIONAL NOTES ON OTHER SHEETS (DEMOLITION, REFLECTED CEILING PLAN, FINISHES, ETC.).
2. THE INTENT OF THE CONTRACT DOCUMENTS IS TO INCLUDE ALL ITEMS NECESSARY FOR THE PROPER EXECUTION AND COMPLETION OF THE WORK BY THE CONTRACTOR. THE CONTRACT DOCUMENTS ARE COMPLEMENTARY, AND WHAT IS REQUIRED BY ONE SHALL BE AS BINDING AS IF REQUIRED BY ALL. SHOULD ANY CONFLICTING INFORMATION OCCUR, THE CONTRACTOR SHALL NOTIFY THE ARCHITECT IN WRITING. OTHERWISE, THE INFORMATION WHICH IS MORE STRINGENT SHALL GOVERN.
3. IF AT ANY TIME, PRIOR TO AND DURING CONSTRUCTION, A DISCREPANCY, OMISSION, AND/OR CONFLICT IS DISCOVERED, NOTIFY ANDERSON MIKOS ARCHITECTS LTD. AT (630) 573-5149 FOR CLARIFICATION AND/OR RESOLUTION.
4. ALL WORK SHOWN HAS BEEN DOCUMENTED TO THE BEST OF THE ARCHITECT'S KNOWLEDGE TO CONFORM TO ALL APPLICABLE STATE AND LOCAL BUILDING CODES, REGULATIONS AND ORDINANCES. THE CONTRACTOR IS TO NOTIFY THE ARCHITECT AND OWNER IN WRITING IF THEY BELIEVE ANY EXISTING, MODIFIED OR NEW CONDITION DOES NOT COMPLY WITH CODES, ORDINANCES OR REGULATIONS.
5. ALL CHANGES OR EXISTING CONDITIONS IMPACTING AESTHETIC EFFECT ARE TO BE VERIFIED AND APPROVED BY THE ARCHITECT.
6. THE CONTRACT DOCUMENTS DO NOT INDICATE OR INTEND TO SHOW ANY SPECIFIED CONSTRUCTION OR INSTALLATION PROCEDURE (INCLUDING THOSE RECOMMENDED BY ANY PRODUCT MANUFACTURER). THE CONTRACTOR WILL ADVISE IN WRITING THE ARCHITECT:
   A. IF THE CONSTRUCTION PROCEDURE DEVIATES FROM NORMALLY ACCEPTED PRACTICES, OR
   B. IF FOLLOWING THE PROCEDURE WILL AFFECT ANY WARRANTIES, OR
   C. OF ANY OBJECTIONS WHICH THE CONTRACTOR MAY HAVE TO THE PROCEDURE.
7. THE GENERAL CONTRACTOR AND THE SUBCONTRACTORS SHALL VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS IN THE FIELD BEFORE COMMENCING WITH NEW WORK, INCLUDING SHOP FABRICATION AND ORDERING OF BUILDING MATERIALS AND EQUIPMENT. ANY DISCREPANCIES BETWEEN THE DRAWINGS AND EXISTING CONDITIONS SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE ARCHITECT AND OWNER VERBALLY AND IN WRITING. NO EXTRA WILL BE ALLOWED FOR SCOPE OF WORK THAT COULD HAVE BEEN DETERMINED BY EXAMINATION OF THE SITE OR DOCUMENTS.
8. ALL CONTRACTORS SHALL REVIEW ALL DRAWINGS TO ENSURE THE PROPER COORDINATION OF THEIR WORK WITH ALL OTHER TRADES. NO EXTRAS SHALL BE ALLOWED DUE TO THING ACK OF PROJECT COORDINATION. WORK SHALL BE PROPERLY SEQUENCED TO COINCIDE WITH THE PROJECT CONSTRUCTION SCHEDULE TO AVOID DELAY OF THE PROJECT COMPLETION OR THE WORK OF THE OTHERS. MECHANICAL AND ELECTRICAL CONTRACTORS SHALL REVIEW ARCHITECTURAL DRAWINGS TO PROPERLY LOCATE EQUIPMENT AND DEVICES TO BE INSTALLED. IF LOCATION CONFLICTS OCCUR, THE ARCHITECTURAL DRAWINGS SHALL GOVERN.
9. THE GENERAL CONTRACTOR IS TO COORDINATE WITH THE OWNER AND ARCHITECT ALL PHASING OF WORK REQUIRED WITHIN ADJACENT OCCUPIED AREAS, SO AS TO MAINTAIN THE USE OF ALL CRITICAL FUNCTIONS AND UTILITY SERVICES.
10. ALL DETAILS SHOWN ON THE DRAWINGS ARE INTENDED TO BE TYPICAL, AND SHALL APPLY TO SIMILAR SITUATIONS ON THE PROJECT UNLESS OTHERWISE NOTED.
11. THE CONTRACTOR SHALL NOTIFY THE ARCHITECT OF ANY UNFORESEEN JOB CONDITIONS THAT MAY AFFECT PROJECT COSTS. EXTRA WORK AND/OR COSTS MUST BE APPROVED IN WRITING PRIOR TO CONSTRUCTION OF SUCH WORK.
12. DO NOT SCALE DRAWINGS. IN ALL CASES, WRITTEN PLAN DIMENSIONS SHALL GOVERN. LARGE-SCALE PLANS AND DETAILS SHALL GOVERN OVER SMALL-SCALE PLANS AND DETAILS. WHERE EXISTING CONDITIONS CREATE CONFLICTS IN NOTED DIMENSIONS, THE CONTRACTOR IS TO NOTIFY THE ARCHITECT PRIOR TO WALL FRAMING, EQUIPMENT PLACEMENT, ETC.
13. ALL HOLD DIMENSIONS ARE REQUIRED TO BE EXACT WITHIN 1/8" TOLERANCE ALONG FULL HEIGHT AND FULL WIDTH OF WALL.
14. ALL FLOOR ELEVATIONS SHOWN INDICATE TOP OF FINISHED CONCRETE SLABS, EXCEPT AS NOTED.
15. THE CONTRACTOR SHALL COORDINATE WITH ALL TRADES TO VERIFY EXACT LOCATION AND SIZE OF ALL OPENINGS IN WALLS, FLOORS AND STRUCTURE (ELECTRICAL, MECHANICAL, STRUCTURAL, ETC.).
16. COORDINATE ALL WORK IN THESE DOCUMENTS WITH OTHER SEPARATELY CONTRACTED WORK BY THE OWNER, INCLUDING; BUT NOT LIMITED TO, MEDICAL EQUIPMENT AND SYSTEMS FURNITURE.
17. UNLESS OTHERWISE SPECIFIED BY THE OWNER, THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR THE COST AND ACQUISITION OF ALL NECESSARY BUILDING PERMITS. THE GENERAL CONTRACTOR IS TO SECURE AND MAINTAIN THE PERMIT AND PERMIT DRAWINGS ON THE JOB SITE.
18. THE GENERAL CONTRACTOR SHALL COORDINATE WITH THE OWNER AND THE THEIR PLANT OPERATIONS DEPARTMENT ON ALL PHASING AND CONSTRUCTION OPERATIONS AND SHUTDOWNS IN ORDER TO MAINTAIN ALL CRITICAL FUNCTIONS AND UTILITIES.
19. MAINTAIN ALL LIFE SAFETY COMPONENTS AND SYSTEMS IN ACCORDANCE WITH STATE AND LOCAL JURISDICTIONS. PROVIDE, MAINTAIN AND DOCUMENT ALL INTERIM LIFE SAFETY MEASURES ESTABLISHED WITH THE OWNER.
20. AT THE COMPLETION OF DEMOLITION, THE CONTRACTOR SHALL VERIFY THE INTEGRITY OF EXISTING SMOKE BARRIERS, FIRE-RATED WALLS AND FLOOR SLABS. PATCH VOIDS AND OPENINGS AS REQUIRED TO MAINTAIN THE REQUIRED FIRE-RESISTANCE RATING IN ACCORDANCE WITH U.L. DETAILS. SUBMIT DOCUMENTATION ON THE LOCATION AND MANNER OF REPAIR TO OWNER AND ARCHITECT.
21. WHERE NEW CONSTRUCTION NECESSITATES MODIFICATIONS TO EXISTING DUCTWORK, PROVIDE NEW OR RELOCATED FIRE AND/OR SMOKE DAMPERS IN DUCTWORK PENETRATING ALL SMOKE BARRIERS OR FIRE-RATED WALLS EXCEEDING 2 HOURS RATING. DOCUMENT LOCATIONS FOR SUBMISSION TO ARCHITECT AND OWNER.
22. THE CONTRACTOR SHALL REPAIR ANY HOLES OR OTHER DAMAGE TO EXISTING FLOOR SLABS ENCOUNTERED DURING DEMOLITION WITH CONCRETE OR LATEX ADMIXTURE.
23. THE GENERAL CONTRACTOR SHALL PROVIDE AND INSTALL CONTINUOUS, CONCEALED BLOCKING TO BE SECURED TO METAL STUDS OR FURRING STRIPS WHERE APPLICABLE FOR ALL WALL-HUNG OR SECURED MILLWORK, CASEWORK, FURNITURE, HAND RAILS, GRAB BARS AND ANY OTHER WALL-MOUNTED ITEMS INDICATED ON THE DRAWINGS WHETHER PROVIDED BY THE CONTRACTOR OR OWNER.
24. WHERE EXISTING ITEMS ARE TO BE RELOCATED OR REINSTALLED, THE GENERAL CONTRACTOR SHALL INSTALL ITEMS EQUALING OR EXCEEDING THE STRUCTURAL AND AESTHETIC QUALITY OF EXISTING INSTALLATIONS.
25. THE CONTRACTOR IS TO REPLACE OR CORRECT ANY EXISTING OR COMPLETED WORK DAMAGED BY CONSTRUCTION ACTIVITIES AT NO ADDITIONAL COST TO THE OWNER.
26. ALL WOOD BLOCKING AND FRAMING IS TO BE FIRE-RETARDANT TREATED.
27. ALL FINISHES ARE TO BE CLASS I: FLAME SPREAD 0-25; SMOKE DEVELOPED <200, UNLESS OTHERWISE NOTED..

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STRUCTURAL ENGINEERS
223 W JACKSON BLVD, SUITE 802
CHICAGO, IL 60606
312.726.1010

KEYPLAN TRUE PROJECT N

DATE	NO.	DESC.
8-8-25		CD PAGE TURN 95% REVIEW
6-18-25		ISSUED FOR DD PRICING
4-4-25		ISSUED FOR SD PRICING
3-17-25		OWNER PLAN REVIEW

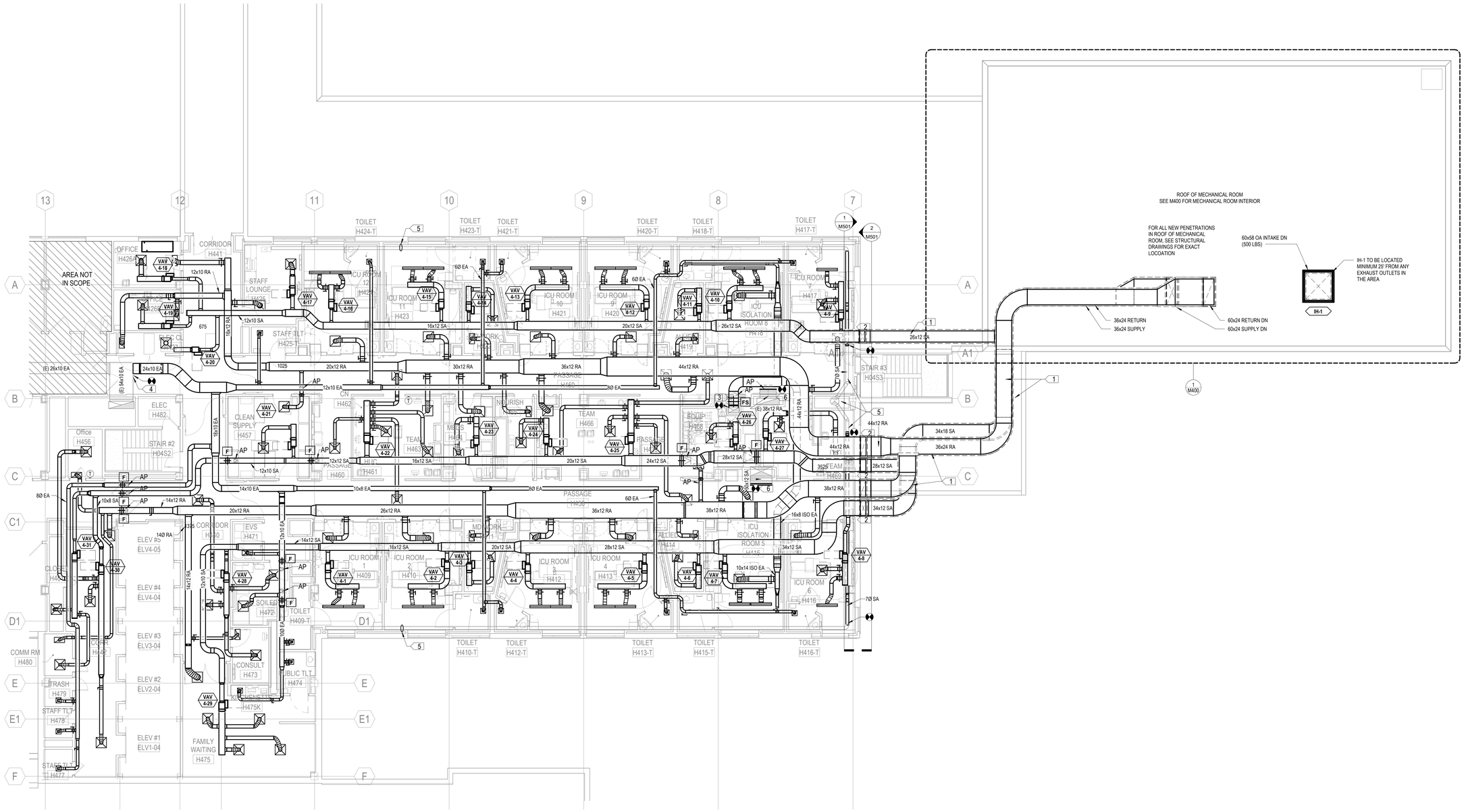
JOB NO: **24461.00**
PROJECT DATE: **01/24/25**
DRAWN: **CCC/ IQ**
CHECKED: **GF**
APPROVED: **DEM**

OVERALL LEVEL 4 FLOOR PLAN AND GENERAL PROJECT NOTES

A1-4

HVAC KEYNOTES

1. NEW SUPPLY AND RETURN DUCT ROUTED ON ROOF. REFER TO DETAILS FOR INSTALLATION REQUIREMENTS. REFER TO SPECIFICATIONS FOR ADDITIONAL DUCTWORK REQUIREMENTS.
2. NEW SUPPLY OR RETURN DUCTWORK WALL PENETRATION. REFER TO STRUCTURAL WALL PENETRATION DETAILS. REFER TO ARCHITECTURAL FOR ANY SCREENING REQUIREMENTS FOR NEW DUCTWORK ROUTED VERTICALLY ON EXTERIOR OF BUILDING. REFER TO DETAILS FOR WALL FLASHING AND SEALING REQUIREMENTS OF DUCT PENETRATIONS.
3. CONNECT 22x8 ISOLATION EXHAUST TO EXISTING RISER. INCLUDE A NEW FIRE SMOKE DAMPER AT SHAFT PENETRATION. REFER TO ELECTRICAL AND FIRE ALARM DRAWINGS FOR NEW DUCT MOUNTED SMOKE DETECTOR REQUIREMENTS. REFER TO ROOF PLANS FOR ADDITIONAL WORK ASSOCIATED WITH RELOCATING THE EXISTING ISOLATION EXHAUST FAN. ALL ISOLATION ROOMS THROUGHOUT THE BUILDING THAT ARE SERVED BY THE EXISTING NORTH ISOLATION EXHAUST RISER SHALL BE RE-BALANCED WITH FAN RELOCATION AND REVISED FOURTH FLOOR SPACES (10 ROOMS TOTAL).
4. CONNECT TO EXISTING GENERAL EXHAUST DUCT NEAR EXISTING SHAFT. ROUTE NEW AS INDICATED, BALANCE ACCORDINGLY.
5. EXISTING INDUCTION UNIT SUPPLY DUCT RISER TO REMAIN. EXISTING SUPPLY DUCTWORK IN LEVEL FOUR CEILING SERVING UP TO LEVEL FIVE INDUCTION UNITS TO REMAIN.
6. CAP EXISTING SUPPLY AND RETURN DUCTWORK AT FIRE/SMOKE DAMPERS AT RISERS. DAMPERS AND RISERS TO REMAIN. REFER TO ELECTRICAL AND FIRE ALARM DRAWINGS FOR REQUIREMENT TO ABANDON DAMPERS.



1 HVAC PLAN - LEVEL 04
1/8" = 1'-0"

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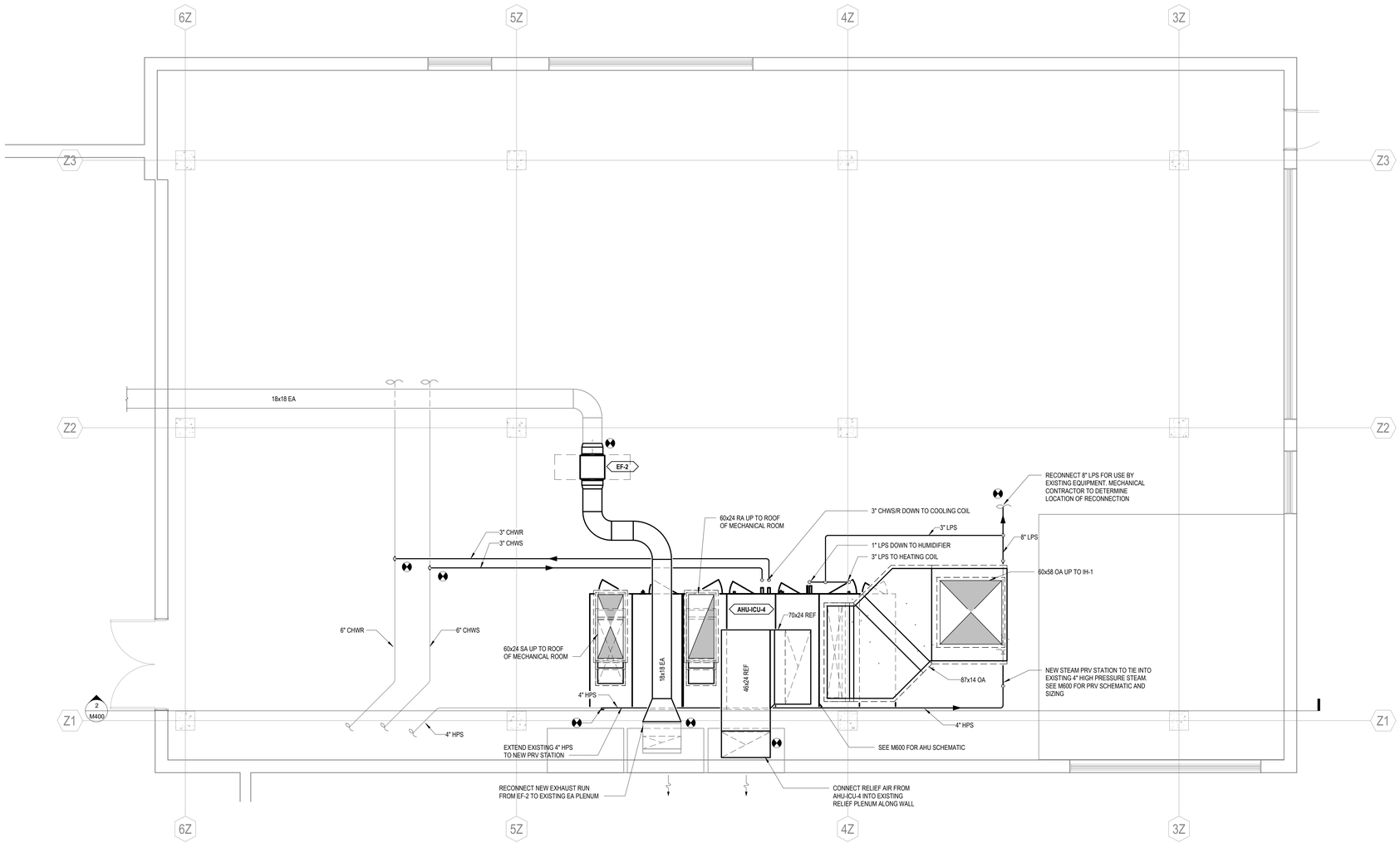
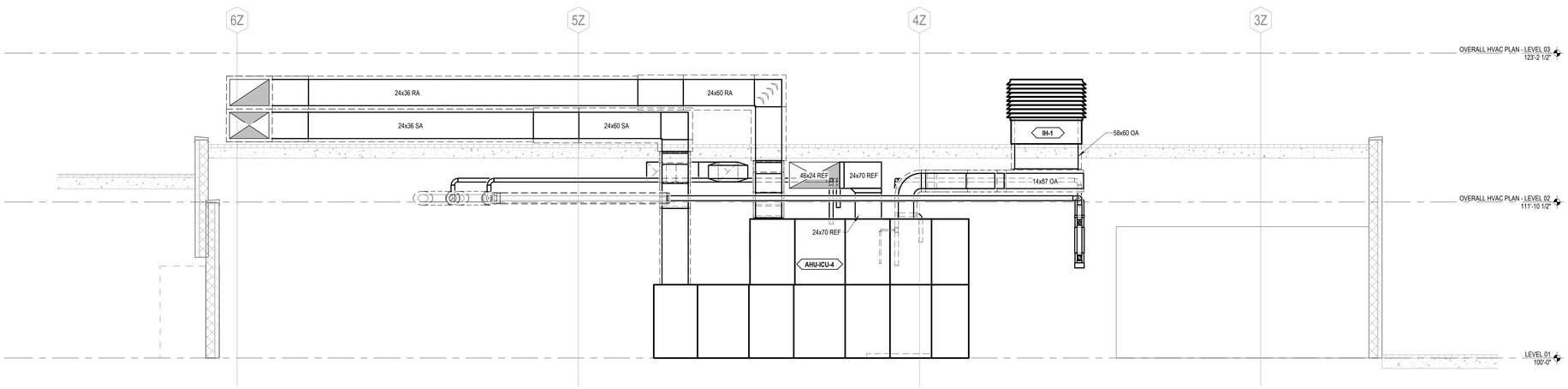
HVAC PLAN - LEVEL 04 AND LOW ROOF

M204



1 HVAC PLAN - MECHANICAL ROOM
1/4" = 1'-0"



2 SECTION VIEW - MECH ROOM AHU
1/4" = 1'-0"

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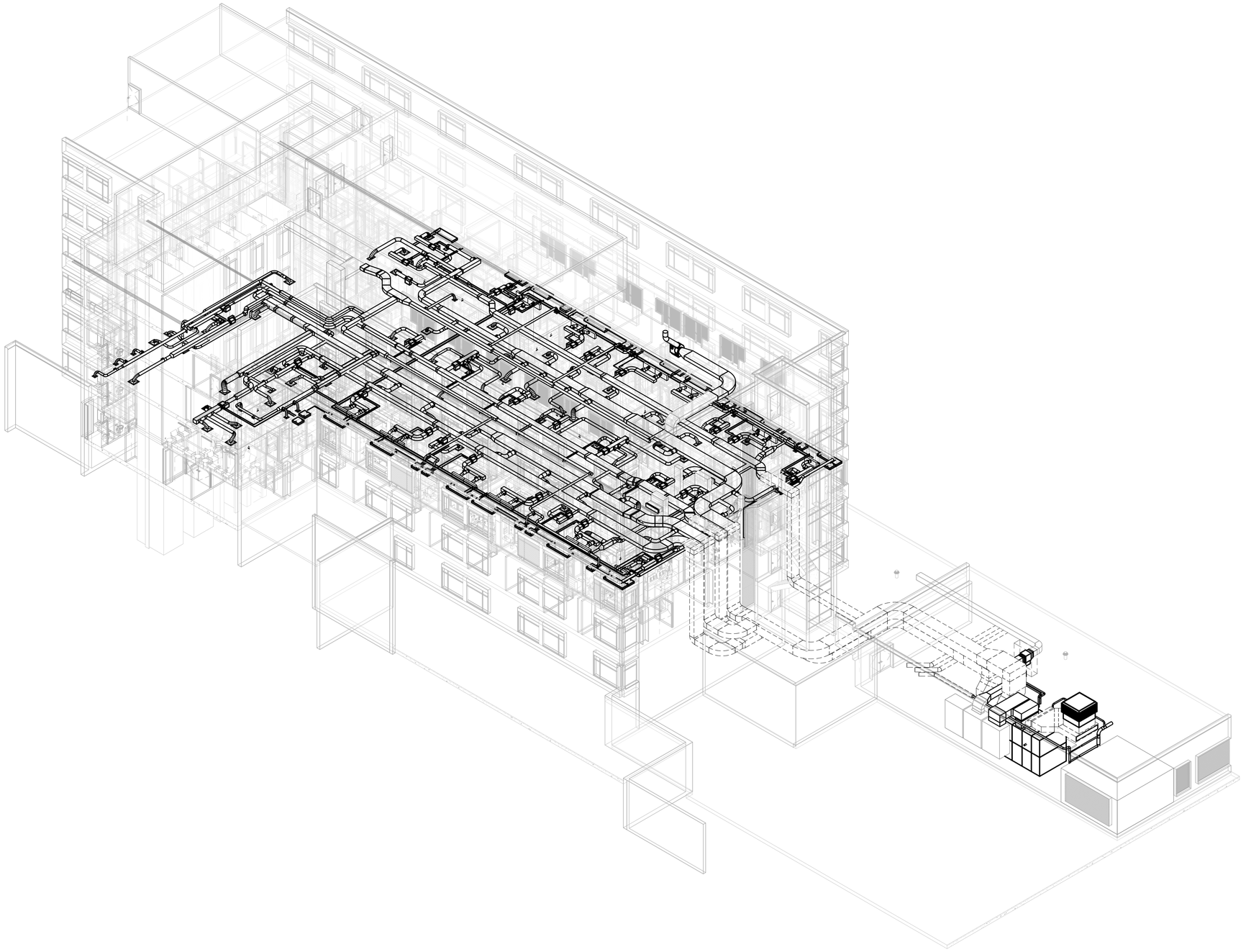
ENLARGED MECHANICAL ROOM

M400



1 BUILDING EXTERIOR

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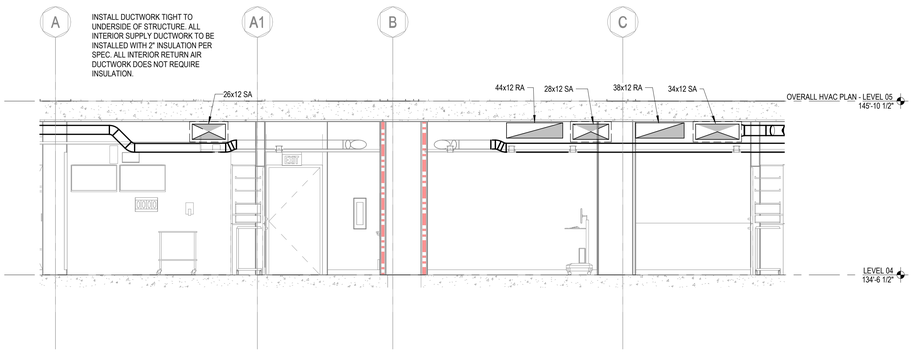
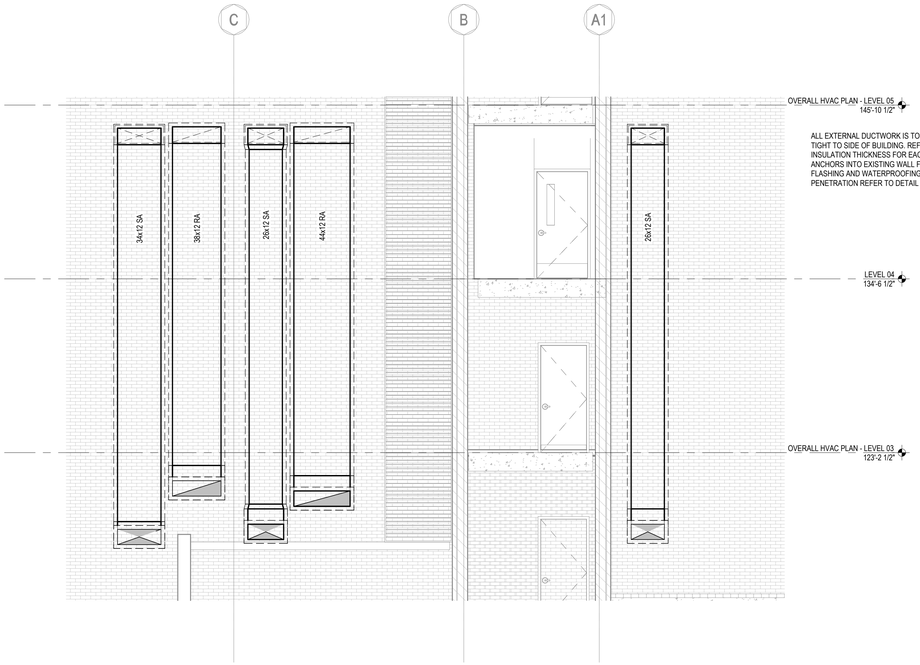
MECHANICAL BUILDING ISOMETRIC

M500



1 DUCTWORK PENETRATIONS - INTERIOR VIEW
1/4" = 1'-0"



2 DUCTWORK PENETRATIONS - EXTERIOR VIEW
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MECHANICAL BUILDING PENETRATIONS

NOT FOR CONSTRUCTION

M501

8/8/2025 2:41:05 PM Autodesk Docs://AHC - AWAMC ICU - 107088/M25_AWAMC ICU_5420-001-00.rvt

OCTOBER 2022

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CONTRACTOR INSTALLATION MANUAL

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TABLE OF CONTENTS

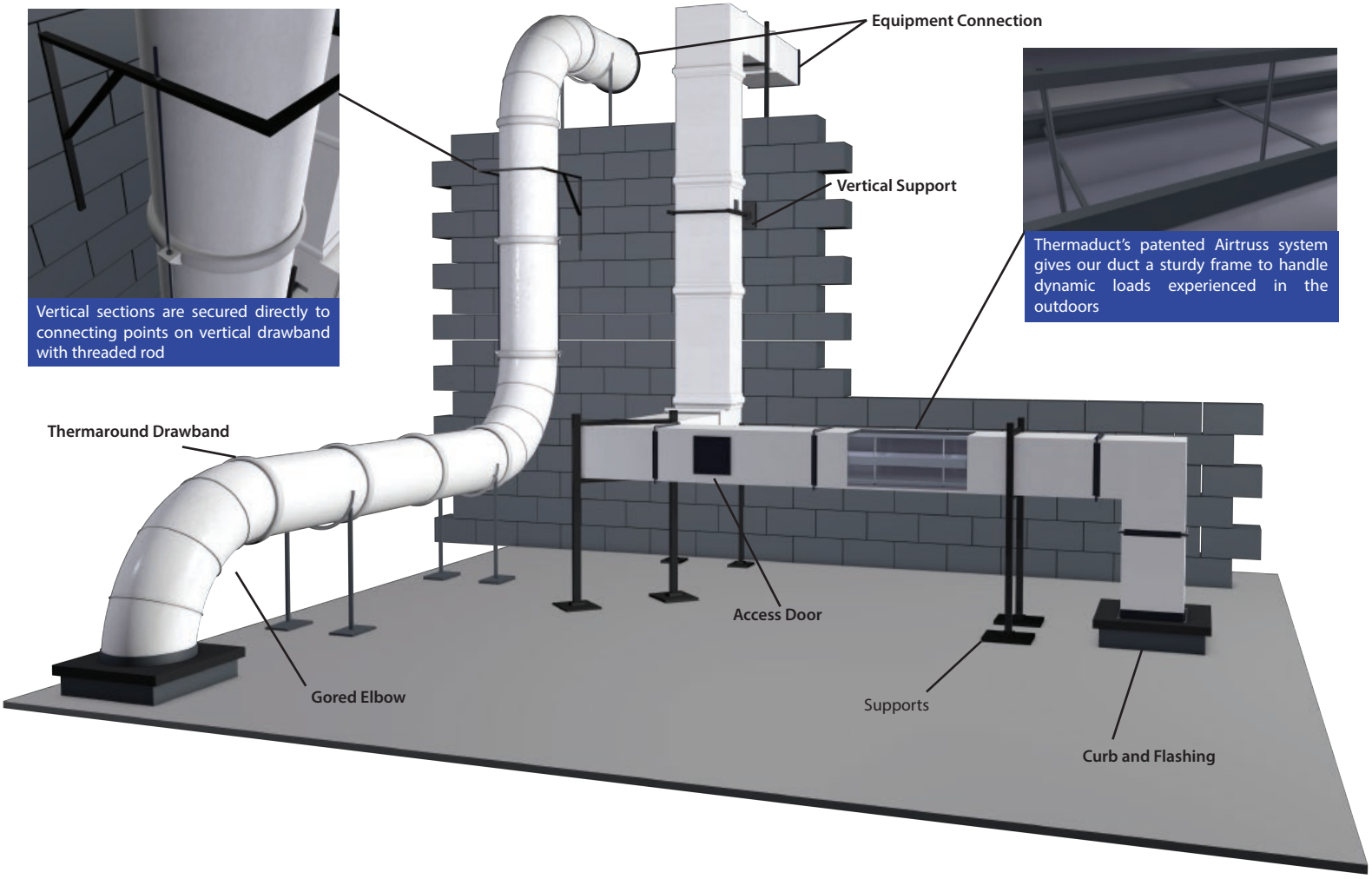
thermaduct™

Thermaduct is our rectangular outdoor ducting solution that offers high R-values and low air leakage. It provides the duct, the insulation and cladding all in one high performance product. Thermaduct is available in insulated values between R-8 and R-24 and offers extremely low air leakage. All these benefits are protected by a strong, UV stable 1000 micron vinyl cladding.

thermaround™

Thermaround is our round solution for outdoor applications. This high R-value system offers an R-12 solution with extremely low air leakage. Thermaround uses the same UV stable 1000 micron vinyl cladding for a durable solution that will naturally shed water. In the interior, air passes over a smooth aluminum surface free from loose fibers to give your building better IAQ performance.

Vertical sections are secured directly to connecting points on vertical drawband with threaded rod



Thermaduct's patented Airtruss system gives our duct a sturdy frame to handle dynamic loads experienced in the outdoors

APPLICATIONS

All of Thermaduct's pre-insulated systems are designed, detailed and manufactured to provide quality control and assurance measures to meet customer specifications. Thermaduct is shipped in labeled and fully fabricated duct segments for ease of field rigging and assembly.

Thermaduct and Thermaround are specifically engineered for outdoor ducting applications that include high humidity, rain, snow, hail (less than golf ball size), salt/sea spray and other challenging applications.

Thermaduct should not be used in the following scenarios:

- Grease or Kitchen exhaust ductwork
- Air temperatures exceed 185 degrees Fahrenheit continuous
- Air velocity exceeds 6000 fpm continuous
- Static pressure may exceed 10" positive
- Rectangular Air static pressure exceeds 10" negative **(Thermaduct)**
- Round Air static pressure exceeds 8" negative **(Thermaround)**
- Indoor applications (See Below)
- Where you are conveying solids
- In application without maximum temperature control
- For chemical, fume or smoke exhaust (consult Thermaduct)
- Not for use as conduit for sprinker lines or conduit

INDOOR APPLICATIONS

inspiralR™ & FLOVAL™

Give your round and flat oval ductwork the increased performance with Thermaduct's Inspiral R and Floval Duct Systems. These patented systems provide the increased air distribution efficiency of round or flat oval ductwork packaged in a light weight and high quality closed cell phenolic insulation. There's no need to insulate separately as all ductwork reaches an R-6 insulated value.

Talk to your local Thermaduct representative today to see how these UL 181 listed duct systems can benefit your indoor application!

ONLINE INSTALLATION TRAINING

ALL INSTALLERS MUST WATCH ONLINE TRAINING FOR EACH PRODUCT THEY INSTALL

TRAINING OVERVIEW

Online courses can be accessed by visiting training.thermaduct.com
or by scanning the QR Code below.

Online courses can be accessed by visiting training.thermaduct.com or by scanning the QR Code below. Request access through the site and you will be able to access the courses usually within one business day. We know time on the jobsite is valuable and we are committed to respecting your time. Courses will be short summaries that highlight sections of this manual in an easy to understand way. Digital copies of our installation manual and warranty registration forms are also available to download during these courses.

WARRANTY REGISTRATION

In order for a Warranty Certificate to be issued, Thermaduct, LLC requires installers to complete both **Pre-Installation** and **Post Installation Check Sheets.** Because Thermaduct is an engineered product, the information collected will aid in making sure the duct fabrication process meets all requirements of the specified design and that installation is a smooth process.

Please fill out these forms to the best of your ability. If you have any questions pertaining to your project please contact our warranty team warranty@thermaduct.com for more information on your project. We appreciate your time in providing us your project's data.

PRE-INSTALLATION

- Confirmation of detailed system drawings for sizing
- Required insulated value for project
- Temperature range for conditioned air (inside air)
- LEED details on Project (If applicable)
- Supply air static pressure
- Return air static pressure
- External static pressure

POST INSTALLATION

- Knowledge of installation
- Proper installation process from this manual
- Support/Hanger schedule
- Air leakage testing (if applicable)
- 3 or more photographs of completed Installation
- Air Balance Report

INSTALLATION ACCESSORIES

Thermaduct requires field assembly of engineered duct segments. Factory specific accessories are provided to insure proper assembly of the completed system.

Thermaduct accessories shipped for field installation include:

- Gasketing materials for Thermaduct
  EPDM/Foam
- Sealant for Thermaduct vinyl seams and covers
  Cosmofen *vinyl to vinyl sealant (1 tube per 4 joints)*
  Dymonic Vinyl to Metal sealant (1 tube per Equipment Conn.)
  Kingspan KoolDuct silicone (1 tube per job)
- Flange connector insulating foam tape
  4" wide roll of foam insulation tape for full perimeter
- Flange Covers
  Rigid vinyl covers for all duct connections

Thermaround accessories shipped for field installation include:

- Sealant for Thermaround Connections
  Kingspan KoolDuct silicone (1 tube per job)
- Flange Rings
  Draw Band Rings that go over Thermaround Flange

The following are field supplied:

- Nuts and bolts
- Screws and fasteners
- Roof support frames, strut and channels
- Tie-downs or top frame members
- Installation tools
- Flashing materials
- Additional caulk and sealants

INSTALLATION TOOLS

Thermaduct's ultimate performance of the installation is shared between materials, manufacturing and the quality of the installation. We suggest the following tools be used for field assembly.

The following are field supplied:

- Angle Grinder or Circular Saw
- Power Drill/Driver
- Cleaning Cloth/Towel
- Caulk Gun
- Tape Squeegee

Suggested

- 45 Degree Blade Handle with Holder
- 90 Degree Blade Handle with Holder

RECEIVING A SHIPMENT

Installers are required to inspect all Thermaduct products received at time of delivery to verify if any of the pieces have been damaged during shipment. **Recipient of damaged goods must notate damage on transportation company shipping documentation with delivery driver's signature**. Installer will be deemed to have accepted the Systems unless it notifies Thermaduct, LLC in writing within 24 hours of delivery with written evidence of damage including photographs. If Thermaduct, determines that the Systems have been damaged, replacement plans will be communicated between Thermaduct, LLC, our Sales Representative and Installer in writing.

STORAGE AND HANDLING

Thermaduct and Thermaround segments are shipped in their finished state and require care to be exercised in the handling of all pieces to prevent damage.

While the finished system is designed for superior outdoor performance, unconnected Thermaduct segments should be stored inside or under cover wherever possible. Duct segments must also be kept clear from the ground to stay free from standing water. The open ends of Thermaduct segments shall be covered with a weatherproof tarp or sheet to prevent the intrusion of water or foreign materials.

If indoor storage is not possible, Thermaduct segments should be stored clear of the ground and covered with a weatherproof tarp or sheets at all times. Duct segments must be secured to prevent damage that may be caused by wind, rain, snow and hail to the interior of the duct.

Handling

- Lift - Do not slide
- Do not score, dent or de-face mating surface of flange connections
- Do not drop
- Use straps, not chains or cables, to cradle circumference

RIGGING DUCT SEGMENTS

Not unlike other ductwork, lifting Thermaduct and Thermaround should be done with care. All safety precautions should be taken to assure a safe and successful installation. A few precautions must be observed.

Flange is not a lifting point. Cradle ductwork with appropriate lifting straps.

- Adhere to OSHA guidelines to insure a safe working environment
- Wear protective gear; hard hat & safety glasses as a minimum
- Do not aerial lift ductwork by its connecting flange
- Use approved lifting straps that are not outdated
- Provide necessary manpower to carry duct segments into place*
- Use cart or carry ductwork segments to installation location*
- Wear protective gloves
- Provide security to ensure items on the roof are secure (wind)
- Provide roof protection when setting duct segments on the roof
- Thermaduct may incorporate lift points into duct of large size and weight.

** Or utilize a crane to rig into the proper location*

Transporting Thermaduct across rooftop should utilize adaquate methods to lift and not slide ductwork. Use necessary manpower to carry duct segments into place.

thermaduct™

Thermaduct was designed to install in a similar fashion to traditional HVAC ductwork, with slight differences that need to be observed. The following pages will describe in detail proper support and connection methods for the Thermaduct rectangular duct system. Please contact Thermaduct or your local Thermaduct Representative should you have any questionsregarding installation.

These Guidelines Will Cover:

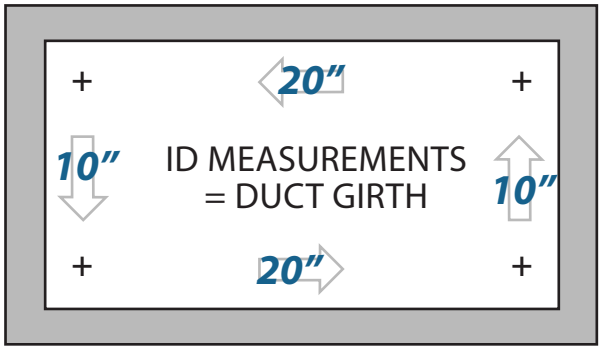
- Horizontal Supports
- Vertical Supports
- Thermaduct Connections
- Equipment Connections
- Field Modification

SUPPORTING THERMADUCT

Historically, sheet metal duct installations had very poor insulation and calculation for snow load was not a concern (the snow simply melted). With the high thermal value of Thermaduct, weight from snow load itself must be considered, not only in the duct construction, but the support framework being utilized. Snow load is observed during initial design and engineering of Thermaduct and Airtruss reinforcements.

CALCULATING DUCT GIRTH

Duct girth is calculated as the sum of the ID measurements of your ductwork. Use the ID measurements from your Thermaduct for support frequency and surface width.



ID MEASUREMENTS:

20" + 20" + 10" + 10"

60" Duct Girth

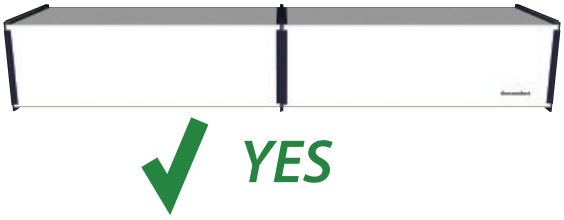
ID MEASUREMENTS = DUCT GIRTH

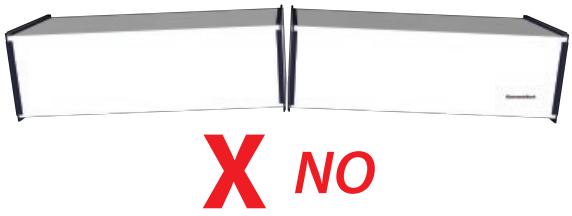
Duct girth ID < 84"	Spacing 13' maximum
Duct girth ID > 85"	Spacing 8' maximum
Duct girth ID > 232"	Spacing 6' maximum
Duct girth ID > 300"	Consult Factory

On buildings over 20 stories, 8' maximum spacing

LEVEL INSTALLATION

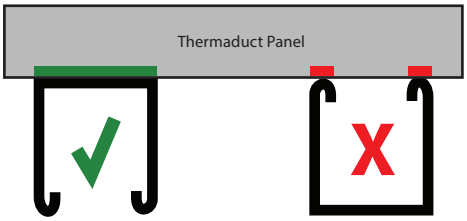
Connected pieces of Thermaduct should be level and plumb with support surfaces placed on a solid surface, such as a concrete slab or footer. Flanges should not have open gaps, which indicate an un-level or out of square connection.

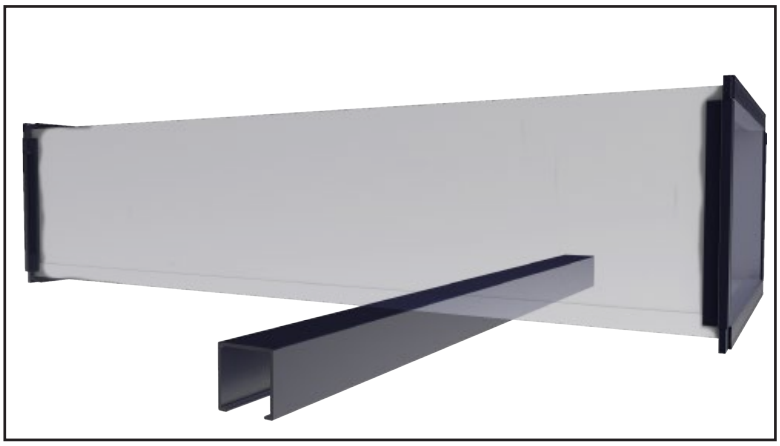




SUPPORTING SMALL DUCT

For small ductwork with girth below 36", strut supports may be used in a way that the flat side shall contact the Thermaduct. Installing strut upside down will damage the duct cladding due to point loading and inadequate support surface.



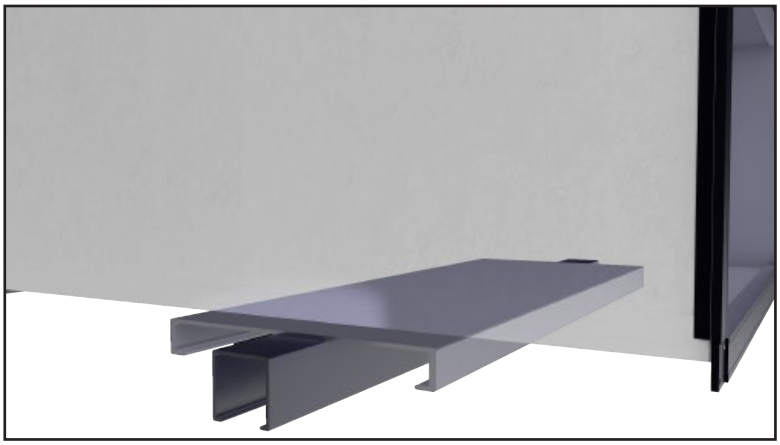


SUPPORTING LARGER DUCT

For larger duct, metal corner angles or C Channels are to be used to distribute the weight across a larger surface. These are to be made of 18 gauge galvanized or aluminum. For appropriate sizing, please refer to the graph below.

C Channel Supports

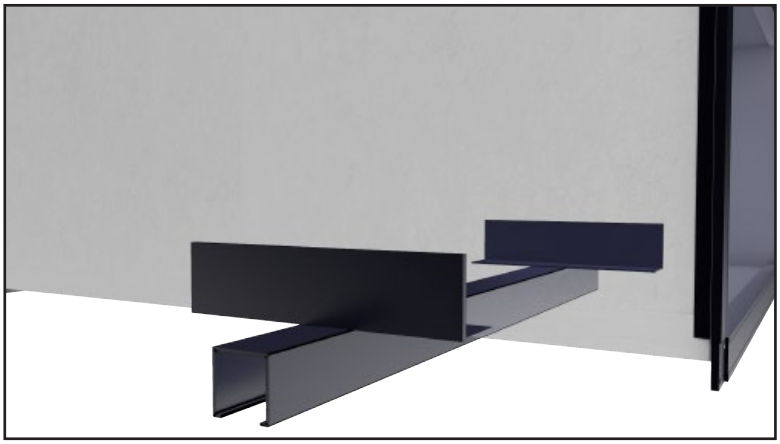
Duct Girth	Channel Width
<36	Strut Support
>36/<84	3"
>84/<120	4"
>120/<200	5"
>200	6"
>300	Consult Factory



C Channel With Strut Support

Corner Angle

Duct Girth	Angle Side
<36	Strut Support
>36/<84	2 x 2 x 10"
>84/<120	3 x 3 x 10"
>120/<200	3 x 3 x 12"
>200	4 x 4 x 12"
>300	Consult Factory

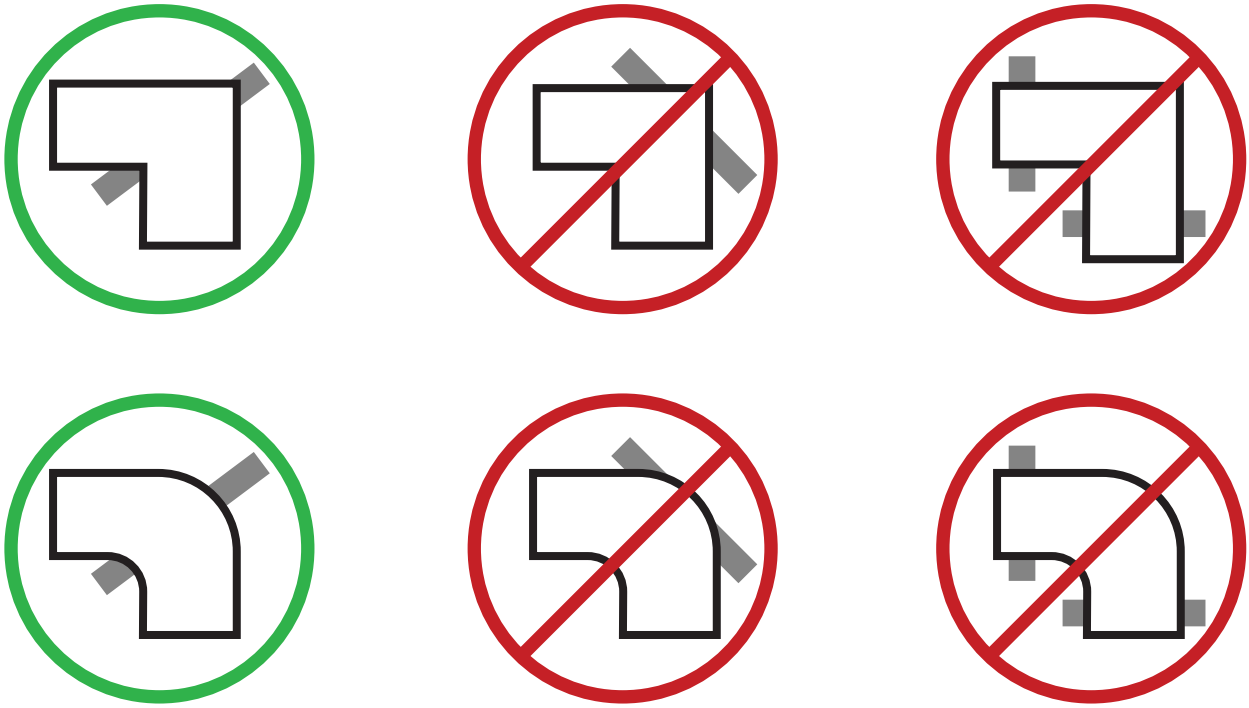


Corner Angles With Strut Support

C Channel supports may require you to adjust placement to not interfere with application of the 4-bolt flange covers. It is best to leave at least 7-8 inches from the flange and the center of the strut support when using C Channels or Corner Angles.

ELBOW SUPPORTS

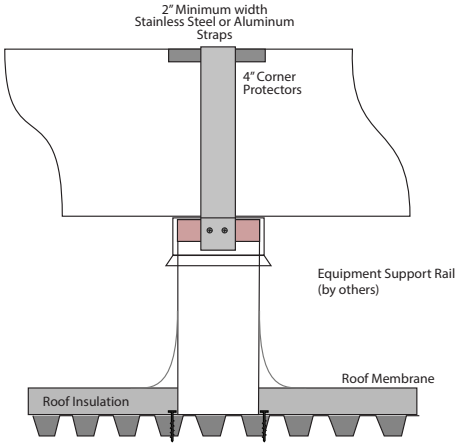
Whether square or radius, proper support is required on all elbows. Because these are some of the heaviest points of a Thermaduct Installation, support rails or strut supports must be located directly beneath the turning vane following C Channel or Corner Angle guidelines.



SUPPORTING DUCT TAPS

Changes in direction shall be supported within 2 feet of duct tap. Guidelines for installing a Thermaduct tap are located on Page 23.

TIE DOWN STRAPS - SMALL DUCT

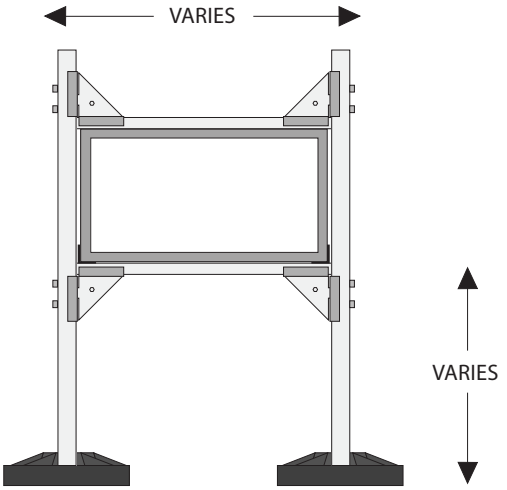


FOR <84" DUCT GIRTH

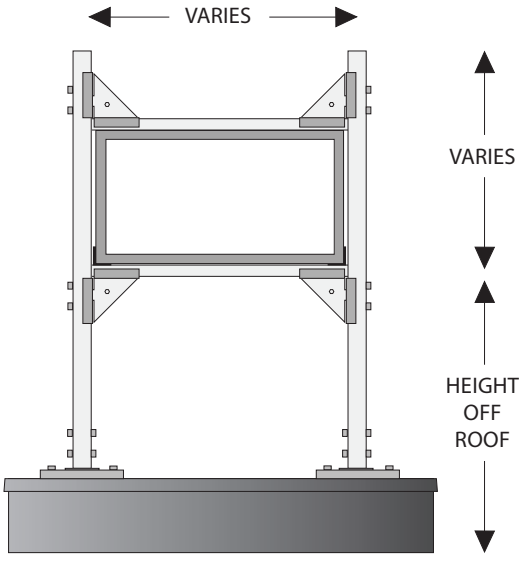
For duct segments with duct girth less than 84", Thermaduct segments can be installed with rails, metal corner protectors and straps.

ADDITIONAL SUPPORT GUIDELINES

- Duct support stand-offs should be adequately designed to handle windloads. Threaded rod stand-offs are not permitted.
- Always adhere to Support Manufacturer's Guidelines.
- We recommend every other roof support should be tied down to the roof deck unless wind loading requires added tie-down support.
- Recommended spacing is not to exceed designated table on page 9.
- Ductwork connected to flex connectors shall be supported at the point of connection.
- We recommend heavier accessories connected to the ductwork, such as power exhaust fans, be supported seperately with strut supports.



INTERMEDIATE SUPPORT

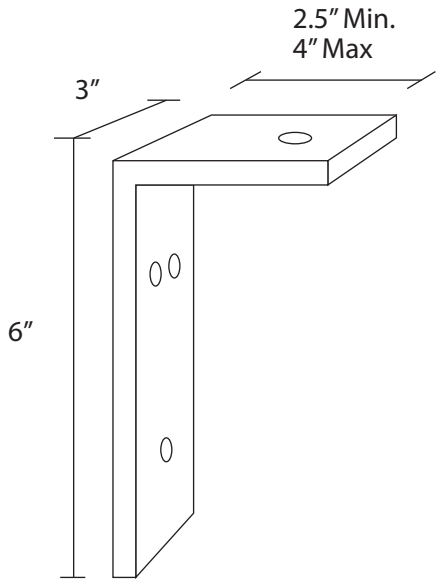


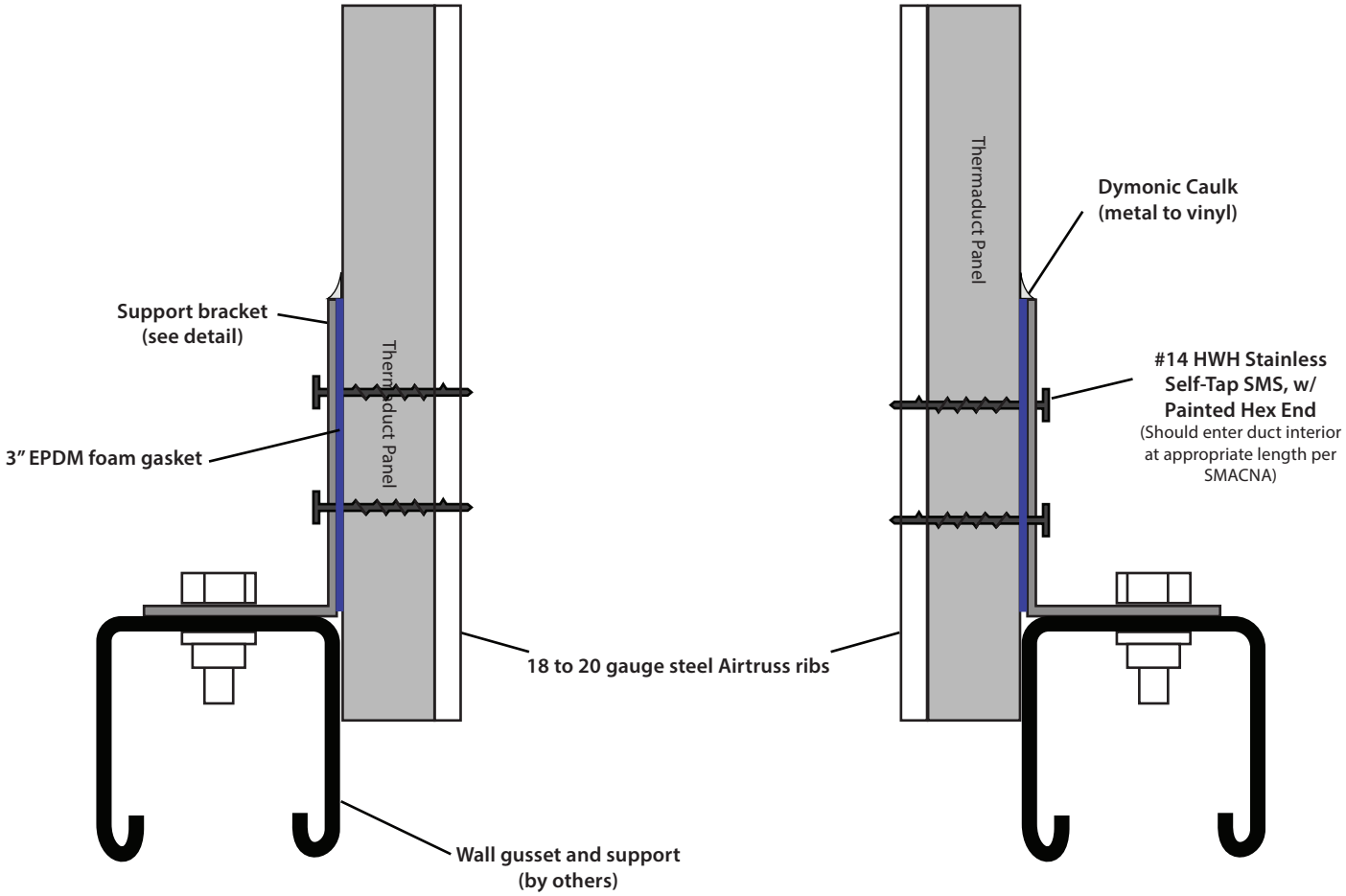
TIE DOWN SUPPORT

VERTICAL SUPPORTS

Thermaduct may be supported using strut mounted to the exterior wall of a building. Custom brackets are still to be used every 8 feet and tied into the Airtruss Ribs using 3 screws each.

- Secure strut frame to wall
- Install Thermaduct segment vertically and align between strut segments.
- Attach third strut piece, ensuring a secure hold on ductwork.
- Install brackets to strut using a bolt once aligned with Airtruss ribs in duct's interior.
- Secure bracket to Airtruss rib using 3 screws



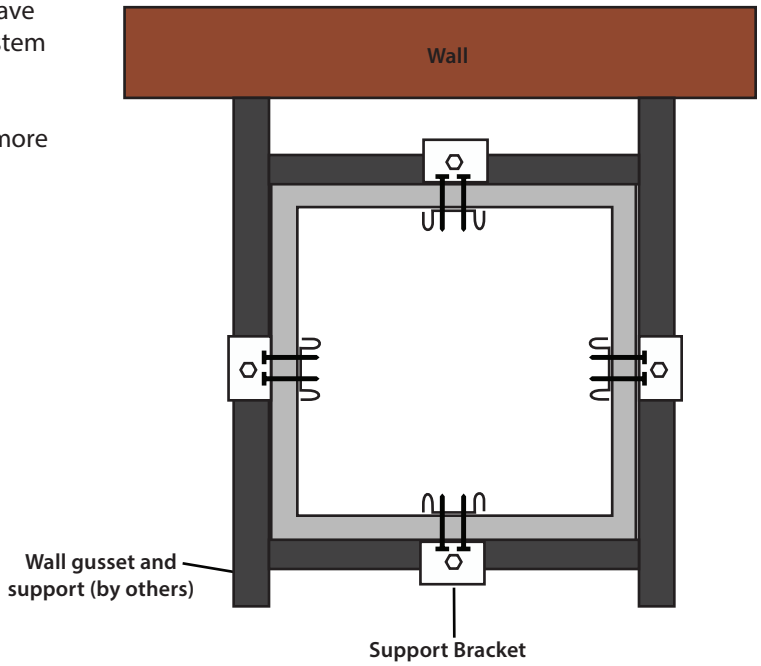


VERTICAL SUPPORT INSTALLATION

VIDEO AVAILABLE AT: training.thermaduct.com

When mounting supports to the wall, it is important to leave room for the proper application of the 4-bolt covering system and sealant. Depending on the size of ductwork you are installing, a minimum of 8" must be observed. If you are installing larger ductwork, you may be required to leave more space between the building and duct for proper sealant application.

Minimum amounts of brackets must be installed per the following guidelines:



Duct Girth	Brackets
<46"	2
>46"-160"	4
>160" - 240"	6
>240 - 360"	8

Supports for vertical applications should be spaced in the same frequency as the duct's horizontal sections.

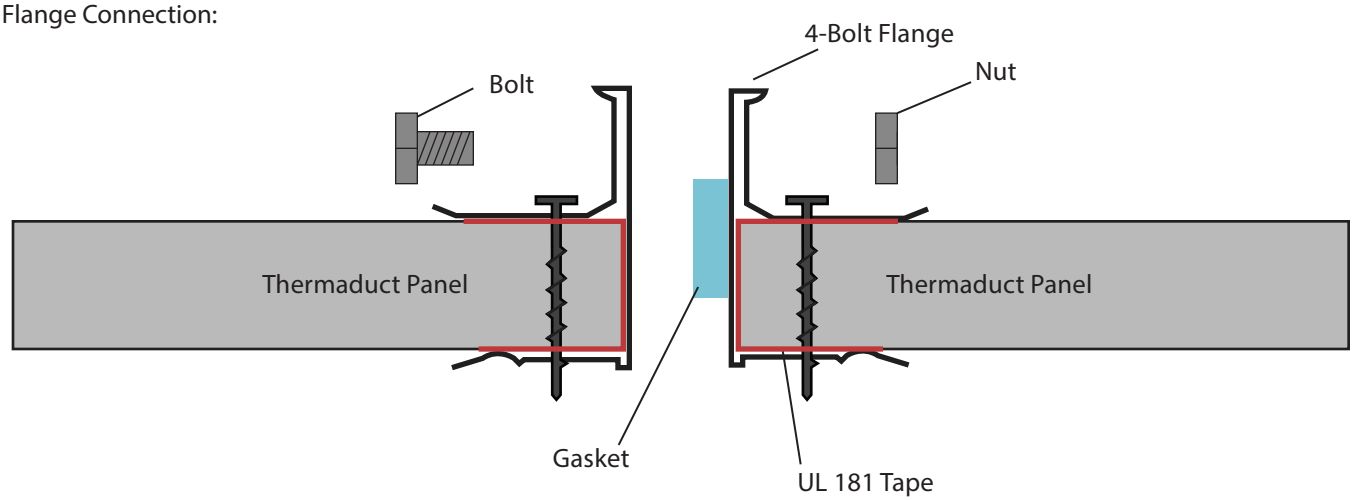
The lowest vertical elbow should always be supported underneath and employ C Channels or Corner Angles where applicable. Support frequency shall continue from this point.

FLANGE CONNECTIONS

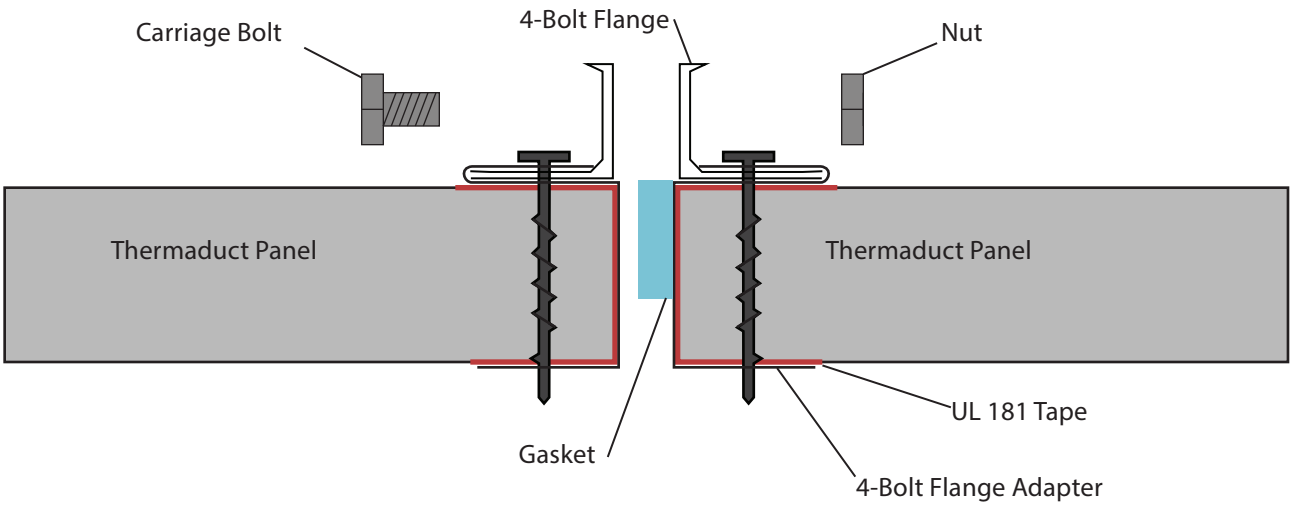
Thermaduct uses a 4-bolt flange system to connect duct segments together. The interior of the flange is gasketed before connection is made and secured with bolts and 4-bolt flange clips. To provide the best long term performance, a robust cover system is then applied to ensure each connection is as weather resistant as possible.

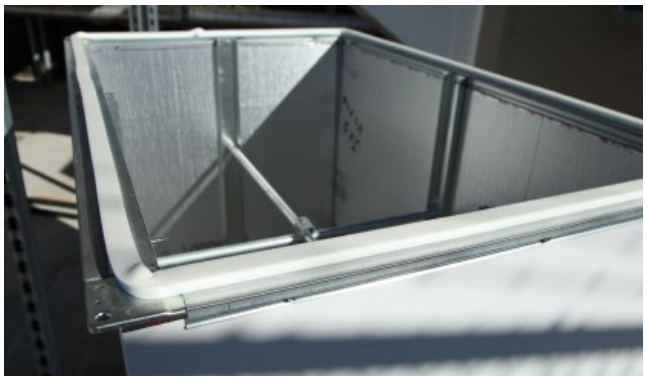
NOTE:
IT IS ADVISED THAT ANY LEAKAGE TESTING IS DONE BEFORE BLACK FOAM TAPE AND OUTER VINYL COVERS ARE APPLIED.

R8 Flange Connection:



R12 and Above Flange Connection:

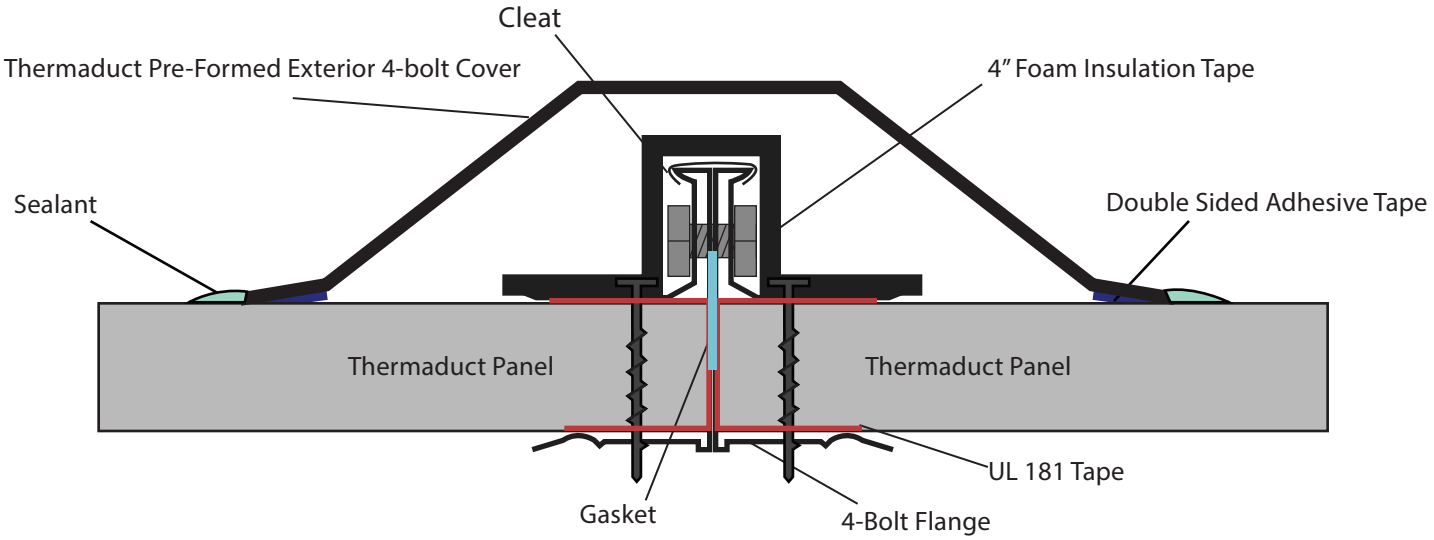




To ensure a low leakage seal, gasketing is a must between duct segments with Thermaduct. Keep the conditioned air in and the outdoor elements out!

4-BOLT FLANGE COVER SYSTEM

R8 - R24 Flange Cover Connection



Installation steps:

- Clean 4-Bolt Flange location of any dust or residue.
- Apply outer gasketing over all 4 bolt flange.
- Measure length of each vinyl cover pieces to be cut with mitered edges, for a clean fit. The top piece will require an extra 1/4" on each end. The sides will require an extra 1/4" to overhang the bottom.
- Once cut, apply Double Sided Adhesive Tape to the inner edges of the Vinyl cover and apply.
- Confirm a solid connection by pressing the edges firmly. Apply the remaining sides.
- Caulk along the upper mitered edges as well as the edges applied to the duct with Cosmofen 345 for a weather resistant seal.
- Leave bottom corners mitered for any air leakage to escape.

Sides overhang bottom by ¼"

No 4-bolt connection is perfect and any amount of leakage can pressurize covers.

Leave the bottom mitered corners unsealed for air to escape

1) PREP

Apply factory supplied gasketing to one side of connecting duct 4-bolt flange by placement in previous page.

2) CONNECT

After gasketing the inner portion of flange, use nuts, bolts and clips to connect all factory installed 4-bolt flanges.

3) PROTECT

Factory supplied 4" foam tape is to be installed around all 4-bolt connectors. The foam tape provides both a thermal value and added air leakage integrity.

4) FINISH

Factory supplied beveled connector caps are furnished to be installed around all 4-bolt connectors, providing UV protection and additional water integrity.

Leave bottom mitered corners unsealed.

CAULKS AND SEALANTS thermaduct™

AVAILABLE FROM THERMADUCT

Kingspan Safire Sealant or Manus Bond 75 AM (Gray) - Phenolic Interior Sealing

Kingspan & Manus Bond sealants are used on the inside of the phenolic duct itself or when making a "cut" to the Thermaduct. Apply this sealant when working with sealing KoolDuct to flange on cut joints or KoolDuct to KoolDuct if needed. This sealant will not adhere to the Thermaduct cladding surfaces and is not UV rated.

Dymonic FC - Metal to Vinyl Sealing

Dymonic FC sealant is used to make metal to Thermaduct connections such as when making connections from Thermaduct to flange materials. Dymonic is UV stable and can be used in direct sunlight and is intended for outdoor applications. It is best when applied to vinyl to metal and not vinyl to vinyl connections.

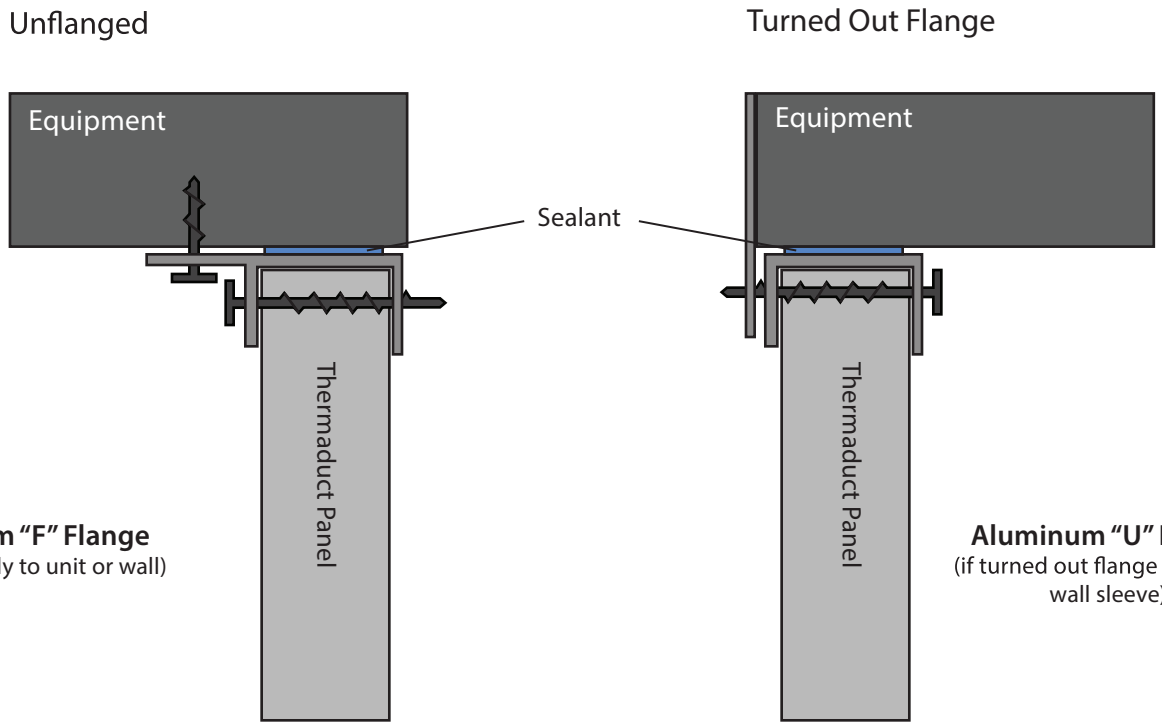
Cosmofen Sealant - Vinyl to Vinyl Sealing

Cosmofen sealant is used to make vinyl to vinyl connections such as when making connections from Thermaduct to 4-bolt flange covers and associated materials. Cosmofen sealant is UV stable and can be used in direct sunlight and outdoor applications. It is best when applied to vinyl to vinyl connections. Cosmofen does not stick to metal surfaces.

This sealant should provide 36 linear feet per tube using the manufacturer's pre-cut applicator opening. Don't cut the applicator, as common with sealant tubes, as that can risk over application.

EQUIPMENT CONNECTIONS

EQUIPMENT CONNECTION:



Aluminum "F" Flange
(fasten directly to unit or wall)

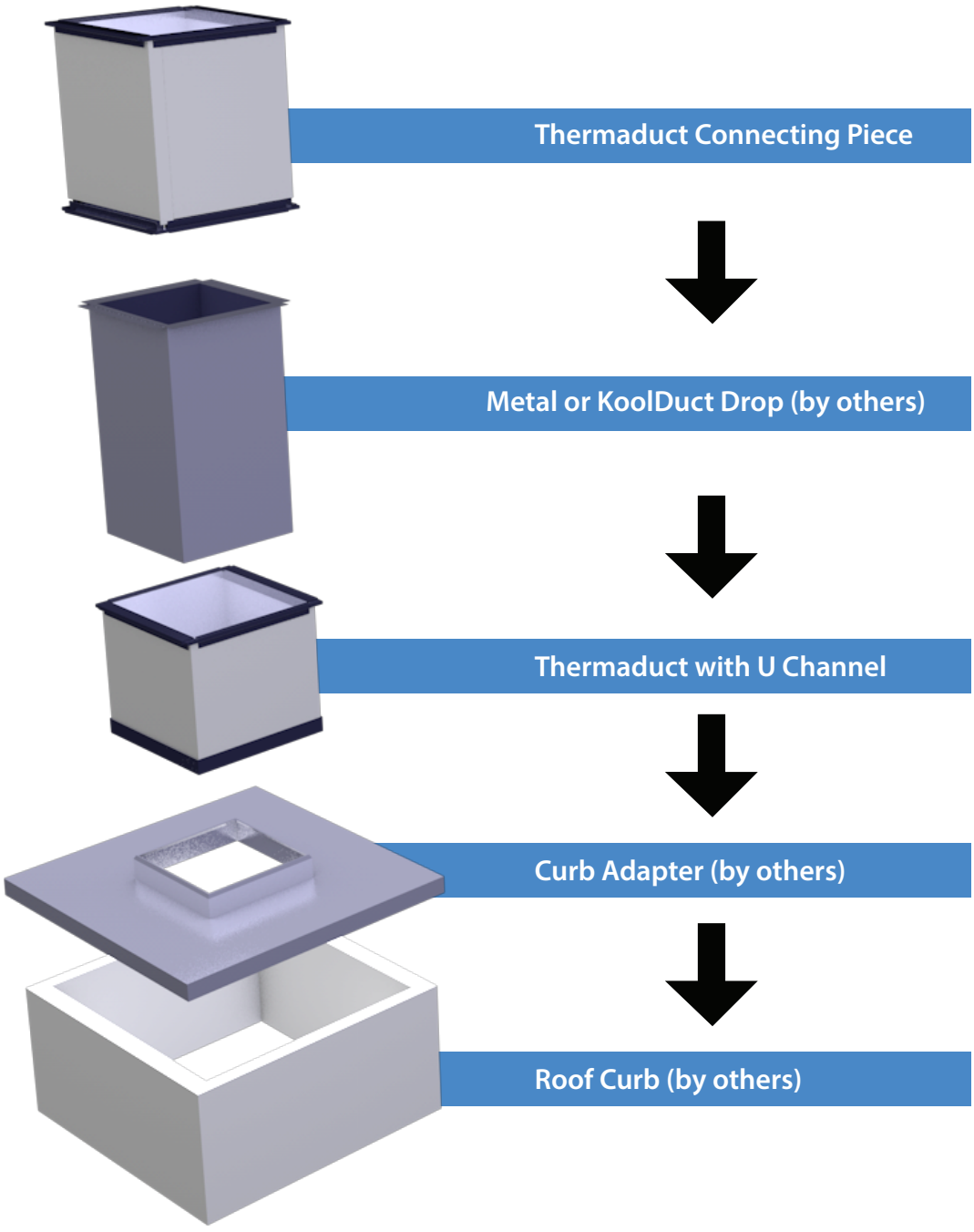
Aluminum "U" Flange
(if turned out flange on unit or wall sleeve)

If flashing is required, utilize over flanges

SUGGESTED CURB CONNECTIONS:

Connect Thermaduct segment to roof curb with the following steps:

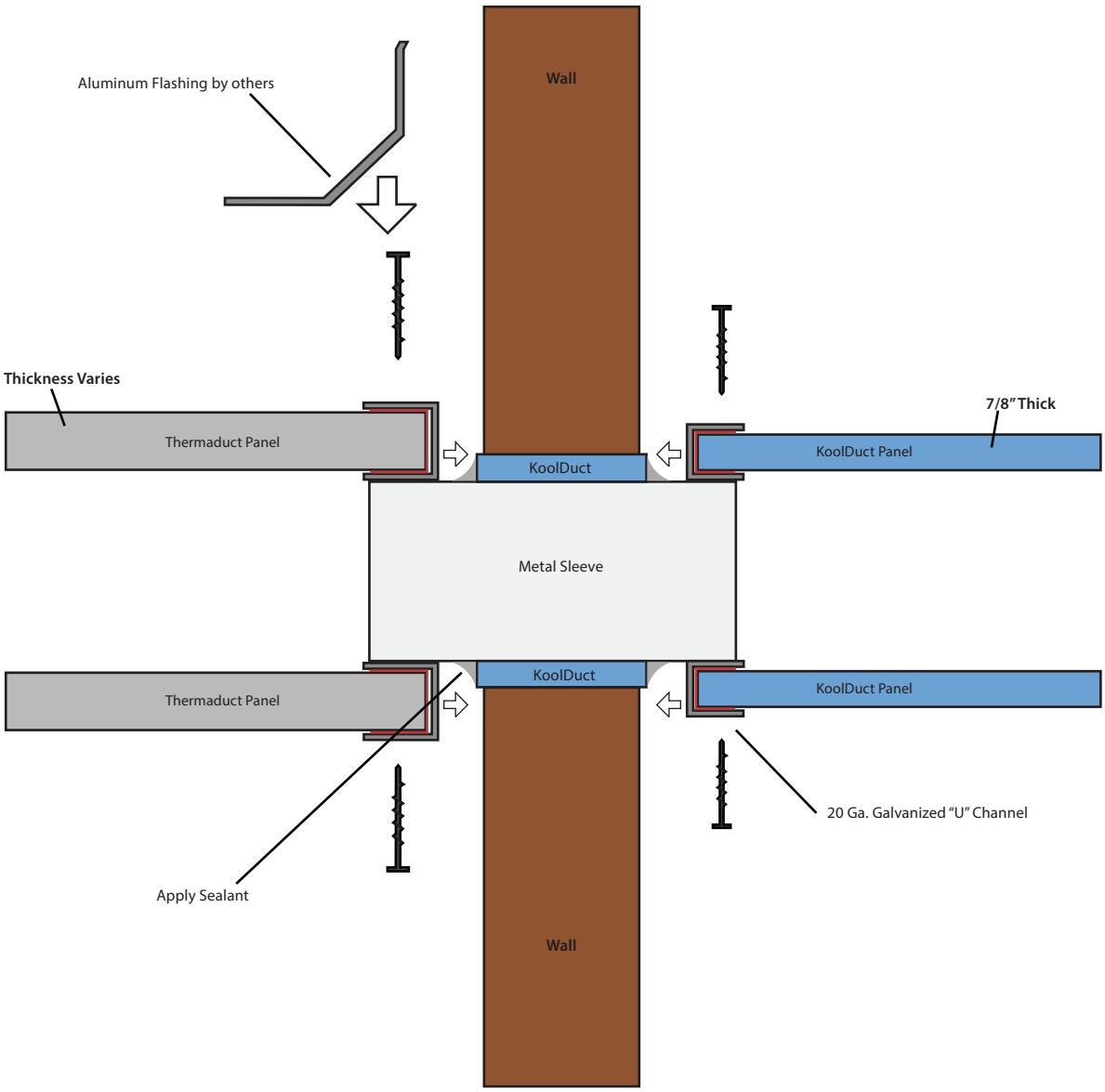
- Properly seal curb adapter
- Set Thermaduct duct piece over curb to ensure correct fit
- Secure fitting into place with screws through flange
- Drop metal or KoolDuct duct drop into curb.
- Connect next section of Thermaduct over and finish as a normal flange connection.



SUGGESTED CONNECTION THROUGH EXTERIOR WALL:

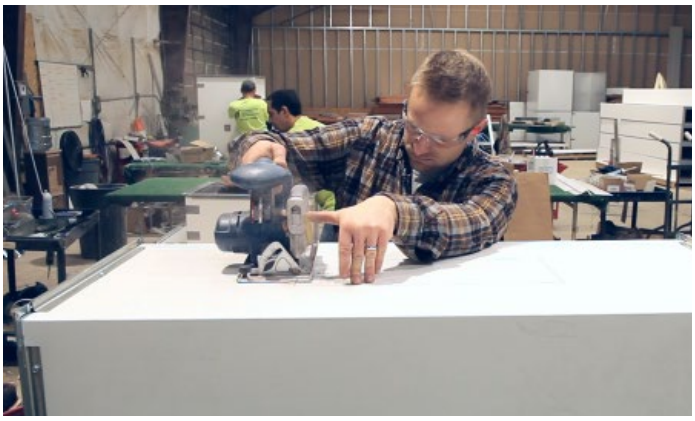
We suggest connections through exterior walls use a metal sleeve to bridge the interior and exterior ductwork, entering the interior of the Thermaduct. This is an added point of protection from water entering the building should flashing fail.

Because of general code requirements on interior applications, Vinyl Cladded Thermaduct cannot enter the intrior of the building without approval from your engineer.



FIELD MODIFICATIONS

Typically, Thermaduct is manufactured to detailed measurements. From time-to-time, a field cut may be necessary for adjusting the length of the duct segment or to add taps for equipment or duct connections that are field assessed. When this occurs, the segments can be field cut and the flanges can be reassembled for connection.

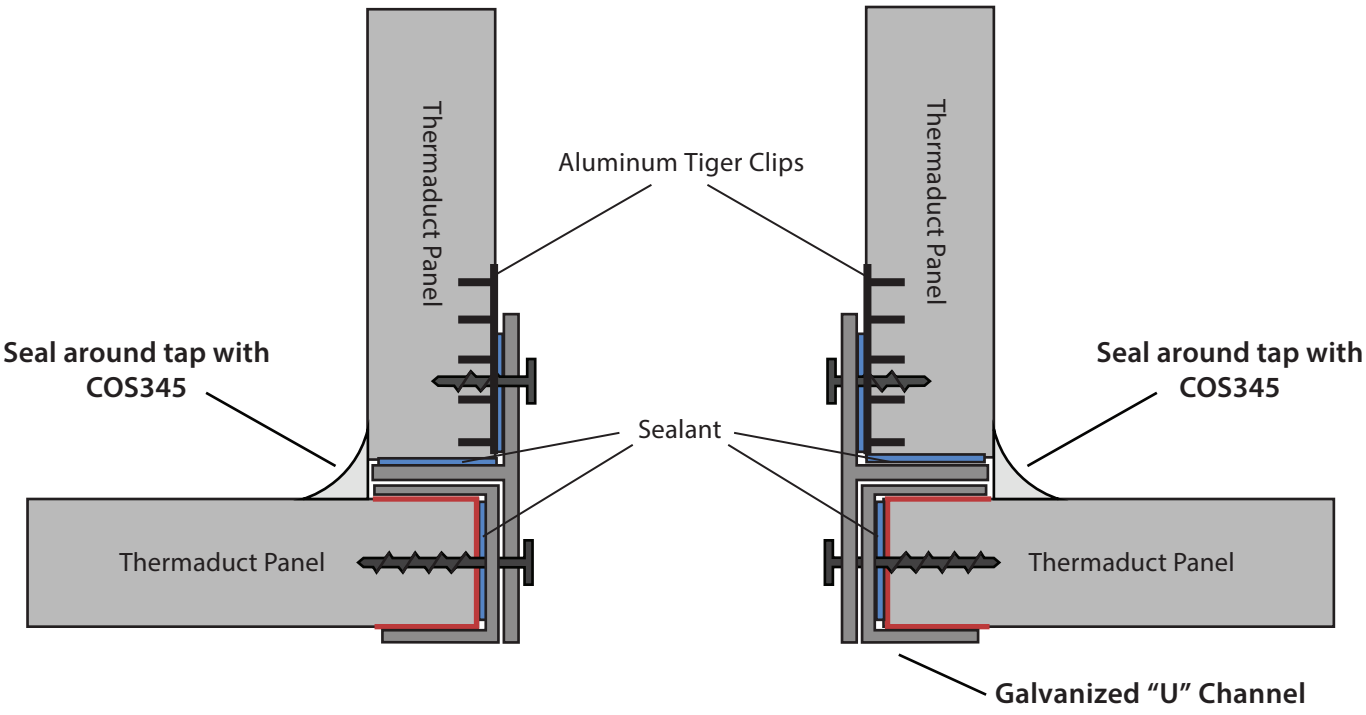


CUTTING A TAP - 46" MAX WIDTH

For taps larger than 46" please consult factory.

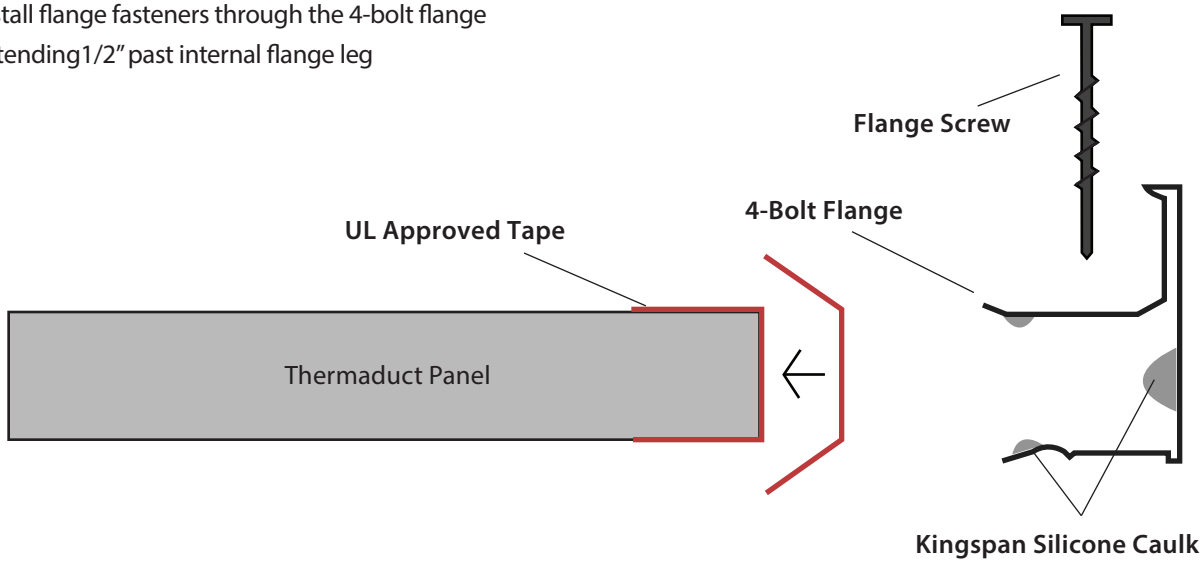
- Field cut using circular saw
- Clean the cutting area of dust and debris
- Use a knife to ensure all cuts are completely through the interior FSK
- Ensure cut is accurate with new duct piece
- Tape exposed edges with UL 181 aluminum tape
- Caulk and place 18 gauge "U" Channel over taped edges
- Hammer "U" Channel into place
- Caulk the edges of new fitting and place into prepared cut
- Screw into "F" Channel to secure into place
- Caulk all edges with approved caulk to ensure a waterproof seal

SHOE TAP:



FIELD CUTTING

- Measure proper distance from last flange connection to desired location
- Mark the vinyl clad with a line the full outer girth to ensure lines meet squarely
- Use a Metabo or Circular Saw and cut only through the vinyl clad layer
- Use a 90 degree cutting block to make the final cut through the foam panel
- Use 3" aluminum tape (field supplied) to cover foam end
- Use Kingspan Silicone Sealant and create a bead of flange interior surfaces
- Re-install 4-bolt flange and secure it firmly to the face of the foam panel
- Install flange fasteners through the 4-bolt flange extending1/2" past internal flange leg



ACCESS DOORS

Thermaduct now provides durable low leakage access doors for use in Thermaduct products. For more information on using these in your application, contact your Thermaduct representative.

TEST PORTS, DUCT DETECTORS & OTHER DUCT ATTACHMENTS

Accessories and test ports may be installed on Thermaduct and must be properly sealed and protected from the elements. For Thermaduct recommended practices, please see our Duct Accessory Bulletin.

thermaround™

The following pages will guide you in your installation of Thermaround. This system uses an offset coupling system to provide unrestricted airflow and high thermal values. Handling and Care of Thermaround should be consistent with Thermaduct sections. Please contact Thermaduct or your local Thermaduct Representative should you have any questionsregarding installation.

These Guidelines Will Cover:

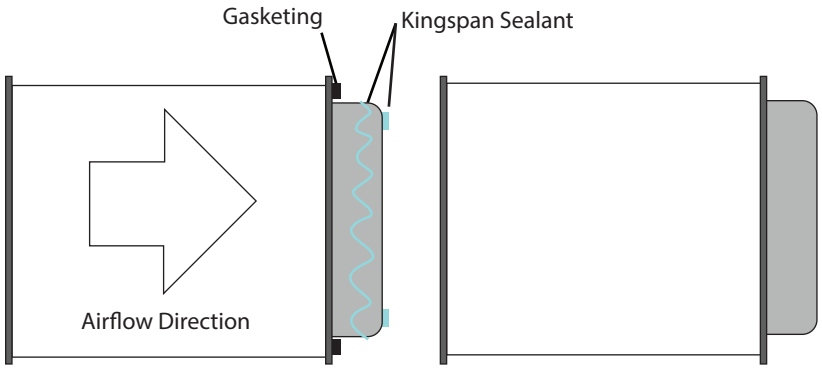
- Thermaround Connections
- Horizontal Supports
- Vertical Supports
- Field Modification

THERMAROUND CONNECTIONS

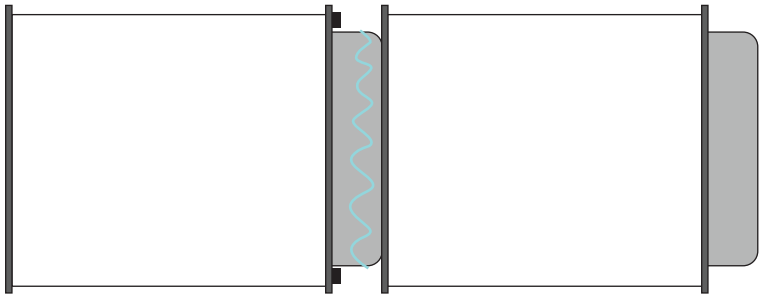
Thermaround uses a 4 stage connection system to connect duct segments together. The interior of the flange is caulked before connection is made and secured with the drawband ring. All seams should face the ground where applicable.

1. **Align duct segments and apply factory supplied gasketing.**

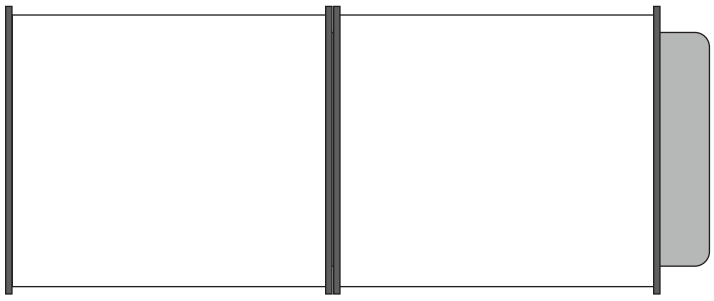
   Apply factory supplied sealant to offset coupling



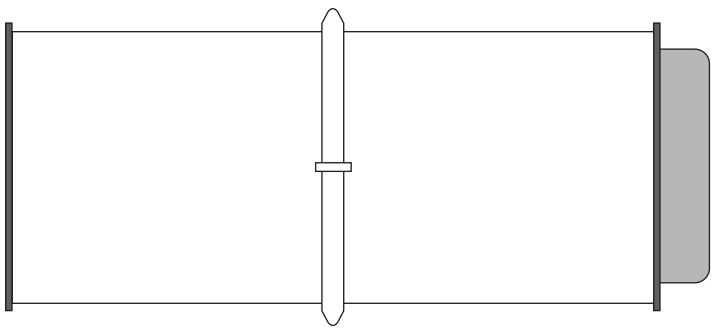
2. **Connect duct segments via offset coupling**



3. **Ensure tight fit**



4. **Secure segments with two piece barrel connection drawband**



CAULKS AND SEALANTS thermaround™

AVAILABLE FROM THERMADUCT

Manus Bond 75 AM (Gray) or Kingspan Safire Sealant - Phenolic Interior Sealing

Manus Bond 75 AM (Gray) sealant or Kingspan Safire Sealant are used on for sealing the offset coupling, inside of the phenolic duct itself when making a "cut" to the Thermaround, and for sealing a new flange that has been installed at a cut joint. View our online training course or read page 15 of this manual for use with cut joints.

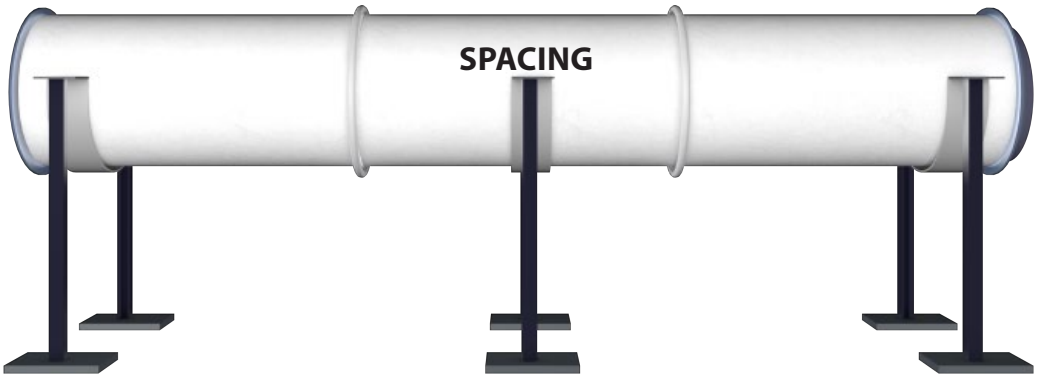
OSI Quad (White) - Exterior Flange Sealing & Vertical Connection Seal

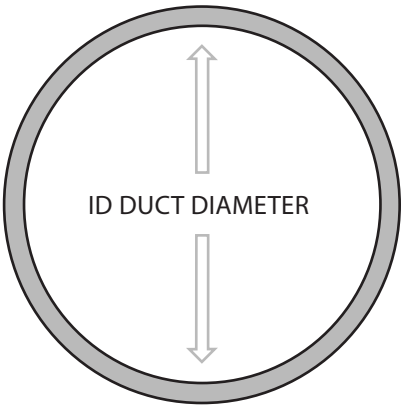
OSI Quade (White) is used to seal the the top of any vertical connection or the exterior of a new flange at Thermaround cut joints. View our online training course or read page 15 of this manual for use with cut joints.

ROUND SUPPORTS AND HANGERS

Thermaround shall be installed with adequate support to insure the life of the system. Roof supports and hangers are the foundation that ensure Systems are firmly adhered to the structure and capable of providing mechanical support of the Thermaround system. **Also refer to roof support manufacturers guidelines for their specifications as these instructions do not supersede their published data. Consult rail or support bracket manufacturer for their data relating to structural capacity & application.**

This Chapter does not deal with seismic requirements; consult a seismic engineer for requirements when applicable.

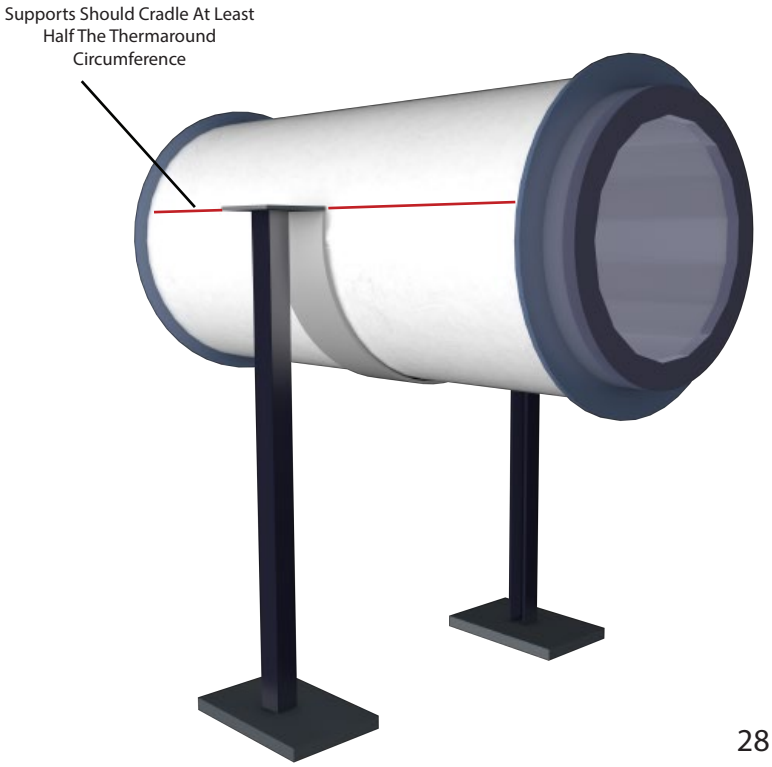




ID MEASUREMENTS = DUCT GIRTH

Duct ID Diameter < 48"	Spacing 8' maximum
Duct ID Diameter > 48"	Spacing 6' maximum
Duct ID Diameter >80"	Spacing 4' maximum

On buildings over 20 stories, 4' maximum spacing



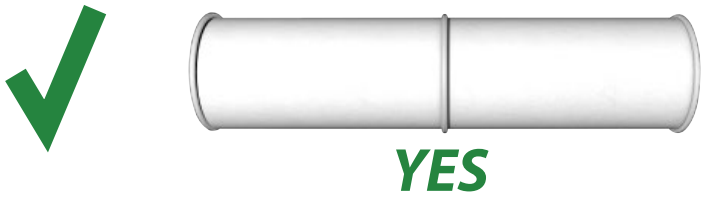
SUPPORT SIZE

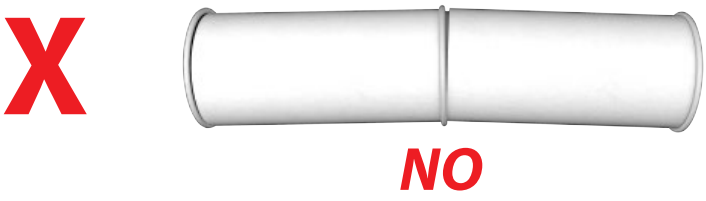
Supports must be propperly sized for the outer circumference of the Thermaround segments.

Depending on the size of your Thermaround, a wider support surface may be required to distribute weight across a larger area.

Just like rectangular, we suggest every other support be tied down. For questions, consult your engineer on your application.

Duct Diameter	Channel Width
<24"	1 1/2"
>25"/<38"	3"
>39"/<60"	4"
>60"	5"





LEVEL INSTALLATION

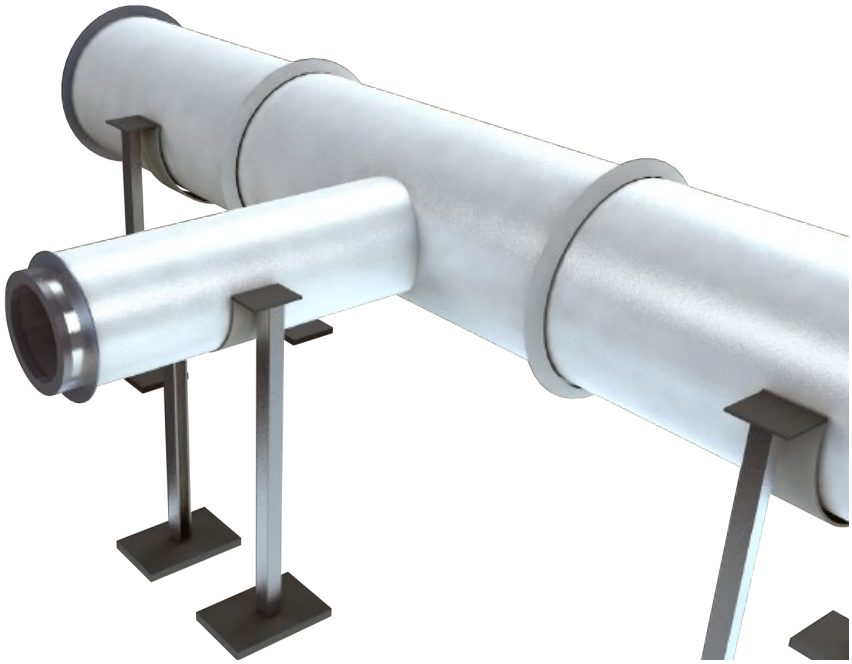
Connected pieces of Thermaround should be level and plumb. Seams should not have open gaps, which indicate an un-level or out of square connection.

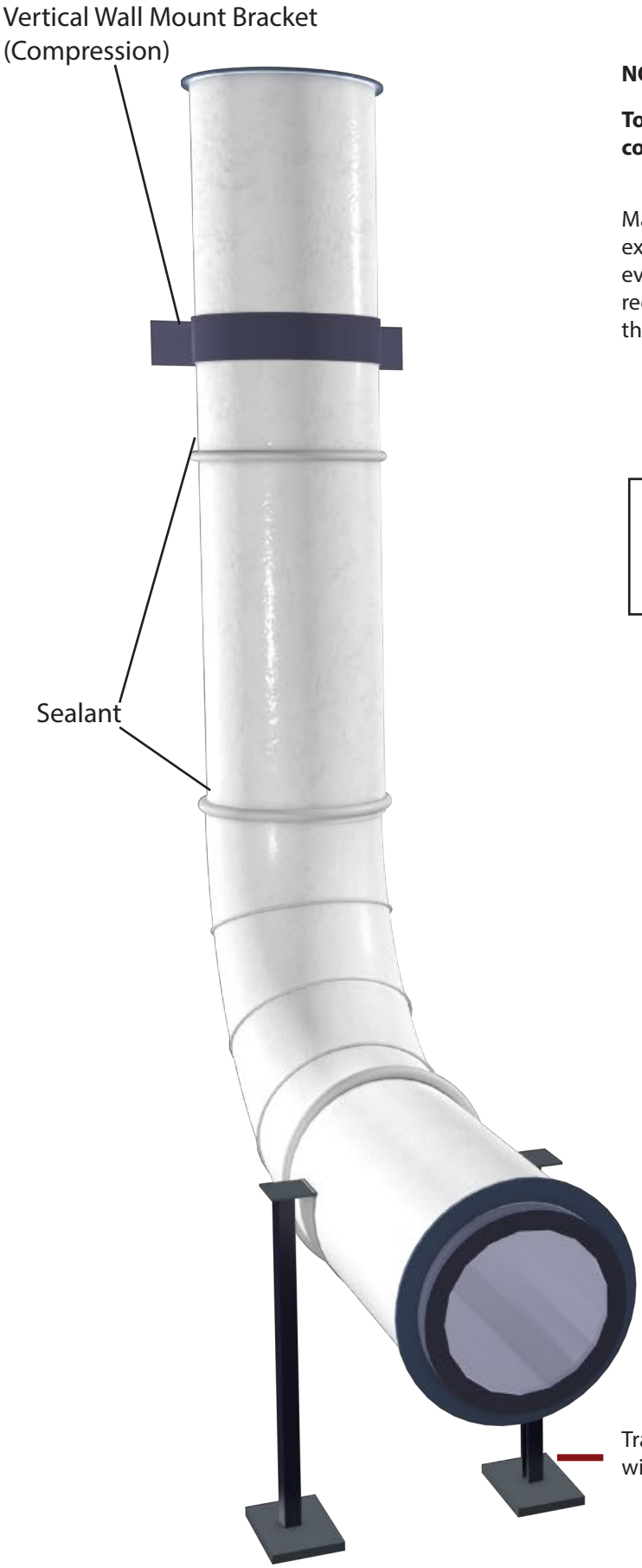
ELBOW SUPPORT

Elbow supports should follow support schedule determined by the duct diameter on the previous page.

TAP SUPPORT

Changes in direction should have a support within 2 feet of the duct tap.





NOTE:

Top edge of connection must be sealed on all vertical connection bands with OSI Quad (White) sealant.

Max distances between structural vertical supports should not exceed 8 feet. Larger diameter ductwork will require supports every 4 feet by the schedule below. Should your application require duct installed beyond at a greater distance from a wall than gussets can support, consult Thermaduct.

ID MEASUREMENTS = DUCT GIRTH

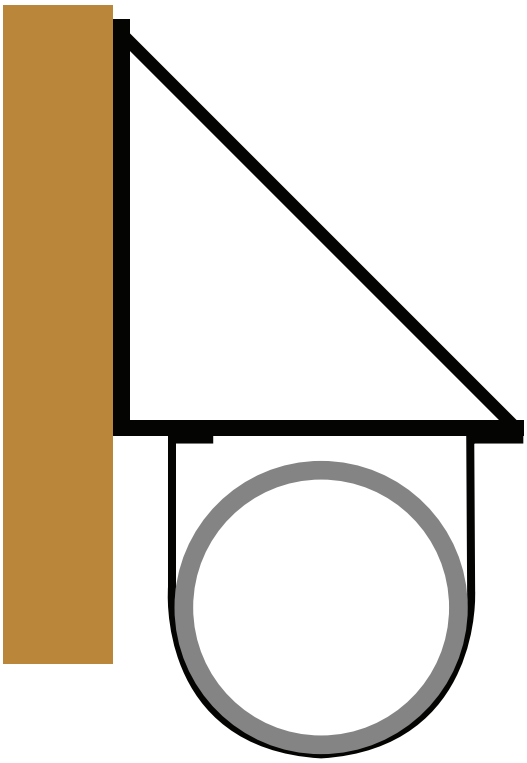
Duct ID Diameter < 48″	Spacing 8′ maximum
Duct ID Diameter > 48″	Spacing 6′ maximum
Duct ID Diameter >80″	Spacing 4′ maximum

On buildings over 20 stories, 4′ maximum spacing

Transitions to horizontal will require supports to be added within 8″ of connection draw band.

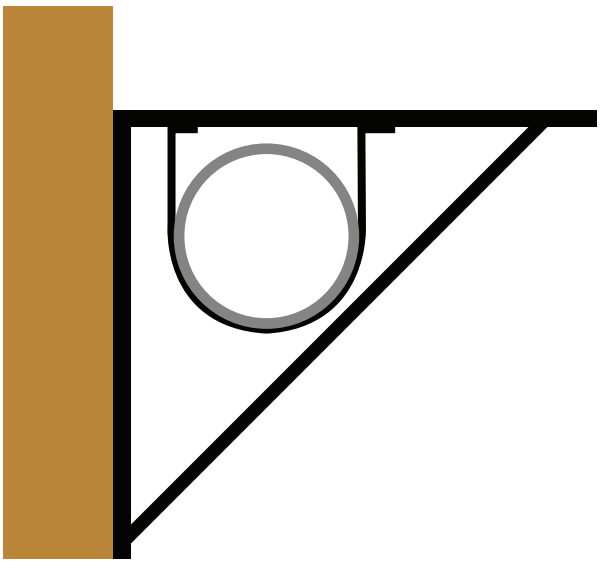
Alternate Supports in Elevated Locations

Thermaround sections may be suspended from wall mounted gussets using support bands. Support width should follow the same schedule as noted in the previous pages.



Preferred Method

Ductwork shall hang beneath wall mounted gusset from support bands.



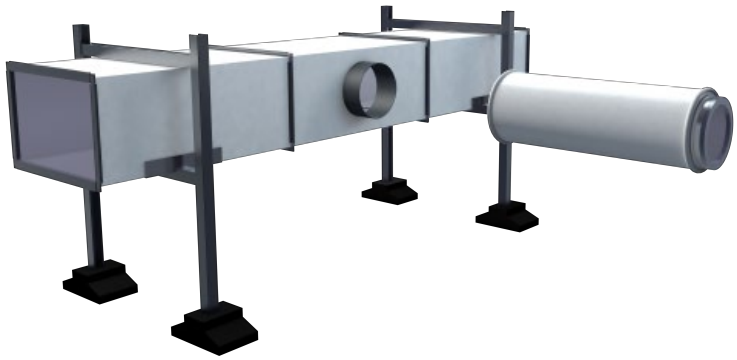
Alternate Method - Smaller Duct Segments

Ductwork shall hang within wall mounted gusset from support bands.

CONNECTING TO EQUIPMENT, CURBS AND RECTANGULAR DUCT

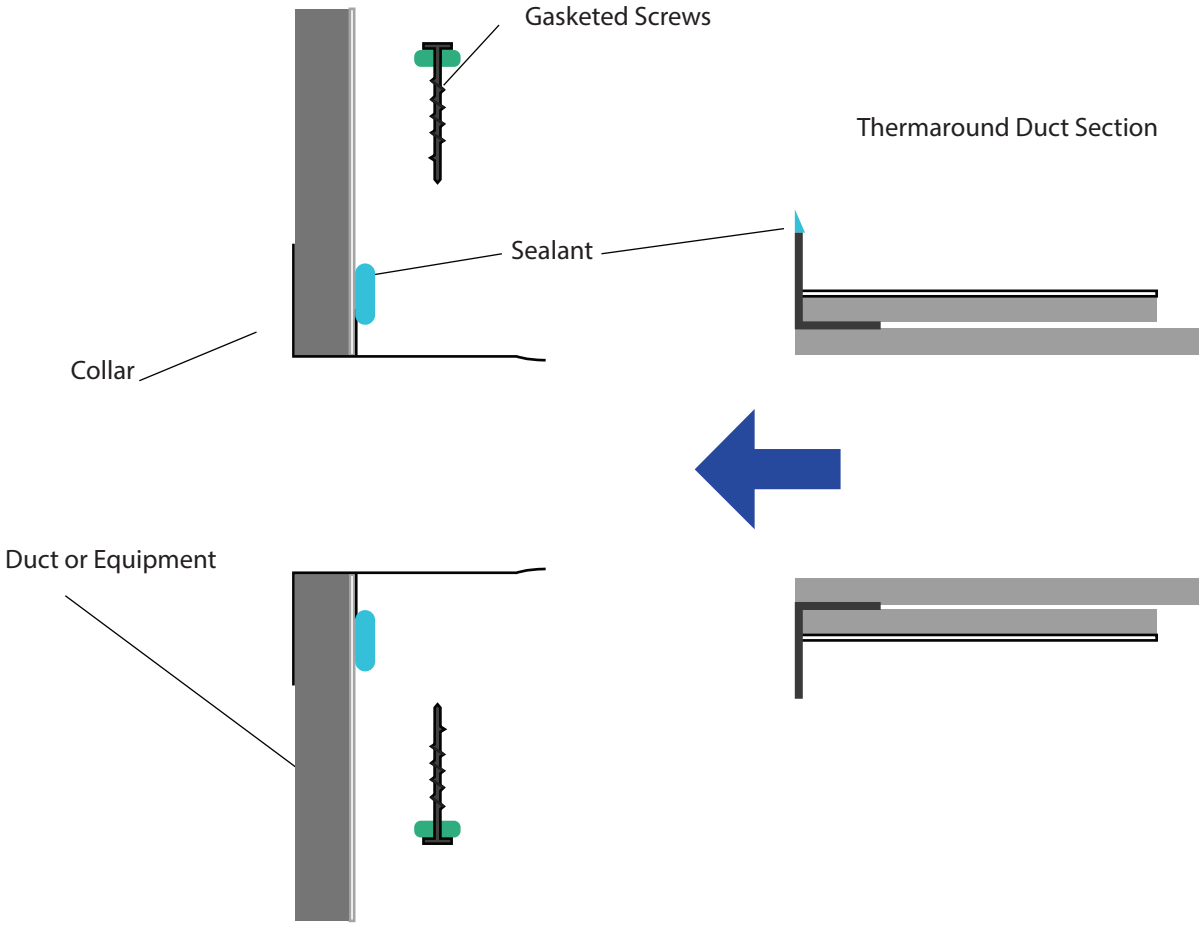
PROPER CONNECTIONS

While most equipment and curb connections use square to round fittings, there are occasions where you will be required to connect with Thermaround without converting to rectangular. In these instances, properly sealed ductboard collars or curb adapters can be used to connect to your Thermaround ductwork.



Collar or curb should enter the interior of the Thermaround connection. Proper sealing methods and gasketed screws are used to secure into place and ensure water and air integrity. Use proper flashing if required.

Example:



FIELD MODIFICATION OF THERMAROUND

CUT JOINTS

Thermaround can be modified in the field in cases where measurements require some room for error. These decisions should involve Thermaduct prior to any cuts, as installers will apply a new flange to the new connection point.

Required Materials for Cut Joint:

- Flange Ring
- 1/4" Drill Bit with Drill
- Panel Fasteners
- Manus Bond Sealant
- Deadblow Hammer
- OSI Sealant
- Circular Saw
- Knife with at least 3" Blade
- UL 181 Approved Tape
- Rigid Spatula

Steps:

VIDEO AVAILABLE AT: training.thermaduct.com

1. Measure and mark your intended cut location and add two additional inches for the offset coupling. Secure Thermaround section on a clean cutting surface. Confirm cut line is straight to ensure no gaps.

2. With your circular saw set to 1 3/4", cut both layers of insulation at the offset coupling line. Clean with knife if necessary and remove cut section. Return to the intended cut location and set circular saw to 7/8". Cut through the top layer of vinyl and insulation at intended cut location.

3. Apply UL 181 Approved tape to exposed phenolic areas, limiting tape touching the vinyl cladding. Squeegee tape into place to ensure a firm hold.

4. To prepare the area for new flange ring, split the tape between the inner and outer layers of phenolic with a rigid spatula.

5. Seal along underside of flange with Manus Bond sealant and carefully slide ring over the inner layer of phenolic. Use deadblow hammer to move flange ring into position.

6. Install panel fasteners around the interior circumference of the ductwork in line with the flange. These should be placed every 6-8 inch centers. Apply UL 181 tape over fastener. Screw through panel fastener into the flange ring to secure in place

7. Seal exterior of ring with OSI sealant along vinyl cladding. Seal interior of ring with Manus Bond near the inner coupling.

CARE AND MAINTENANCE

CLEANING THERMADUCT

To remove residue the exterior surface of Thermaduct can be cleaned with a soft rag and water. Should residue be unable to be taken off, add a small amount of soap to the water. Too high of soap concentration can damage the UV stability of the vinyl.

If you observe excessive environmental buildup contact warranty@thermaduct.com to determine a proper cleaning option.

The interior of the ductwork can be cleaned using established non-abrasive dry cleaning methods such as air whips, electric vacuums, air lances or air nozzles.

THERMADUCT IS NOT A SUPPORT SURFACE

Thermaduct is designed to handle loads associated with induced pressure (for the air handling appliance) and from weather related stressed (wind, snow, rain, etc.). The duct itself is not designed for human traffic unless designated. Use caution when applying weight to ductwork to allow it to maintain full structural integrity to take on its intended application. Plank off duct area with 3/4" plywood should you need to move across ductwork.

Unless otherwise specified, Thermaduct segments are not intended for added surface loading.

DO NOT PAINT THERMADUCT

Do not paint Thermaduct with paint or other surface treatments. Thermaduct's white color is not only a cosmetic choice, but to help the outdoor ductwork maintain the best performance possible in all climates. Applying paint to Thermaduct can damage the UV stability and long term performance.

thermaduct™

PRE-INSTALLATION CHECK SHEET

Complete the following check sheet and return to info@thermaduct.com prior to installation. This is a precautionary step that will guarantee a smooth fabrication and installation process.

Job Name	Installing Contractor
Job Address	Expected Start Date
Site Contact	Contact E-mail
Thermaduct Rep	Rep Salesperson

1. Application is outdoors?	Yes	No	
2. Have you confirmed duct girth of your application?	Yes	No	
3. Do you understand support surface requirements outlined in this manual?	Yes	No	
4. Duct supports are going to be level?	Yes	No	
5. What is the maximum span between any 2 roof / hanger supports on your application?			_____ feet
6. Is this a LEED project?	Yes	No	
7. Air temperature range between -15 and 185 degrees F?	Yes	No	
8. What is the design external static pressure (Supply Air)			_____ " w.c.
9. What is the design external static pressure (Return)			_____ " w.c.
10. What is the design external static pressure (Exhaust)			_____ " w.c.
11. Do you have a Metabo or Circular Saw for cutting vinyl clad?	Yes	No	
12. Do you have an angle cut block knife to cut take-off's?	Yes	No	
13. Have you gone through our online training course?	Yes	No	
14. Are you just selecting yes without reading this?	Yes	No	
15. Is this duct installed in an area where wind lift might occur?	Yes	No	
16. Do you have materials / hangers to hold duct into position?	Yes	No	
17. Do you have rigging (crane, hoist, lift) to get material onto roof?	Yes	No	
18. Have you looked at the weather forecast to insure dry conditions?	Yes	No	
19. Have you studied / measured to verify detailed drawings of system?	Yes	No	
20. Have you signed off on the manufacturing submittal?	Yes	No	
21. Are you aware Thermaduct is not a support surface?	Yes	No	
22. Does your application require protective film over duct openings?	Yes	No	
23. Expected snow accumulation per year			_____ "

Read, fill out and return this form to warranty@thermaduct.com prior to installation.

POST INSTALLATION CHECK SHEET

1. Did you utilize the installation guidelines outlined in this manual to install the completed duct system?	Yes	No
2. Is the duct installation free from visual damage?	Yes	No
3. Are ducts free from sagging or visible misalignment?	Yes	No
4. Is the static pressure operating within designed pressure class?	Yes	No
5. Is the maximum spacing of supports and hangers in conformance with this manual?	Yes	No
6. Are fittings supported in conformance with this manual?	Yes	No
7. If required, did you utilize C Channels or Corner Angle with supports?	Yes	No
8. Do all elbows have a support underneath the Turning Vanes?	Yes	No
9. Were you required to modify any of the duct segments?	Yes	No
10. If yes above; Were you able to utilize designated "cut joints"?	Yes	No
11. Did you utilize 4" foam insulation tape at all joints?	Yes	No
12. Did you install 4-bolt flange covers over foam insulation at all joints?	Yes	No
13. Did you caulk 4-bolt flange covers with Cosmofen Sealant?	Yes	No
14. Is the system served by this ductwork supplying a VAV system?	Yes	No
15. If above is "yes"; Does the system contain a limiting device for air pressure in the system? (Note with low air leakage, air pressure builds quickly).	Yes	No
16. Has the property management been given a copy of this manual?	Yes	No
17. Are there any other comments regarding this installation?		

Job Name	Installing Contractor
Job Address	Contractor Mailing Address
City / State / Zip	City / State / Zip
Site Contact	Installer's Name
Installation Date	Date
Comments	Signature

Please submit this form and at least 3 photos of the installation to the following e-mail to obtain warranty certificate: warranty@thermaduct.com.

WARRANTY CONDITIONS:

1. To obtain the warranty, the Company must receive from a certified Thermaduct installer the Pre-Installation Checksheet and Post Installation Checksheet within 60 days following installation, and all conditions on the Pre-Installation Checksheet and Post Installation Checksheet must be satisfied in full, at the Company's discretion. This Install Verification is not a registration, but rather a method for the Company to verify that the Thermaduct system is appropriate for the location where installed and that such installation was properly completed. In addition, the product must be properly registered by sending this form to the Company within ninety (90) days of original installation. In jurisdictions where warranty benefits conditioned on registration are prohibited by law, registration is not required.

2. The Thermaduct system and any Thermaduct product must be installed properly and by a licensed HVAC technician, with the HVAC technician completing the Install Verification.

3. The warranty applies only to products remaining in their original installation location and designated use.

4. Installation, use, care, and maintenance must be normal and in accordance with instructions contained in the Installation Instructions, Owner's Manual and Company's service information.

5. Defective parts must be returned to the Thermaduct distributor through a registered servicing dealer for credit.

6. This Limited Warranty may not be modified, changed or expanded by anyone, including without being limited to any distributor, dealer or contractor. Representations or statements relating to Thermaduct products made by Thermaduct, its representatives or any other person, whether made in writing or orally, whether made in any sales literature, catalog, advertisement, electronic media, or agreement are (A) opinions only, (B) not express warranties and (C) not a part of the terms of sale of the product.

Failure to adhere to the foregoing conditions will void the warranty.

LIMITATIONS OF WARRANTIES: ALL IMPLIED WARRANTIES AND/OR CONDITIONS (INCLUDING IMPLIED WARRANTIES OR CONDITIONS OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR USE OR PURPOSE) ARE LIMITED TO THE DURATION OF THIS LIMITED WARRANTY. SOME STATES OR PROVINCES DO NOT ALLOW LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY OR CONDITION LASTS, SO THE ABOVE MAY NOT APPLY TO YOU. THE EXPRESS WARRANTIES MADE IN THIS WARRANTY ARE EXCLUSIVE AND MAY NOT BE ALTERED, ENLARGED, OR CHANGED BY ANY DISTRIBUTOR, DEALER, OR OTHER PERSON, WHATSOEVER. ALL CLAIMS UNDER THE WARRANRY MUST BE BROUGHT WITHIN ONE YEAR AFTER THEY ARISE OR THEY ARE WAIVED. THE MAXIMUM LIABILITY UNDER THE WARRANTY IS THE COST OF THE REPLACEMENT OF THE DAMAGED PRODUCT.

THIS WARRANTY DOES NOT COVER:

1. Labor or other costs incurred for diagnosing, repairing, removing, installing, shipping, servicing or handling of either defective parts, or replacement parts, or new parts other than those Thermaduct parts covered under this Warranty.

2. Any product not installed pursuant to the Company's standards and instructions.

3. Any product not purchased from an authorized Thermaduct representative.

4. Normal maintenance.

5. Failure, damage or repairs due to faulty installation, misapplication, abuse, improper servicing, unauthorized alteration or improper operation.

6. Damages due to usage conditions.

7. Failure or damage due to floods, winds, fires, lightning, accidents, corrosive environments (rust, etc) or other conditions beyond the control of Company.

8. Parts not supplied or designated by Company, or damages resulting from their use.

9. Products installed outside the U.S.A. or Canada.

10. Except as provided herein, the Company shall not be liable in either tort or contract for ANY SPECIAL, INDIRECT OR CONSEQUENTIAL PROPERTY OR COMMERCIAL DAMAGE OF ANY NATURE WHATSOEVER. Some states or provinces do not allow the exclusion of incidental or consequential damages, so the above limitation may not apply to you.

This Warranty gives you specific legal rights, and you may also have other rights which vary from state to state or province to province.

[1] Except in California and Quebec and other jurisdictions that prohibit warranty benefits conditioned on registration.

SUPERIOR OUTDOOR AIR DISTRIBUTION

There is simply no duct like it in the world. Thermaduct and Thermaround combine the best of air distribution technology with a choice outdoor weather barrier to create a duct that offers the highest R value and lowest air leakage rates in the industry. Unsurpassed performance was the goal to create a duct that can not only deliver every cubic foot of air it is fed, but to treat the air with the utmost respect by not exposing it to fibrous or volatile organic chemical latent liners.

Indoor, the air passes a smooth aluminum surface that is clad to Kingspan's Kooltherm closed cell phenolic core. The outer layers include factory autohesively bonded FSK aluminum with a UV stable, 1000 micron titanium infused vinyl that is vacuum pressed and laminated permanently to Kingspan KoolDuct. Our rectangular duct segments are connected together with a gasketed 4-bolt flange system. For round applications, a sealed offset coupling and external drawband are all that is needed for an airtight connection. Once installed your application will have uncompromising water and air integrity and one of the best outdoor duct limited warranties in the industry.

PRODUCT FEATURES

- High R-Value
- Virtually Zero Air Leakage
- Weather Resistant
- Closed Cell
- Fiber Free Insulation Core
- 10 Year Limited Warranty*

Silver Associate MEMBER SMACNA

* Warranty Registration is Required for Full Installation Warranty

thermaduct®
HIGH EFFICIENCY **AIR DISTRIBUTION**

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