SECTION 077250  ROOF & WALL SPECIALTIES
PIPE & PENETRATION FLASHING SYSTEM
PRODUCTS FOR SAFE ROOM SHELTER WALL AND ROOF PENETRATIONS
MEETS ICC-500-2014 AND FEMA 361

Part 1 General

1.1 Pipe, conduit, cable, duct penetrations and plumbing vents, through exterior, parapet & rooftop utility walls, roof accessibility.

1.2 Related Sections:

07700, 230531, 262716, 271116

1.3 References:

A. ASTM E 1980 (SRI)
B. FEMA P749 SEISMIC
C. ICC 500-2014 SAFE ROOM/SHELTER
D. FEMA P-361

1.4 Submittal:

A. Submit under provisions of Section 01 30 00 – Administrative Requirements.
B. Product Data: Manufacturer’s data sheets on each product to be used.
C. Shop drawings: physical size, installation, and working space required.
D. Proof of product liability insurance.

1.5 Quality Assurance:

Manufacturer – Product to be manufactured by an ISO 9001 facility.

1.6 Delivery, Storage, and Handling:

A. Deliver and store products in manufacturer’s original packaging bearing the brand name and manufacturer’s identification until ready for installation.
B. Handle materials safely to avoid damage. Protect from construction conditions.

1.7 Warranty – Product to carry 20-year Limited Insured Warranty.

1.8 See Section 077200 1.8 Acquisition of Material.

Part 2 Products:

2.1 Manufacturers:
A. Acceptable manufacturer Roof Penetration Housings, LLC

800-994-0945
tomk@roofpenetrationhousings.com

B. Substitutions – See section 016000

2.2 The Wall Vault®

A. The Wall Vault® (Patent Pending) by Roof Penetration Housings, LLC.

B. Construction Standard Unit:

1. Wall flange to be Stainless Steel, Cover to Aluminum.
2. 88 SRI finish – White.
3. Stainless, vandal proof fasteners to attach frame to cover. Note: Fastener from frame to wall by Contractor to be compatible to wall surface.
4. Gasket between wall and frame to be Adhesive Butyl gasket. Gasket between cover and frame to be Sil-X-14.
5. Sil-X-14 Gasket & Aluminum Exit Seals.
   Series 5000 - .25-1.9” Penetrant O.D.
   Series 6000 – 2.0-3.5” Penetrant O.D.
   Series 7000- 3.5” + Penetrant O.D. Double Flange on Larger Diameter.
6. Seismic compatibility available. Local engineer to provide data to RPH.

C. Size:

Standard – 17 ½” H x 10” W to accommodate 5-Series 5000 Exit Seals
Custom sizes available. Contact manufacturer 1-800-994-0945.

2.3

A. Cyclone Wall Vault Wind Rated to 250 MPH. For ductwork model CWV-Ductwork. For fresh air vents, piping, conduit, fire protection piping, conduit, etc, specify CWV-SO OR CWV-90

B. Construction:

1. Surface cover is constructed of 3/16” steel.
2. Wall flange 3/16” steel.
4. Duct connection on flat panel provided for thru wall connection SEPARATE AND MOUNTED DIRECTLY TO WALL AND INSIDE OF SHROUD.
5. Size of duct up to 40” maximum. Note: For multiple ducts, contact factory.
6. Vault mounts to horizontal surface, sloped top, covered on sides, open to the bottom.

   Note: Due to testing requirements, shroud size shall be between 10” W X 10” D X 12” H (i.d.). The largest shall be 96” W X 48” D X 48” H (i.d.)

   Note: Internal secondary protection provided by duct manufacturer.

C. Sizes:
   1. Sizes up to 2- 40” ducts or multiple smaller size ducts. NOTE: Always contact factory for sizing and any duct penetrations.

2.4
   A. Cyclone Wall Vault Rated to 250 MPH for pipe, fresh air inlet, fire protection piping, or conduit penetrations.
      Model CWV-SO (shroud only).
      Model CWV-90 (Wall Vault Flat Plate, mounts to wall with 90-degree Sch. 40 elbow and steel mounting plate, to protect piping through wall).

   B. Construction:
      1. Shroud only construction same as duct above, mounts to wall with flange.
      2. Steel elbows are mounted at the factory to a flat plate which is mounted to a wall or horizontal surface. External protective elbows from 2” to 8” protect pipe/conduit entering wall. Internal pipe/cable/conduit up to 4” furnished by contractor.

   C. Sizes:
      1. Shroud manufactured from 3/16” steel designed with rust resistant coating
      2. All flanges are 3/16” steel.
      3. Sch. 40 carbon steel pipe 2”- 8”.

2.5
   A. Cyclone Vault Vent Thru Roof for Bathroom Vents
      Model VTR2000 series available 2-6”, meeting ICC-2014 and FEMA P-361 missile testing Criteria, 250 MPH

   B. Construction
1. Rust Resistant steel mounting plate and gasket, nelson studs, and Schedule 40 black steel pipe thru roof.
2. Piping extends thru finished roof, secured to the underside of the roof deck with steel plate and gasket for Cast in Place or Precast Concrete panels.
3. Plumbing contractor to connect with No-Hub coupling inside structure.
4. Designer to note on plans height above finished roof, type of roof deck, roof thickness, insulation thickness.

C. Sizes

1. 2-6” piping thru roof,
2. Steel plate 3/16” steel mounted to roof deck underside

Note: Contact manufacturer for multiple exit seal penetrations. All penetrations recommended to enter wall above ground for protection of the penetrants. Typical penetrations include fire protection, potable water, conduit, duct, fresh air inlet protection etc...

2.6

A. Cyclone Roof Drain/Overflow Drain
   Model CRD/CRDOF

B. Construction:

1. Roof drain body and dome 3/16” steel, with industrial coating
2. Designed to meet ANSI STANDARD A112.6.4.2003
3. Combination trash guard/flashing collar
4. Energy shock absorbers to absorb 250+ missile testing
5. 100% Made in USA
6. Third Party Tested for ICC-500 2014 Storm Shelter

C. Sizes

1. Available 4-10” Overflow 2” high

Part 3 Execution

3.1 Examination:

   A. Inspect roof/ wall surface for readiness
3.2 Preparation:

A. Clean and sand wall surface to smooth finish to accept gasket adherence. Prepare roof membrane for flashing into Roof drain.

3.3 Installation:

A. Install in accordance with Manufacturer’s instructions.
B. Wall Vault®/Roof Drain/Vent installed by appropriate MEP contractor.
C. See instructions on website and in Wall Vault® Packaging.

3.4 Protection

A. Protect installed products.
B. Return warranty card to Manufacturer:

   Roof Penetration Housings
   P.O. Box 461024
   San Antonio, Texas 78246

CYCLONE ROOF HATCH

PART 1 – GENERAL

1.1 SUMMARY
A. Work Included: Provide factory-fabricated roof hatches for ladder access.

1.2 SUBMITTALS
A. Product Data: Submit manufacturer’s product data.
B. Shop Drawings: Submit shop drawings including profiles, accessories, location, adjacent construction interface, and dimensions.
C. Warranty: Submit executed copy of manufacturer’s standard warranty.

1.3 QUALITY ASSURANCE
A. Manufacturer: A minimum of 5 years’ experience manufacturing similar products.
B. Installer: A minimum of 2 years’ experience installing similar products.
C. Manufacturer’s Quality System: Registered to ISO 9001 Quality Standards including in-house engineering for product design activities,
D. Meets ICC 500-2014 /FEMA P-361 STANDARDS FOR SAFE ROOMS/STORM SHELTERS

1.4 DELIVERY, STORAGE AND HANDLING
A. Deliver products in manufacturer’s original packaging. Store materials in a dry, protected, Well vented area. Inspect product upon receipt and report damaged material immediately to delivering carrier and note such damage on the carrier’s freight bill of lading.

1.5 WARRANTY
A. Manufacturer’s Warranty: Provide manufacturer’s standard warranty. Materials shall be free of defects in material and workmanship for a period of 10 years from the date of purchase. Should a part fail to function in normal use within this period, manufacturer shall furnish a new part at no charge.

PART 2 – PRODUCTS
2.1 MANUFACTURER
   A. Basis-of-Design Manufacturer: Torna Rated Roof Hatch by Roof Penetration Housings, 10737 Gulfdale, San Antonio TX. 78216
      1-800-994-0945
      https://roofpenetrationhousings.com/

2.2 ROOF HATCH MODEL CRH4032
   A. Furnish and install where indicated on plans, metal roof hatch. Size width 40” length x 32”
      Length denotes hinge side. The roof hatch shall be pre-assembled from the manufacturer.
   B. Performance characteristics:
      1. Cover shall be reinforced to support a minimum live load with a minimum deflection.
      2. Operation of the cover shall be smooth and easy with controlled operation throughout the entire arc of opening and closing.
      3. Operation of the cover shall not be affected by temperature.
      4. Entire hatch shall be weather tight with fully welded corner joints on cover and curb.
   C. Cover: Shall be 3/16” HRP&O Carbon Steel
   D. Cover Insulation: no insulation applied in this unit.
   E. Curb body: Shall be 8” in height and 3/16” HRP&O Carbon Steel. The curb shall be formed with 3” flange with 7/16” Dia. Holes provided for securing to the roof deck.
   F. Lifting mechanisms: Manufacturer shall provide gas spring operators to provide assisted lifting of cover, one shall be auto safety locking in open position.
      Construction: bolted to internal frame work.
   G. Hardware
      1. Heavy Duty stainless-steel full-length hinge.
      2. Cover supplied with welded closing handle.
      3. Roof hatch latching system equipped with safety system.
      4. Cover shall automatically lock in the open position with rigid safety.
      5. All hardware is stainless steel.
   H. Finish: Factory painted BRIGHT WHITE, SRI 88.2 % POWDER COAT, ASTM 2604-05 SERIES 38.
   I. THIRD PARTY TESTED TO ICC-500-2014 FEMA P-361 STANDARDS
   J. REMOVEABLE INSULATION COVER AVAILABLE, R-40 RATING

Part 3 Execution
3.1 Examination:

     B.  Inspect roof/ wall surface for readiness

3.2 Preparation:

     B.  Clean and sand roof wall surface to smooth finish. Prepare roof membrane for flashing.

3.3 Installation:

     A.  Install in accordance with Manufacturer’s instructions.
     B.  Roof Hatch installed by appropriate Roofing contractor.
     C.  See instructions on website and in Roof Hatch Packaging.

3.5 Protection

     C.  Protect installed products.
     D.  Return warranty card to Manufacturer:

          Roof Penetration Housings
          P.O. Box 461024
          San Antonio, Texas 78246