bulletin

technical

SIPLAST LIGHTWEIGHT INSULATING CONCRETE BULLETIN #10

VENTING SIPLAST ROOF MEMBRANE AND ROOF INSULATION SYSTEMS

December 2, 2021 – T-992

Siplast Lightweight Insulating Concrete Systems require venting of new pours to ensure the release of any vapor pressure build-up. When Siplast roof membrane systems are used with Siplast lightweight insulating concrete systems, the following venting conditions are required.

Metal Deck Constructions - Venting Substrates

- ZIC and Zonocel systems require slotted metal decks for downward venting. The amount of venting is 0.75% of the total metal deck surface area.
- Insulcel specifications are preferably installed over bottom slotted metal decks for downward venting. The amount of bottom venting for Insulcel systems is 0.50% of the total metal deck surface area.
- Perimeter and curb venting details are optional.
- Topside vents are required for installations where optional means of venting such as at curbs and perimeter are not used.

NVS and Insulcel Systems - Non-Venting Substrates

- The NVS System, by design, is poured over non-venting substrates such as structural concrete, existing roof membranes that are approved for re-cover applications, and other structural units that are approved in advance by Siplast. Where these systems are used, perimeter, curb, and topside venting are required.
- In situations where Insulcel systems are poured over non-venting substrates, perimeter, curb, and topside venting are required.
- Topside venting can be eliminated if the roof has a maximum distance of 60 feet between venting perimeters.

Insulcel RT Systems – Venting and Non-Venting Substrates

- The Insulcel RT System is poured over venting substrates such as slotted metal decks or non-venting substrates such as structural concrete, non-slotted metal decks, existing roof membranes that are approved for re-cover applications, and other structural units that are approved in advance by Siplast.

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- In all situations Insulcel RT systems require the use of topside venting while perimeter and curb venting details are optional, they may be used to minimize topside venting details with prior Siplast Technical approval.

- The installation of the topside vents or approved alternate venting details must be completed daily, immediately following application of the 20 TS ply sheet.

Optional Perimeter Venting

Perimeter venting can be accomplished following a Siplast detail that allows for vapor pressure relief or is designed for venting purposes. The following Siplast standard details, when configured according to Siplast requirements, utilize perimeter venting: (ZIC for venting substrates; NVS for non-venting substrates; Insulcel for venting and non-venting substrates; Insulcel RT for venting and non-venting substrates)

1. Venting Masonry Parapet: Venting Parapet (cant) – 2030 (applies to ZIC, Insulcel and NVS substrates)
2. Parapet with Plywood Sheathing: Parapet Plywood – 2030 – ZIC, Parapet Plywood – 2030 – NVS
3. Parapet – Non-Wall Supported Deck: Parapet (nonsup) – 2030 – ZIC, Parapet (nonsup) – 2030 – NVS
4. Roof Edge: Roof Edge – 2030 – ZIC, Roof Edge – 2030 – NVS
5. Paraguard Roof Perimeter Edge: Pguard M Raised Edge – 2030 – ZIC, Pguard M Raised Edge – 2030 – NVS
6. Expansion Joint: Exp Jt Roof to Roof – 2030 – ZIC, Exp Jt Roof to Roof – 2030 – NVS

Topside Venting

Topside vents should be designed for “one-way” venting, and fabricated from spun aluminum having a minimum 4-inch flange. Plastic vents are not acceptable. Configuring the vent with the Siplast membrane system should follow *Siplast Roof Vent (venting substrates) detail Ref.#:Roof Vent - 2030 - ZIC* for venting through the roof membrane over slotted metal decks, and *Siplast Roof Vent (non-venting substrates) detail Ref.#:Roof Vent - 2030 - NVS* for venting through the roof membrane and Siplast Lightweight Insulating Concrete System over substrates that do not provide underside venting beneath the system.

Topside vents should be installed on minimum 30-foot centers. Refer to Siplast schematic *Roof Vent Placement SRIS V1* for recommended placement.

The following Siplast penetration details, by their design, allow for vapor pressure relief when configured according to Siplast requirements. (ZIC for venting substrates; NVS for non-venting substrates)

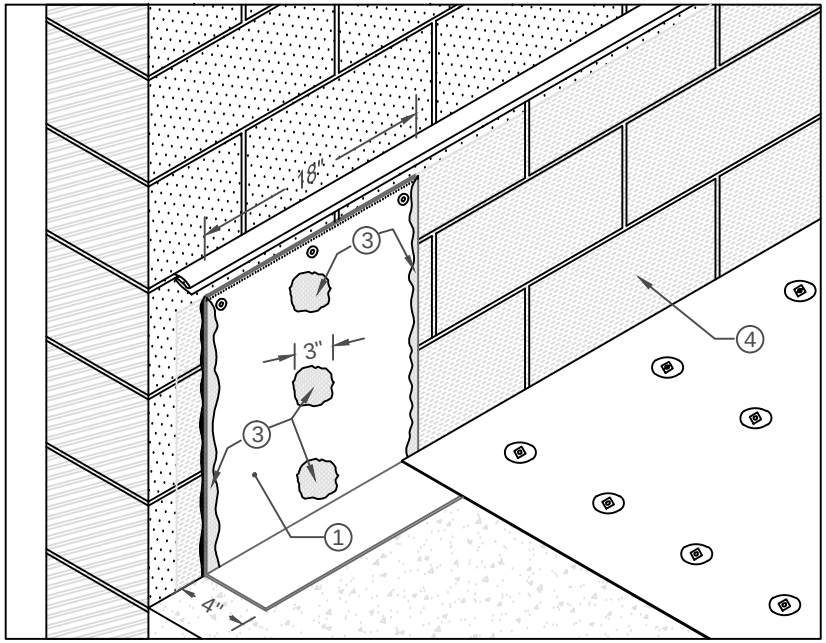
1. Waste Stack: Waste Stack – 2030 – ZIC, Waste Stack – 2030 – NVS
2. Equipment Frame: Equipment Frame – 2030 – ZIC, Equipment Frame – 2030 – NVS
3. Curb: Curb – 2030 – ZIC, Curb – 2030 – NVS
4. Insulated Curb: Insulated Curb – 2030 – ZIC, Insulated Curb – 2030 – NVS

Specific venting capabilities of the roof perimeter and existing penetrations can be reviewed by Siplast on a job-to-job basis in order to minimize the number of topside vents required. Contact your local Siplast representative or the Siplast Technical Department at (800) 922-8800 for assistance.

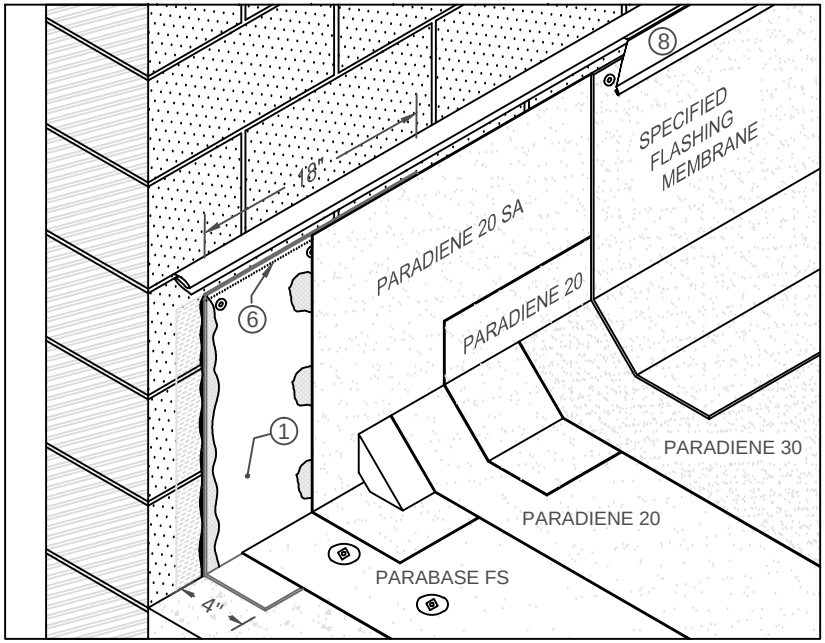
PG:kg:pq
Distribution: C, D, E, F, K
Updated PG 12/2/2021

VENTING PARAPET WITH COUNTER FLASHING
PARADIENE 20/30 FR

PART ONE



PART TWO



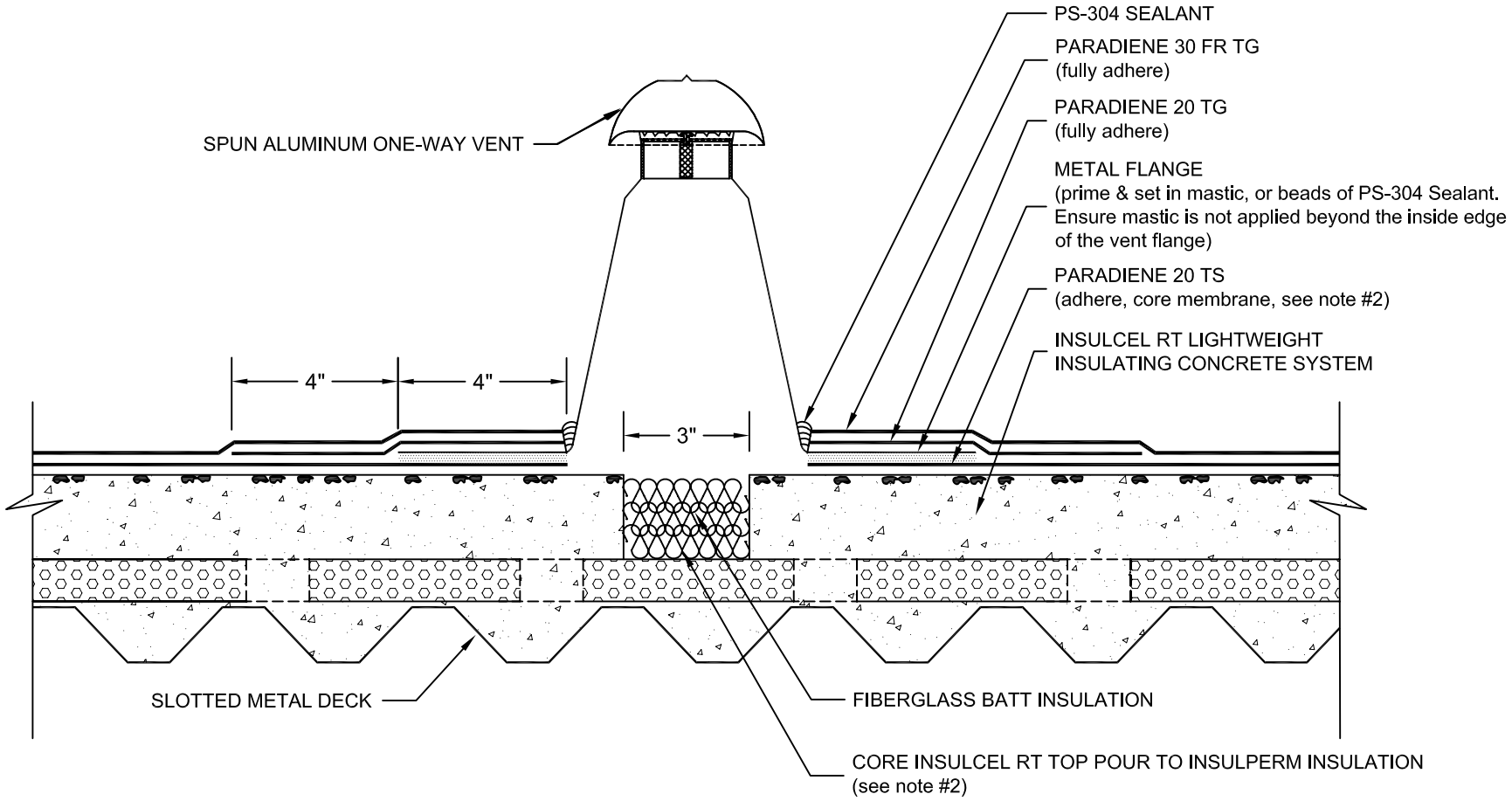
NOTES:
1. CUT AN 18 INCH WIDE VENT STRIP OF SPECIFIED SIPLAST FINISH PLY MATERIAL. THE LENGTH SHOULD ALLOW THE STRIP TO EXTEND FROM THE HIGHEST POINT UNDER THE COUNTERFLASHING TO 4 INCHES ONTO THE FINISHED SURFACE OF THE LIGHTWEIGHT INSULATING CONCRETE.
2. VENT STRIPS ARE INSTALLED ON 30 FOOT CENTERS.
3. INSTALL THE VENT STRIP WITH THE FINISH-SIDE AGAINST THE WALL SURFACE IN PA-828 FLASHING CEMENT. THE FLASHING CEMENT SHOULD BE DISTRIBUTED IN A THIN 3 INCH WIDE BEAD ALONG THE VERTICAL EDGES, AND IN 3 INCH DOLLOPS IN THE CENTER OF THE SHEET. CAREFULLY MAKE A TEMPORARY SEAL TO THE TOP WITH A NARROW BEAD OF SEALANT (THE SEALED PORTION WILL BE REMOVED LATER) NAIL THE TOP EDGE OF THE THE VENT STRIP ON 9 INCH CENTERS.
4. PRIME WITH TA-119 PRIMER, PA-1125 PRIMER OR PA-917 LS PRIMER; ALLOW THE PRIMER TO DRY PRIOR TO INSTALLATION OF PARADIENE 20 SA BASE FLASHING.
5. INSTALL PARABASE FS, PARADIENE 20 BASE PLY, AND PARADIENE 30 FINISH PLY FOLLOWING SIPLAST STANDARD DETAILS AND SPECIFICATIONS.
6. IMMEDIATELY PRIOR TO INSTALLING THE SPECIFIED FLASHING, CUT THE TOP EDGE SEAL OF THE VENT STRIP AND REMOVE ALL SEALED MATERIAL.
7. INSTALL THE SPECIFIED FLASHING TO THE TOP EDGE (ONLY) OF THE VENT STRIP. ALLOW THE VENT STRIP TO BE OPEN ALONG THE TOP EDGE - DO NOT SEAL.
8. INSTALL COUNTER FLASHING AS SPECIFIED. ALLOW FOR THE FLASHING MEMBRANE TO BE COVERED A MINIMUM OF 3 INCHES.
9. REQUIREMENTS AND RECOMMENDATIONS DETAILED IN SIPLAST SPECIFICATIONS SHALL APPLY IN ADDITION TO THE ABOVE DRAWING.

CAUTION: SIPLAST RECOMMENDS THAT ALL PRACTICES PERTAINING TO NRCA CERTA GUIDELINES BE FOLLOWED WHEN TORCHING METHODS ARE EMPLOYED. THIS INCLUDES PERFORMING A FIRE WATCH FOLLOWING ANY TORCH APPLICATIONS. ALWAYS HAVE APPROVED FIRE-EXTINGUISHING EQUIPMENT NEARBY.

N.T.S

ROOF VENT

PARADIENE 20TS/30 FR TG - INSULCEL RT



NOTES:
1. ONE WAY VENTS SHOULD BE PREFABRICATED FROM SPUN ALUMINUM. PLASTIC VENTS ARE NOT ACCEPTABLE.
2. THE INSTALLATION OF THE TOPSIDE VENTS MUST BE COMPLETED DAILY, IMMEDIATELY FOLLOWING THE APPLICATION OF THE PARADIENE 20 TS SHEET, AND IN ACCORDANCE WITH THE MOST RECENT VERSION OF THE TECHNICAL BULLETIN FOR VENTING SIPLAST ROOF MEMBRANE AND ROOF INSULATION SYSTEMS.
3. WHERE PRIMER IS INDICATED TO MAINTAIN PROPER ADHESION, TA-119 PRIMER IS REQUIRED FOR ALL PARADIENE 20 SA FLASHING REINFORCING AND STRIPPING PLY APPLICATIONS. USE PA-1125 OR PA-917 LS FOR ALL NON-PARADIENE 20 SA APPLICATIONS. CONTACT SIPLAST FOR SPECIFIC REQUIREMENTS.
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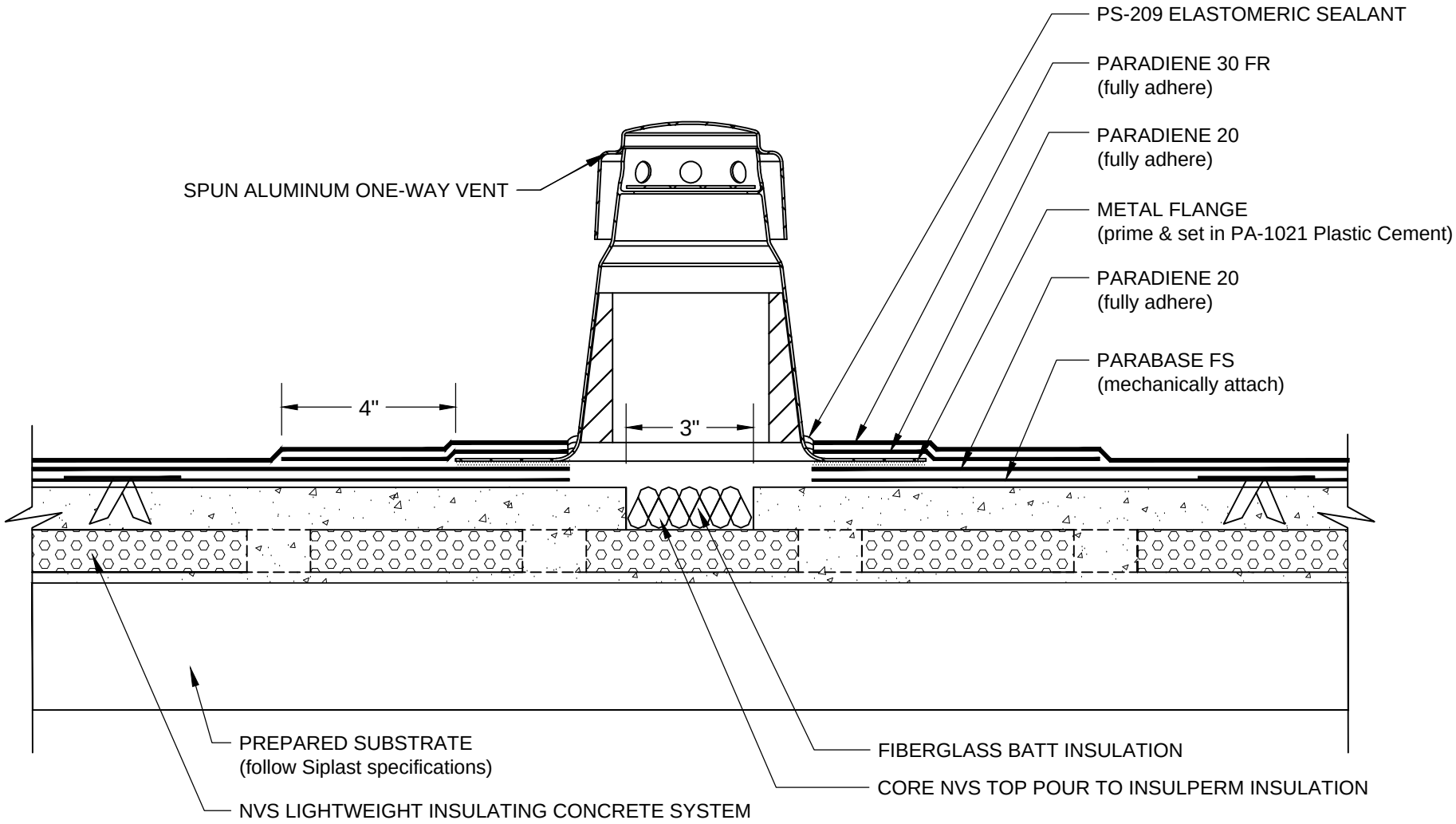
ROOF VENT

PARADIENE 20/30 FR - NON VENTED SUBSTRATE



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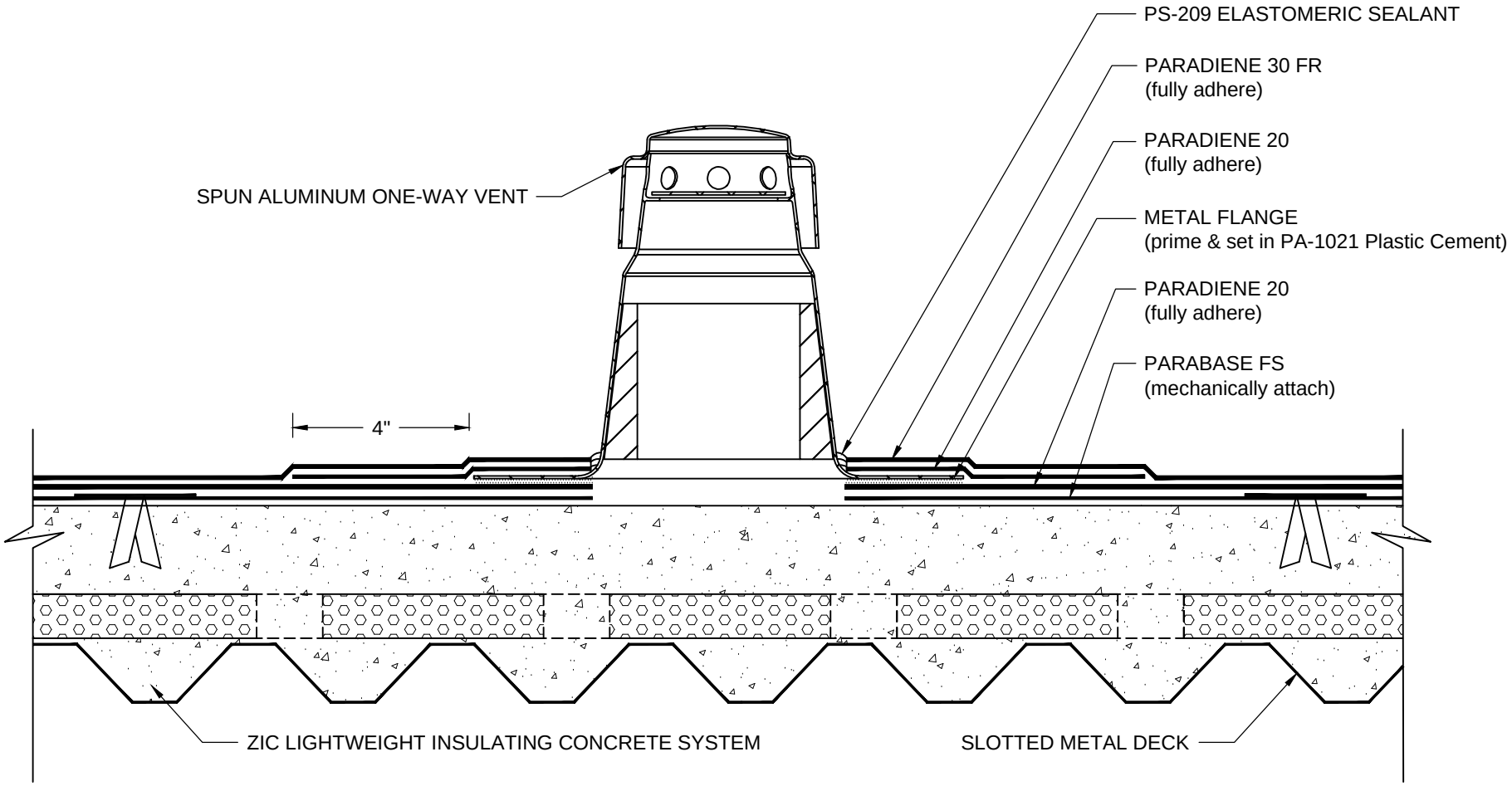
ROOF VENT

PARADIENE 20/30 FR - ZIC SUBSTRATE



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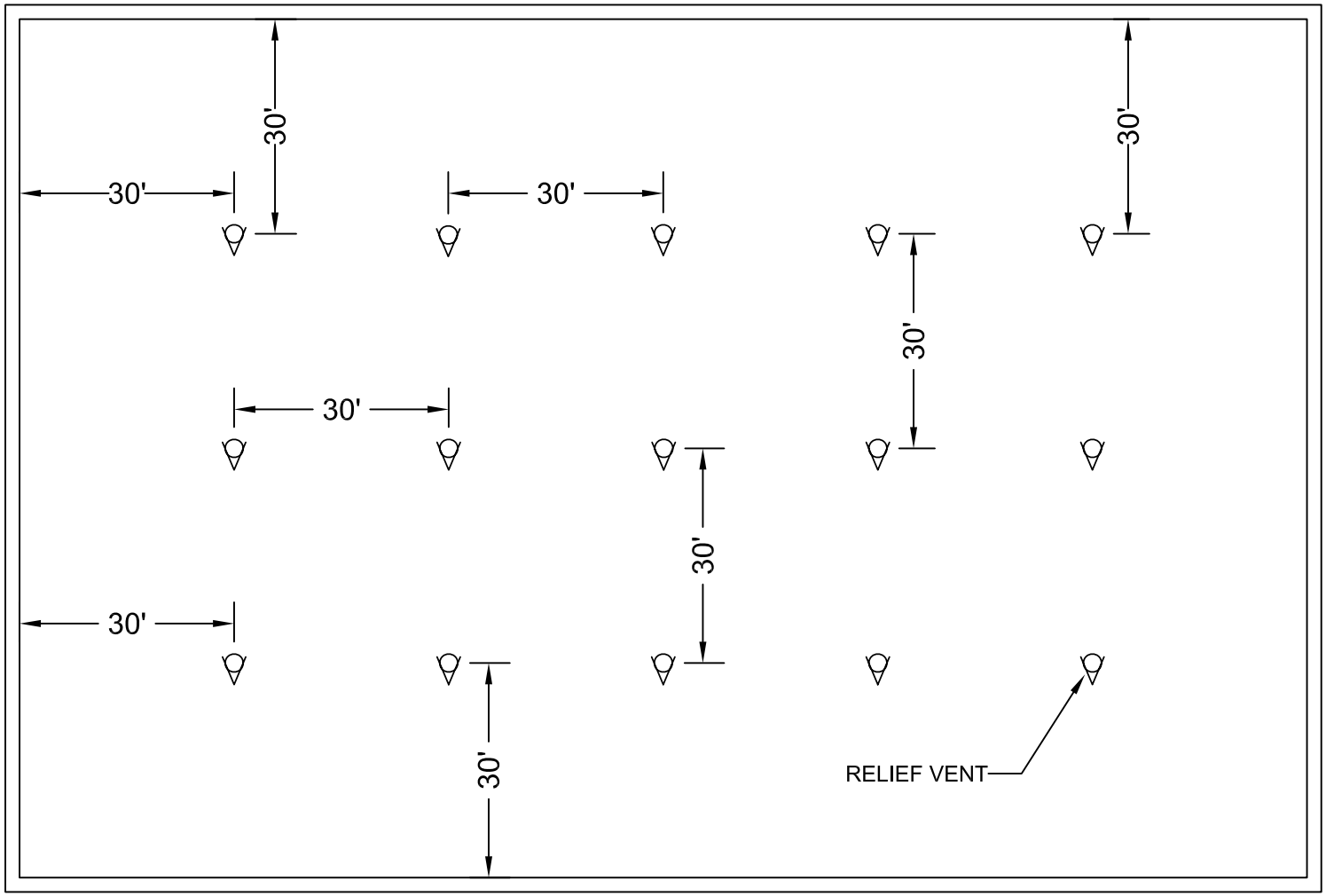
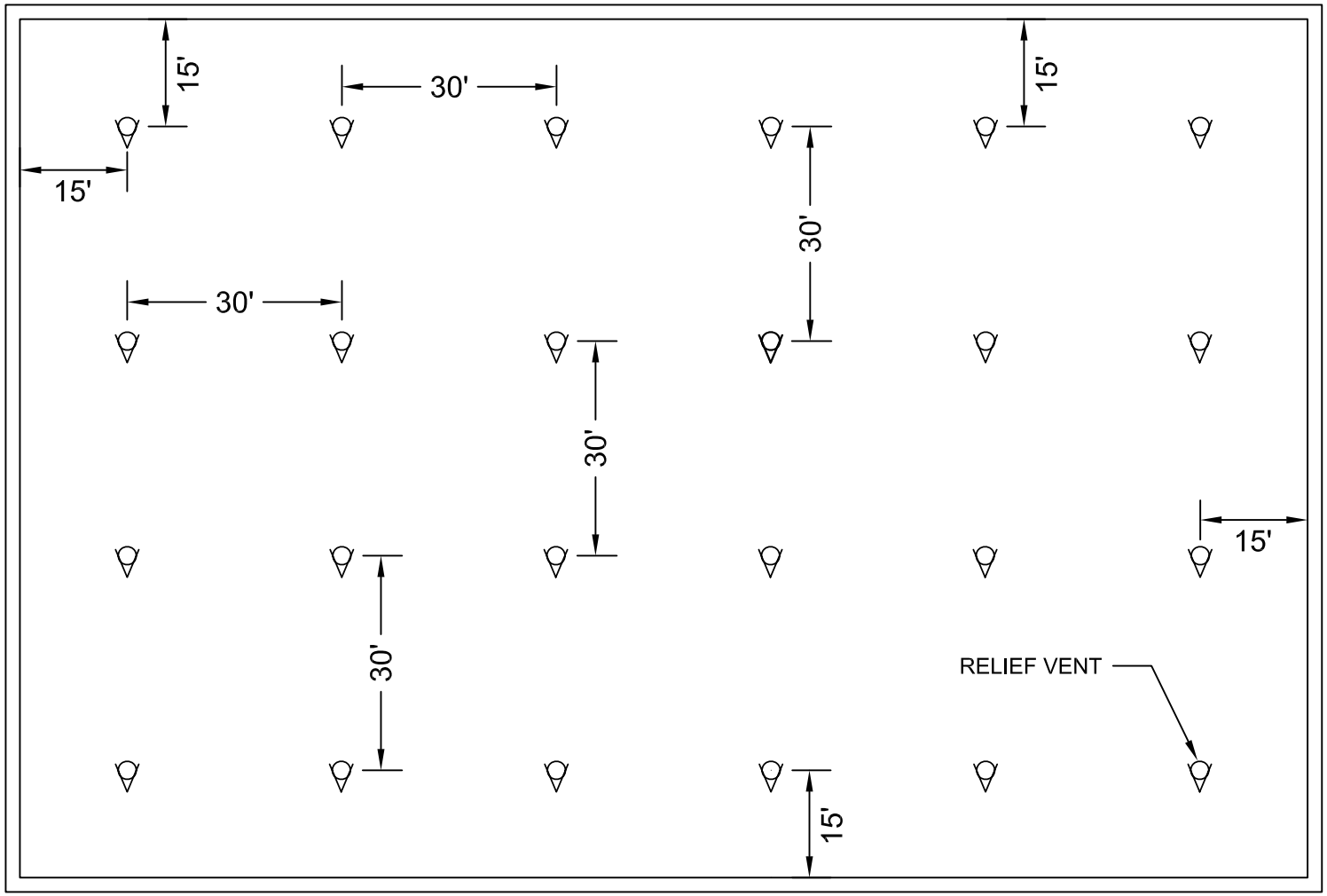
ROOF VENT PLACEMENT (VENTED PERIMETER)



NOTES:
1. THE VENT SCHEMATIC ABOVE INDICATES THE PROPER PLACEMENT OF TOP-SIDE VENTS FROM THE ROOF PERIMETER AND IN THE FIELD BASED ON A SIMPLE ROOF PLAN. ACTUAL PLACEMENT MAY VARY BASED ON ROOF SHAPE, DIMENSIONS, AND VENTING PENETRATIONS.
2. TOP-SIDE VENTS SHOULD BE OF SPUN ALUMINUM CONSTRUCTION, HAVING A MINIMUM 3 INCH FLANGE, AND DESIGNATED FOR "ONE WAY" VENTING. PLASTIC VENTS ARE NOT ACCEPTABLE.
3. CONFIGURING THE VENT WITH THE SIPLAST MEMBRANE SYSTEM SHOULD FOLLOW THE SIPLAST ROOF VENT DETAIL.

N.T.S.

ROOF VENT PLACEMENT (NON-VENTED PERIMETER)



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