

ROOF EDGE / PARAPET CONSIDERATIONS

Continuity:

- How will the air barrier connect to the roof membrane?

Tip: One approach is to extend the air barrier or transition flashing out and on top of the parapet blocking, under the roof membrane (as shown by the green line in the example detail).



- Is the thermal insulation continuous to protect all 3 sides of the parapet?

Tip: If the parapet cap is not protected by insulation or spray foam in the framing cavity, it is susceptible to condensation if interior air infiltrates up into the cap. Consider fully insulating the parapet framing cavity with spray foam and/or seal the cavity off at the building to reduce this risk.

Compatibility:

- Is the air barrier compatible with the roof membrane, including the roof adhesive?

Tip: Typically, the air barrier material needs to go underneath the roof membrane, and often needs a transition material that is compatible with both products. Foil faced flashing (such as stainless-steel peel/stick) is compatible with most products and therefore works well as a transition flashing if it is installed under all other materials. See list of Material Compatibility Considerations at the end of this document.

Sequencing:

- To execute the example detail, the blocking and air barrier above need to be installed *before* the masonry.

General:

- Does the parapet cap meet ANSI/SPRI ES-1 wind uplift requirements for both the design and fabrication as required by building code? (IBC 2012 1504.5 – *note that this is required only if roofing material goes under a metal coping or gravel stop*)
- Is the blocking the proper thickness and orientation to meet ANSI/SPRI ES-1 requirements?

Tip: Wood blocking is required to be 1.5" thick per ANSI/SPRI ES-1. If two layers of ¾" plywood are used, confirm that the parapet cap fastener is not attached to the edge of the plywood as it will not have the same pull-out strength as if attached into the face of the plywood. Note in the example detail, there is a solid 2x at the face for proper attachment.
- The Air Barrier Association of America (ABAA) has a great set of conceptual roof-to-wall details located at: <https://www.airbarrier.org/abaa-construction-details/>

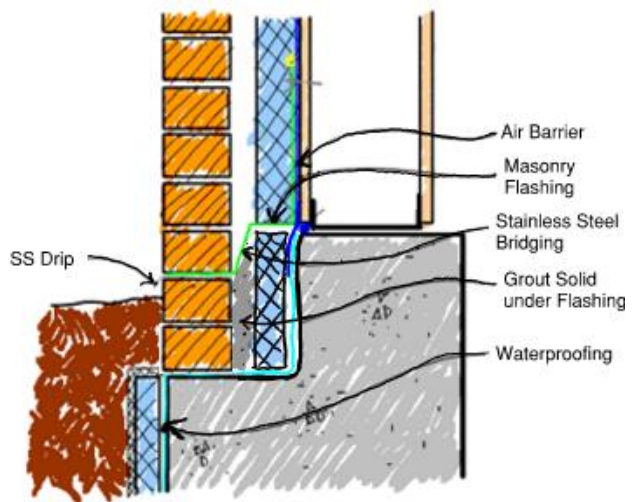
WALL TO FOUNDATION CONSIDERATIONS

Continuity:

- How will the air barrier connect to the waterproofing?
- Does the wall have a cavity, such as a masonry or rainscreen that needs to be flashed at the bottom of the wall?

Tip: In most cases, the flashing is not the air barrier – the air barrier needs to run down behind the flashing, and the flashing needs to be sealed to the air barrier.

- How is the insulation continuous from the wall to the foundation?



Compatibility:

- Is the air barrier compatible with the waterproofing membrane?
Tip: Often waterproofing membranes are asphalt based, and not compatible with many air barriers. Foil faced flashing (such as stainless-steel peel/stick) is compatible with most products and therefore works well as a transition flashing if it is installed under all other materials. See list of Material Compatibility Considerations at the end of this document.
- Is the masonry flashing, primer, and sealant compatible with the air barrier?

Sequencing:

- To execute the example detail, the air barrier and waterproofing need to be complete and sealed together prior to starting the masonry.
Tip: Materials such as fluid applied membranes and sealants need to be cured prior to the placement of a material on top.

General:

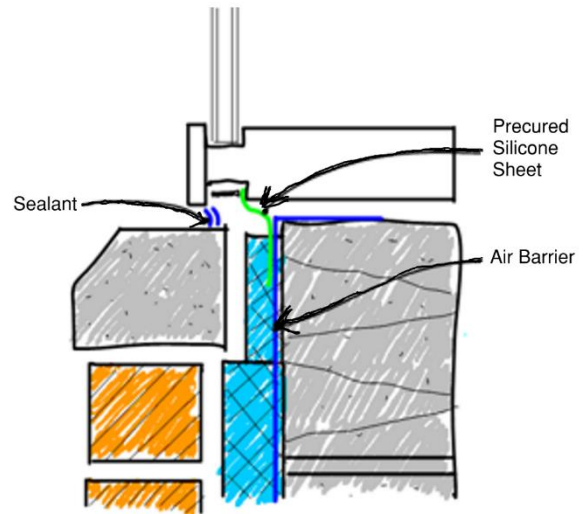
- Will the foundation insulation be exposed?
Tip: Insulation is often required for continuity but needs to be covered for UV exposure and aesthetics. Consider a heavier gage stainless steel sheet metal flashing as an option to cover insulation or a specialty insulation coated with cementitious layer.
- How does the detail change if there is a condition with a sidewalk or pavement instead of landscaping?
- Does the exterior cladding allow for installation in contact with the ground?
Tip: Cladding such as EIFS typically require a minimum 6"-8" clearance above ground.

WINDOW TO WALL CONSIDERATIONS

Continuity:

- How is the air barrier installed at the openings to allow the window to seal?
- What is the window type (i.e., curtainwall, storefront, architectural, flanged, etc.) and what is the window's "primary" seal location?

Tip: For curtainwall (shown) the primary seal is often directly behind the glazing pocket. For storefront, the interior side of the framing is the primary air seal, while the exterior side seals to the cladding for the water seal. Always confirm the primary seal location with the system manufacturer.



- How will the window seal directly to the air barrier at the window's primary seal location?

Tip: The example shows a precured silicone sheet that is glazed into the curtainwall – this is a good solution if the primary seal is outboard of the air barrier. If the curtainwall primary seal aligns or is inboard of the air barrier, the precured silicone could be replaced with a sealant joint.

Compatibility:

- Is the air barrier compatible with the window sealant?

Tip: Often air barriers have a polyethylene facer to which silicone sealants do not have good adhesion. The sealant manufacturer can provide testing for the specific air barrier and recommend an appropriate product.
- Does the air barrier contain an asphalt-based adhesive on the back side that will be exposed at the joints?

Tip: Asphalt is not compatible with silicones, and therefore the joints would need to be covered with a sealant compatible with both the air barrier, asphalt, and silicone sealant.

Sequencing:

- To execute the example detail, the air barrier, curtainwall, and precured silicone sheet would be best installed prior to the masonry.

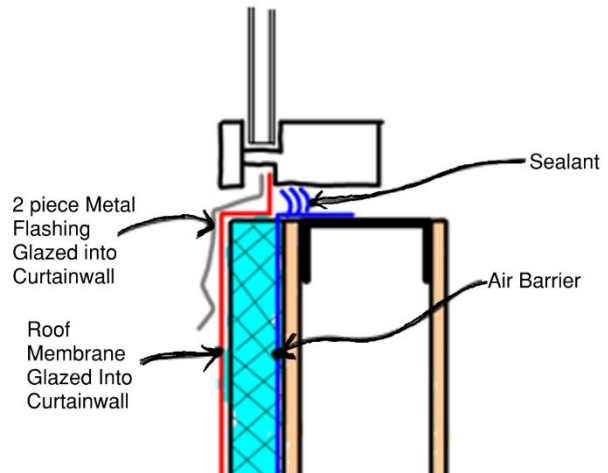
General:

- Will the exterior cladding at the sill properly flash water and be durable for the long term?

Tip: Cladding such as EIFS, precast concrete, row-lock masonry do not make good long-term sills, and a metal flashing should be considered to protect the cladding.

ROOF TO WINDOW CONSIDERATIONS

- How will the window seal directly to the air barrier at the window's primary seal location?
Tip: Note that the example shows the roof membrane glazed into the curtainwall, which achieves water barrier continuity, and the sealant behind provides air barrier continuity.



- How is the air barrier installed to allow the window to seal?

Compatibility:

- Is the air barrier compatible with the window sealant?
Tip: Note that if the roof membrane is the air barrier, sealants are not compatible with most roofing systems, and therefore turning the roof membrane into the opening is typically not a good solution – it should be glazed in (as shown) or a transition membrane (such as the stainless peel/stick) would need to be installed under all products. See list of Material Compatibility Considerations at the end of this document.

- Is the roof membrane shown to contact the air barrier, and if so, is it compatible?
- Are there any dissimilar metals, such as aluminum and galvanized sheet metal, that need to be separated?

Sequencing:

- To execute the example detail, the air barrier and curtainwall (without pressure plates) are installed before the roof membrane, and then the curtainwall pressure plates are installed. The roof membrane could also go before the curtainwall and left long for the curtainwall installer to glaze in the roof membrane and sheet metal.

General:

- How will the roof membrane be properly terminated, and is additional metal strapping or blocking required to achieve this termination?
- What will be required at this detail when it is re-roofed in the future?

MATERIAL COMPATIBILITY CONSIDERATIONS

Common Incompatible Building Material Combinations

(Note: This is not an exhaustive list – always confirm compatibility with the manufacturer)

- Bituminous-based products + Polystyrene
- Bituminous-based products + Polyethylene
- Bituminous-based products + EPDM
- Bituminous-based products + TPO
- Bituminous-based products + PVC
- Asphalt roofing + Polyurethane sealants
- Rubberized Asphalt + EPDM
- Rubberized Asphalt + TPO
- Rubberized Asphalt + Plasticized PVC
- Butyl blend adhesives + Plasticized PVC
- EPDM + Solvents, Vegetable Oil, Mineral Oil, Animal Based Oils, and Animal Fats
- Solvent-based sealants + Polystyrene (EPS + XPS)
- Solvent-based sealants + Polyethylene
- Polyurethane sealant + Silicone sealants
- Polyurethane sealant + Polyethylene sheet
- Polyurethane sealant + PVC
- Polyurethane sealant + Vinyl
- Polyurethane sealant + Polystyrene (EPS + XPS)
- Silicone + EPDM
- Silicone + Neoprene
- Silicone + Bitumen's
- Silicone + Asphalt
- Silicone + Silicone Compatible Rubber
- Acetic Cure Silicone Sealants + Mirror Backs