Industrial/Commercial Masonry Construction with Exterior Insulation up to 4 Stories

Intended Use of this Document

This document provides example key assembly interface details showing the use of ROCKWOOL® products within an exterior insulated wall assembly for low-rise commercial and industrial masonry buildings up to 4 stories.

The example details could be modified for other building types or applications. The intended use has been limited to 4 stories for the sole purpose of creating boundaries around the detail development. The details are also assumed to be applicable in non-coastal window zones. For considerations in coastal wind zones, contact ROCKWOOL® Building Science Support. The example details are designed to be generally applicable across North America; however, specific end use applications vary widely as to design, materials, and environments. Therefore, what is appropriate in any specific end use application is a determination that must be made independently by the experienced Project Architect and/or Engineer in their own professional judgment. ROCKWOOL® fully disclaims any liability for any of the content contained herein whether such liability be premised on a theory of contract, tort, or otherwise.

These example details are intended to provide architects, builders, and contractors with general guidance on the best practice approach to maintain:

- Air barrier continuity,
- Water resistant barrier (moisture barrier) continuity,
- Thermal continuity and minimizing thermal bridges,
- Cladding attachment and detailing, and
- Adequate drainage and ventilation of the wall cavity.

It is important to note these details show one method of constructing an exterior insulated, exterior air barrier wall assembly; however, subtle changes at interface locations could be made to achieve the same intent. Review the building code requirements for your jurisdiction to ensure that all wall assembly detailing is in general conformance, or contact ROCKWOOL® Building Science Support for support on your project.
Concrete slab on grade

Gypsum board with vapor permeable paint

Masonry wall, concrete block (CMU) or cast-in-place concrete

Service cavity

2½" steel stud framed wall

Perimeter sealant bead

Concrete slab on grade

Foundation damproofing/waterproofing (WRB)

Polyethylene with all joints taped, sealed to wall as an air barrier

2½" (64mm) ROCKWOOL Comfortboard® 110 insulation [28 kPa at 10% compression]

3½" (89mm) ROCKWOOL Cavityrock® insulation

Fiberglass Z-girt or thermally broken intermittent cladding support fastened to CMU

Fiber cement panel cladding

Fully adhered membrane (AB/VB/WRB)**

Self-adhered through-wall flashing membrane (AB/WRB)

Perforated horizontal hat channels or other cladding attachment sub-girt, fastened to fiberglass Z-girt

Insect screen (perforated rigid metal sheet)

Pre-finished metal flashing

Pre-finished metal skirt flashing

3" (75mm) ROCKWOOL Comfortboard® 80/110 insulation

Drainage mat c/w integral geotextile fabric (optional)

Concrete slab on grade, sloped away from building

For thermal performance of ROCKWOOL® products, please refer to ROCKWOOL® technical data sheets

** For climate zone specific considerations for thermal, air and vapor control layer properties and requirements, please contact ROCKWOOL® Building Science for support.
Steel decking with concrete topping

Fully adhered membrane (AB/VB/WRB)**

Self-adhered through-wall flashing membrane (WRB) (optional)

Insect screen (perforated rigid metal sheet)

Metal cross-cavity flashing, provide end dams at flashing terminations

Perforated horizontal hat channels or other cladding attachment sub-girt, fastened to fiberglass Z-girt

Fiber cement panel cladding

2 1/2" steel stud framed wall

Service cavity

Gypsum board with vapor permeable paint

Masonry wall, concrete block (CMU) or cast-in-place concrete

Fiberglass Z-girt or thermally broken intermittent cladding support fastened to CMU

3 1/2" (89mm) ROCKWOOL Cavityrock® insulation

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**TYPICAL LOW SLOPE ROOF PARAPET**

1. **Sloped standing seam sheet-metal coping c/w wind clips, both sides**
2. **Fill void with ROCKWOOL Comfortbatt® insulation**
3. **High-temperature self-adhered parapet cap membrane (AB/VB/WRB)**
4. **6" (150mm) ROCKWOOL Cavityrock® insulation**
5. **Roofing membrane installed per manufacturer’s instructions (2-ply SBS illustrated)**
6. **Metal skirt flashing**
7. **ROCKWOOL Toprock® DD tapered insulation**
8. **4" (100mm) ROCKWOOL Toprock® DD Plus/Multifix™ insulation, joints offset and staggered**
9. **4" (100mm) ROCKWOOL Toprock® DD insulation**
10. **Fully adhered air and vapor control layer (AB/VB)**
11. **Exterior gypsum board decking**
12. **ROCKWOOL® fluted deck filler (OPTIONAL)**
13. **Steel decking**
14. **Insect screen (perforated rigid metal sheet)**
15. **Lap parapet cap membrane over wall wall AB/VB/WRB for air and water barrier continuity**
16. **Fiberglass Z-girt or thermally broken intermittent cladding support fastened to CMU**
17. **Perforated horizontal hat channels or other cladding attachment sub-girt, fastened to fiberglass Z-girt**
18. **Fiber cement panel cladding**
19. **3½" (89mm) ROCKWOOL Cavityrock® insulation**
20. **Fully adhered membrane (AB/VB/WRB)**
21. **Masonry wall, concrete block (CMU) or cast-in-place concrete**

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Backer rod and sealant

Pre-finished sill flashing c/w clips and end dams

Insect screen (perforated rigid metal sheet)

Fully adhered membrane (AB/VB/WRB)**

Masonry wall, concrete block (CMU) or cast-in-place concrete

2½" steel stud framed wall

Service cavity

Gypsum board with vapor permeable paint

Fiber cement panel cladding

Double glazed thermally broken curtainwall

Sealant at membrane leading edge

Sealant

Thermal spacer

Pre-finshed sill flashing c/w clips and end dams

Insect screen (perforated rigid metal sheet)

Self-adhered membrane to extend from curtain wall shoulder to wall
AB/VB/WRB for air and water barrier continuity

Fiberglass Z-girt or thermally broken intermittent cladding support fastened to CMU

Fully adhered membrane (AB/VB/WRB)**

3½" (89mm) ROCKWOOL Cavityrock® insulation

Perforated horizontal hat channels or other cladding attachment sub-girt, fastened to fiberglass Z-girt

Intermittent shim

Continuous metal angle

Sealant

Blocking to suit gypsum board return or interior trim

Sealant at membrane leading edge

Sealant

Thermal spacer

Pre-finshed sill flashing c/w clips and end dams

Insect screen (perforated rigid metal sheet)

Self-adhered membrane to extend from curtain wall shoulder to wall
AB/VB/WRB for air and water barrier continuity

Fiberglass Z-girt or thermally broken intermittent cladding support fastened to CMU

Fully adhered membrane (AB/VB/WRB)**

3½" (89mm) ROCKWOOL Cavityrock® insulation

Perforated horizontal hat channels or other cladding attachment sub-girt, fastened to fiberglass Z-girt

Fiber cement panel cladding

INDUSTRIAL/COMMERCIAL MASONRY WITH EXTERIOR INSULATION UP TO 4 STORIES - MEDIUM TO HEAVY CLADDING

TYPICAL CURTAIN WALL WINDOW SILL

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Masonry wall, concrete block (CMU) or cast-in-place concrete

Steel decking with concrete topping

Fill void with ROCKWOOL Roxul Safe® insulation

Circular duct or other mechanical penetration

2½" steel stud framed wall

Service cavity

Gypsum board with vapor permeable paint

3½" (89mm) ROCKWOOL Cavityrock® insulation

Perforated horizontal hat channels or other cladding attachment sub-girt, fastened to fiberglass Z-girt

Fiber cement panel cladding

Fully adhered membrane (AB/VB/WRB)**

Self-adhered through-wall flashing membrane (WRB) (optional)

Insect screen (perforated rigid metal sheet)

Pre-finished metal vent hood with integrated duct extension

EPDM sheet gasket, with penetration cut to 60% of the duct width

Insect screen (perforated rigid metal sheet)

Flashings tape over sides and bottom of EPDM gasket for air barrier continuity

Fully adhered membrane (AB/VB/WRB)**

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INDUSTRIAL/COMMERCIAL MASONRY WITH EXTERIOR INSULATION UP TO 4 STORIES - MEDIUM TO HEAVY CLADDING

TYPICAL ROOF PENETRATION

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