

Exterior Stone Wool Insulated Three-Coat Stucco Systems

Vertical Hat Channel and Z-Girts, Vertical Strapping, and Thermally-Broken Clip and Rail Assemblies

Intended Use of this Document

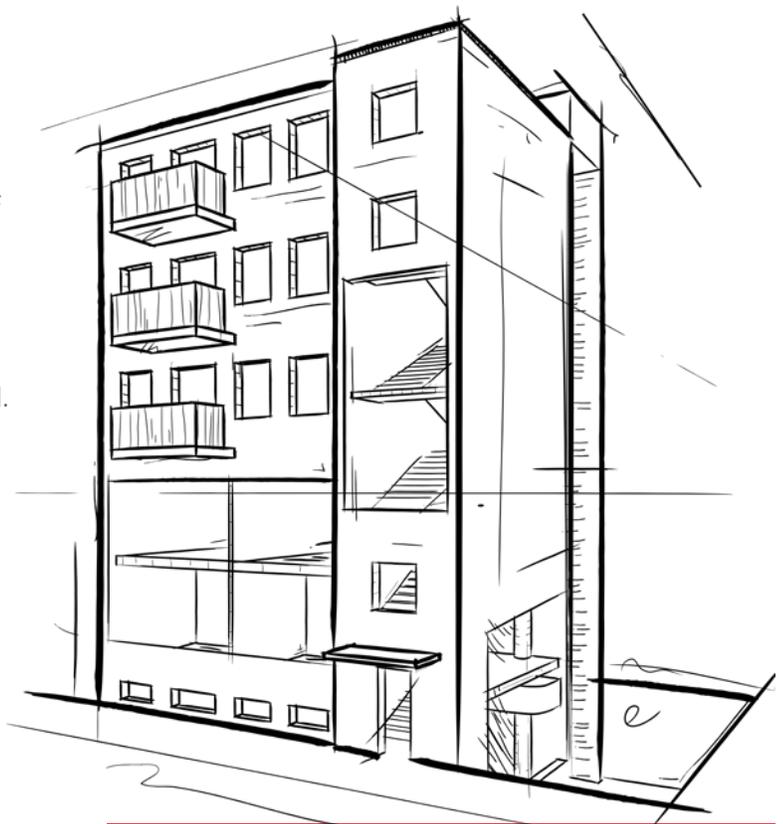
This document provides example isometric assembly details showing the use of ROCKWOOL™ stone wool insulation within an exterior-insulated stucco wall assembly.

The example isometric 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.

Notes and depictions of products, materials and other components in these details are intended to be generic and non-proprietary. Any similarity to a specific product or manufacturer is coincidental and unintended. Refer to other entities such as the designer of record, building codes, industry standards, and/or product or material manufacturers for their requirements and recommendations.

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.

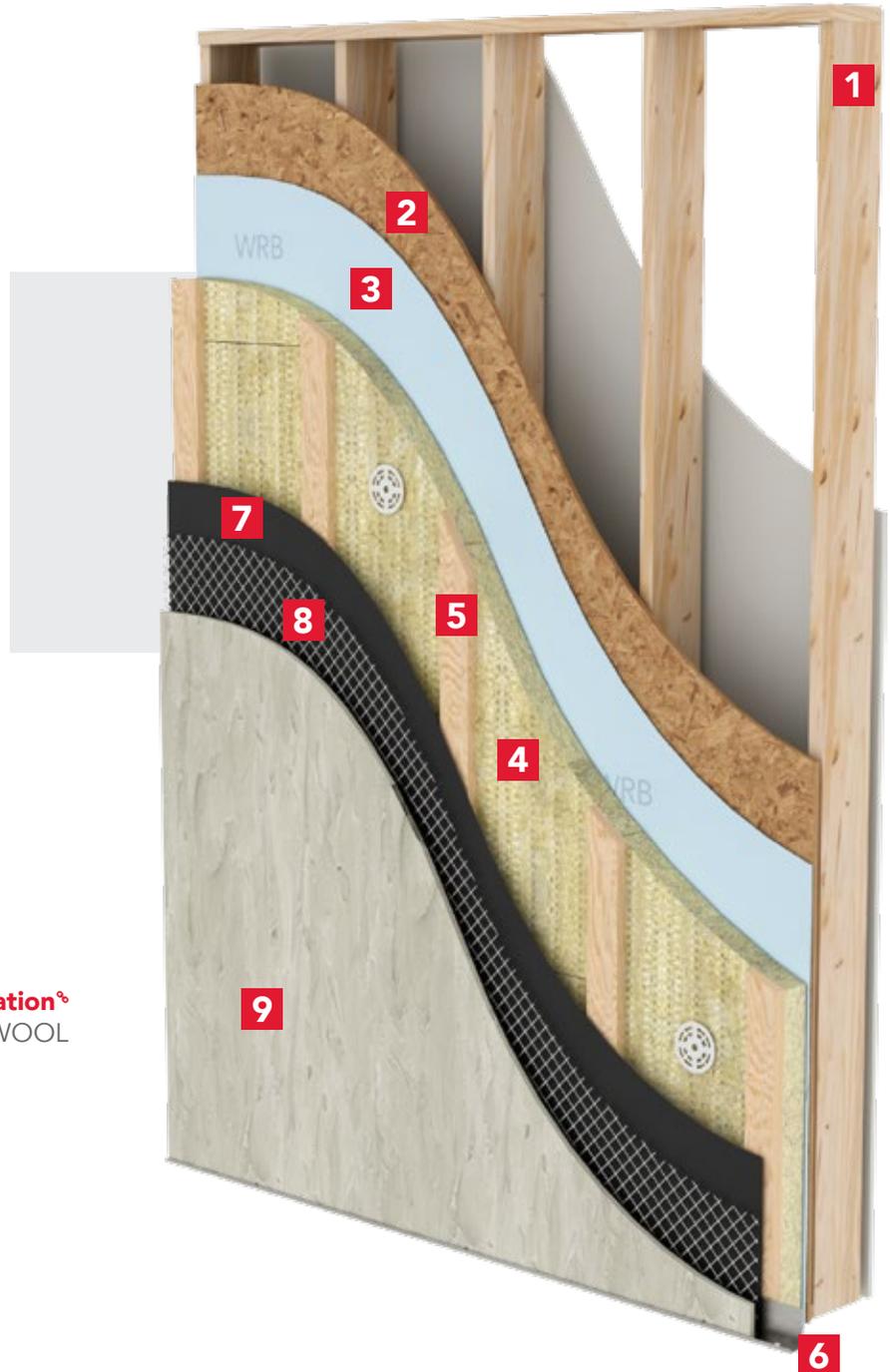


It is important to note these details show one method of constructing an exterior insulated stucco wall assembly; however, subtle changes at interface locations could be made to achieve the same intent. Review the building code requirements for your jurisdiction to ensure that all wall assembly detailing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

Stucco Cladding With Vertical Strapping Over Stone Wool Insulation

Wood Stud Assembly

1. Wood framing at 16" on center max
2. Wood-based sheathing
3. Water-Resistive Barrier / Air Barrier
4. ROCKWOOL Comfortboard®
5. Pressure treated wood strapping at 16" on center fastened to studs
6. Weep screed (perforated)
7. Intervening Sheet
8. Lath
9. Stucco base and finish

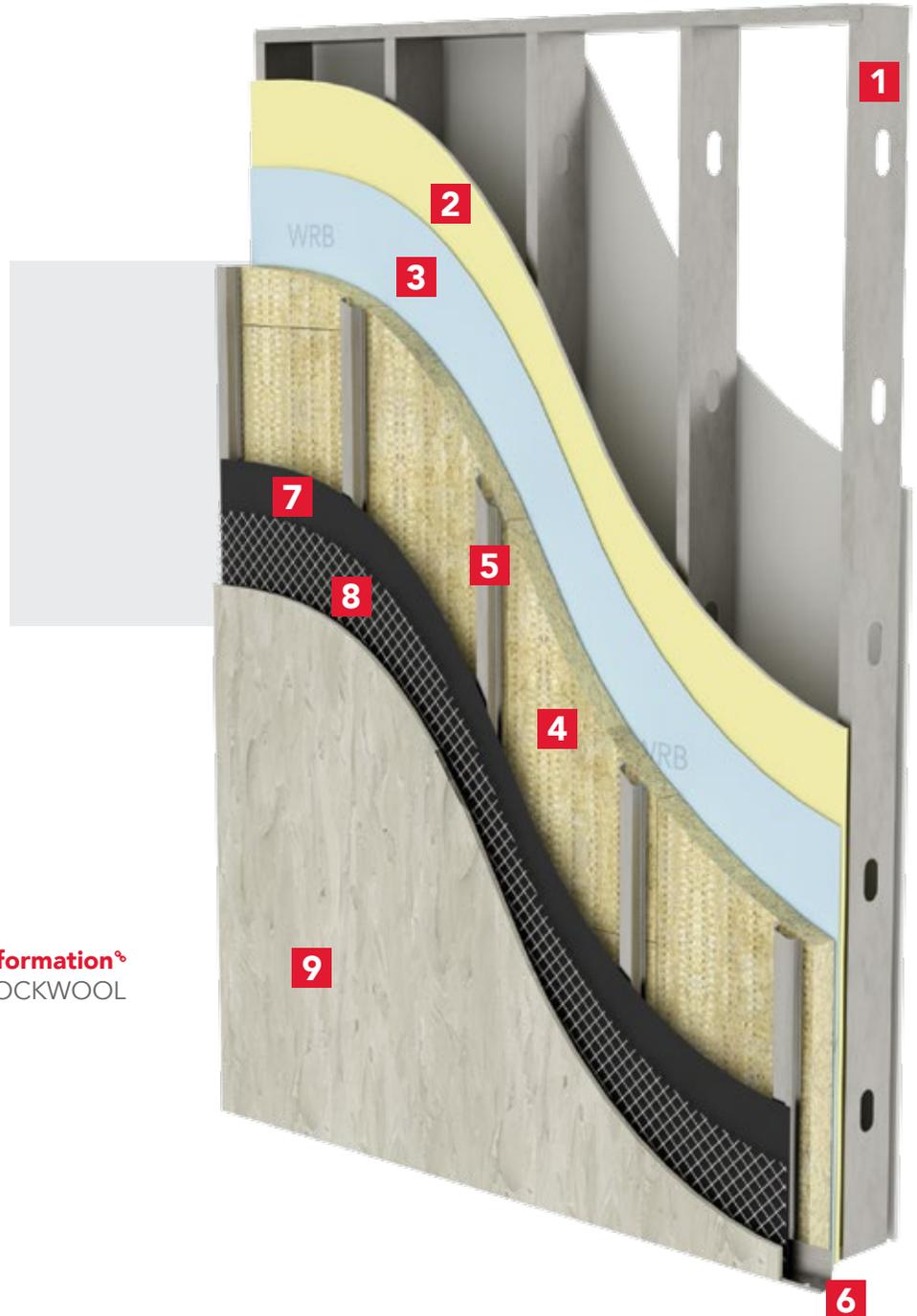


Jump to [Design Tables & Additional Information](#)[®] for more on attachment solutions with ROCKWOOL stone wool insulation.

Stucco Cladding With Vertical Strapping Over Stone Wool Insulation

Steel Stud Assembly

1. Steel framing at 16" on center max
2. Gypsum sheathing
3. Water-Resistive Barrier / Air Barrier
4. ROCKWOOL Comfortboard®
5. Heavy gauge engineered metal (≥ 20 ga) hat channel strapping at 16" on center fastened on one line to studs
6. Weep screed (perforated)
7. Intervening Sheet
8. Lath
9. Stucco base and finish



Jump to [Design Tables & Additional Information](#)[®] for more on attachment solutions with ROCKWOOL stone wool insulation.

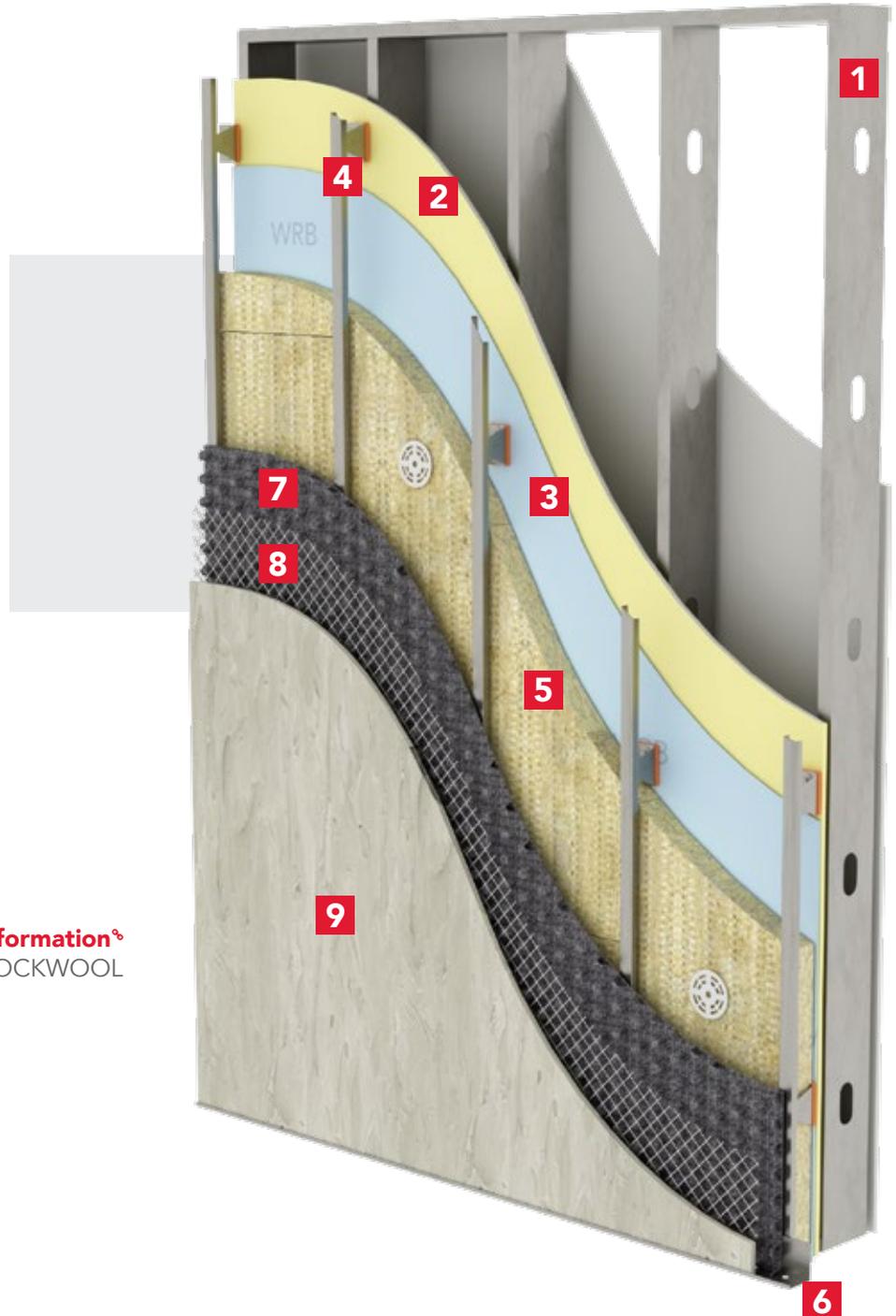


Actual fastener patterns not shown, fastener pattern used should be based on project-specific requirements

Stucco Cladding With Drainmat Over Thermally Broken Clip-and-rail

Steel Stud Assembly

1. Steel framing at 16" on center max
2. Gypsum sheathing
3. Water-Resistive Barrier / Air Barrier
4. Thermally broken clip and rail system at 16" on center max*
5. ROCKWOOL Cavityrock®
6. Weep screed (perforated)
7. Drainmat with filter fabric
8. Lath
9. Stucco base and finish



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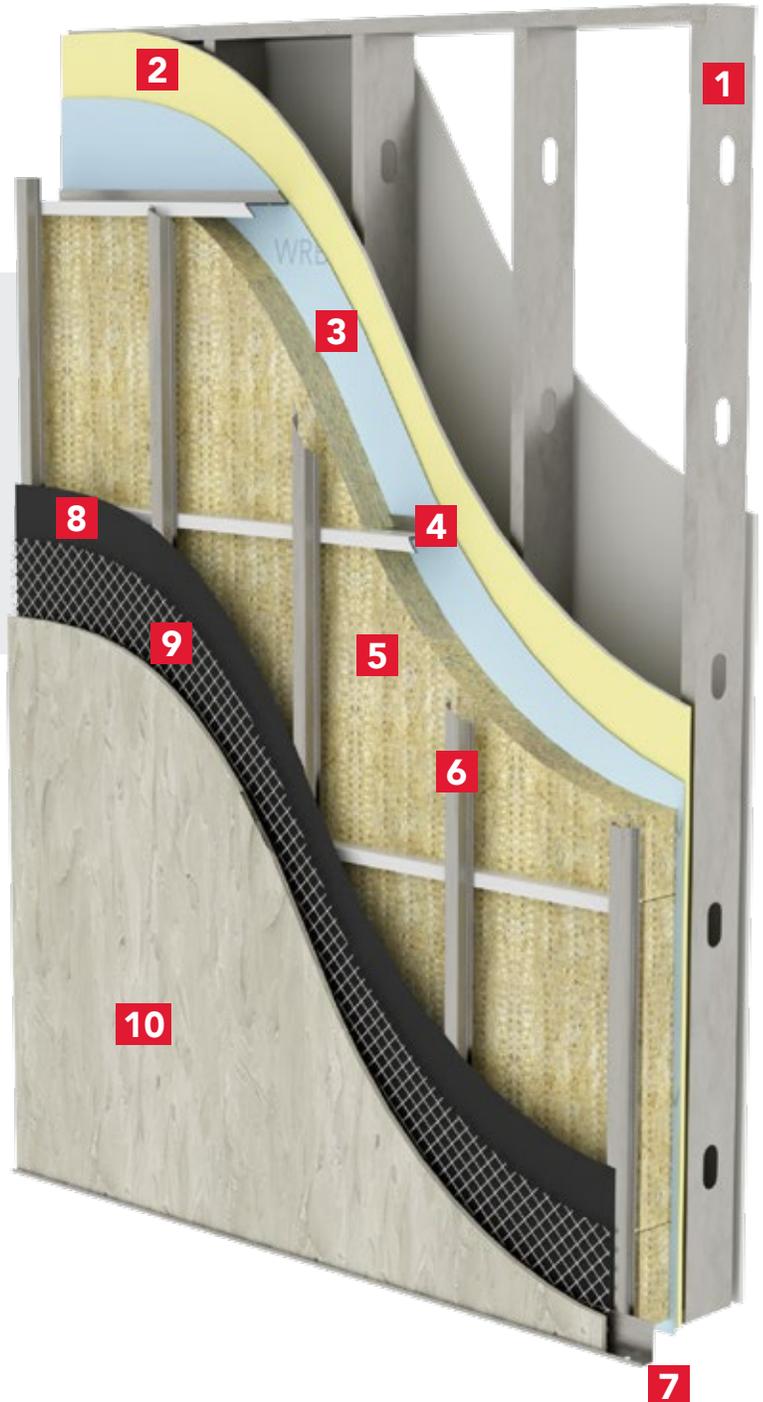
Actual fastener patterns not shown, fastener pattern used should be based on project-specific requirements

Stucco Cladding With Vertical Hat Channel and Z-Girts Over Stone Wool Insulation

Steel Stud Assembly

1. Steel framing at 16" on center max
2. Gypsum sheathing
3. Water-Resistive Barrier / Air Barrier
4. Horizontal steel Z-Girts
5. ROCKWOOL Comfortboard®
6. Vertical heavy gauge engineered metal ($\geq 20\text{ga}$) hat channel at 16" on center max
7. Weep screed (perforated)
8. Intervening Sheet
9. Lath
10. Stucco base and finish

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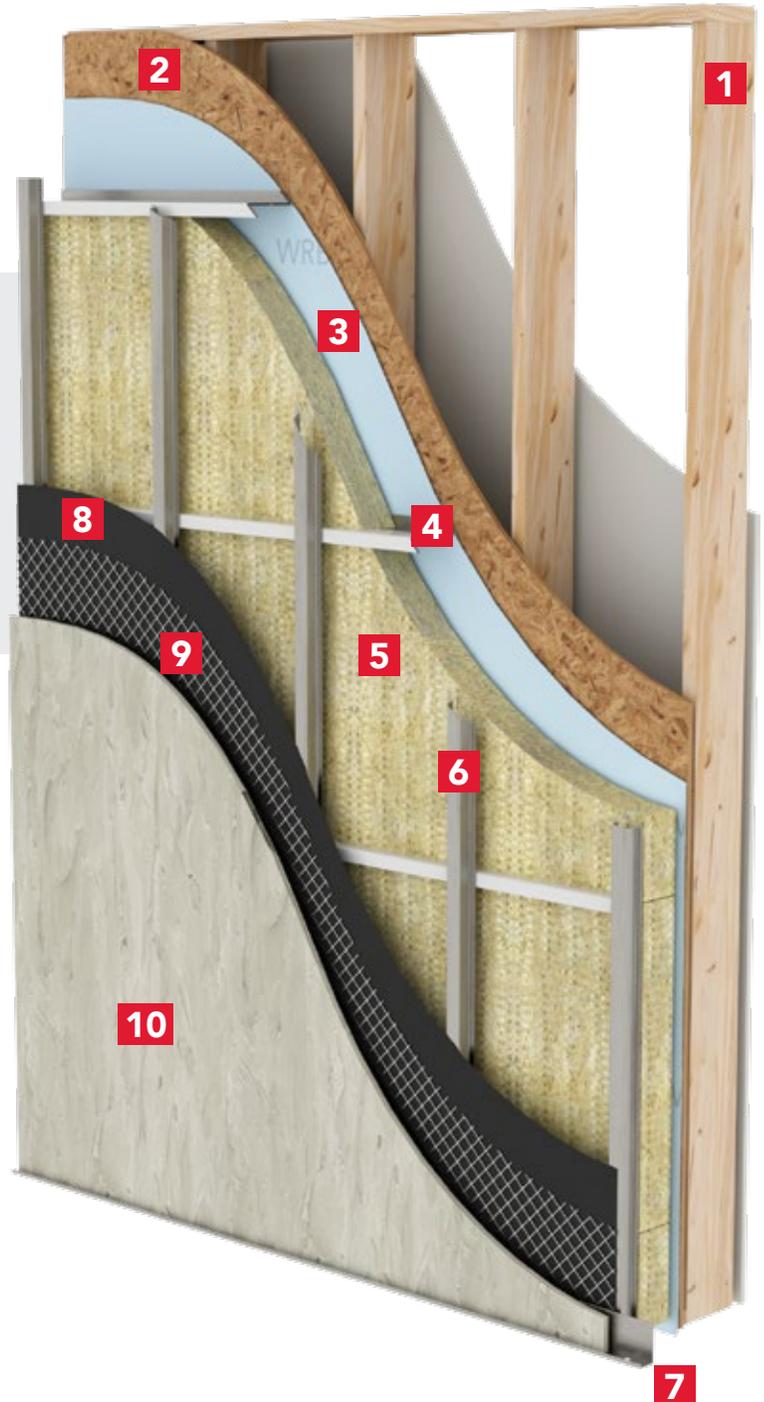


Stucco Cladding With Vertical Hat Channel and Z-Girts Over Stone Wool Insulation

Wood Stud Assembly

1. Wood framing at 16" on center max
2. Wood-based sheathing
3. Water-Resistive Barrier / Air Barrier
4. Horizontal steel Z-Girts
5. ROCKWOOL Comfortboard®
6. Vertical Heavy gauge engineered metal (≥ 20 ga) hat channel at 16" on center max
7. Weep screed (perforated)
8. Intervening Sheet
9. Lath
10. Stucco base and finish

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Design Tables & Additional Information

Approximate weights and classifications for common cladding types



How to Use the Design Tables

Based on the testing work completed and engineering calculations, the following design tables are provided with respect to supporting the dead load of cladding systems installed using long screws through ROCKWOOL exterior stone wool insulation.

The design tables assume ROCKWOOL Comfortboard® 80 exterior stone wool insulation with minimum compression strength of 439 psf (21 kPa) at 10% per ASTM C165 testing. Penetration refers to the penetration of the fastener into the stud, excluding the tapered tip of the fastener and the sheathing thickness. Values provided pertain to wall assemblies on low- to mid-rise buildings up to six storeys, built using typical wood and steel stud framing techniques. The higher wind loads expected on taller buildings requires specific structural design.

Insulation Strapping Recommendations

Strapping fastening patterns for ROCKWOOL rigid board insulation should be specified based on the backup assembly and project specific loads (weight of cladding). Long screw fasteners must penetrate framing members like studs and this effects the potential horizontal spacing of the fasteners and strapping.

Exterior Insulation Thickness	Maximum Vertical Screw Spacing	Minimum Screw Diameter	Minimum Screw Penetration	Minimum Strapping Size
Heavy Weight Cladding 10 lbs/ft² to < 15 lbs/ft²				
16" o.c. Wood-Frame Wall Assemblies				
up to 3"	16"	#14	1-1/2"	3/4" x 3-1/2"
>3" to 6"	12"			
16" o.c. Steel Stud Wall Assemblies				
up to 3"	12"	#14	3 threads min. through stud flange	7/8" x 1-1/4" 20ga hat track
>3" to 6"	8"			

Installation Considerations

When installing fasteners through ROCKWOOL Comfortboard®, use care to not underdrive or overdrive the fastener head into the insulation board, to support the long-term durability of the wall assembly.

Stucco panel edges, flashings, and lathing accessories shall be constructed and sealed watertight at splices, intersections, and transitions to prevent the entry of water.

Temporary Insulation Attachment

To facilitate construction, fasteners (or a construction grade adhesive) can be used to hold the insulation in place prior to installation of the strapping. These temporary attachments need only be sufficient to hold the boards in place during construction, though consideration should be given to the expected weather conditions (i.e., wind) during construction to ensure this support is sufficient.

Note that if fasteners are used, while they are not intended to provide the long-term attachment system for the insulation, these fasteners should typically not be removed and instead should remain in place to avoid creating a discontinuity in the air/water-resistive barrier.

Additional Resources

For additional guidance on the installation and information on the performance of ROCKWOOL rigid board insulation with strapping. download our additional technical documentation.

- Board insulation attachment guide[↗]
- Performance of Strapping Attachment on Walls with Long Screws Through ROCKWOOL Rigid Insulation[↗]
- Comfortboard 80 data sheet[↗]
- Comfortboard 110 data sheet[↗]