INSTALLATION GUIDE

ACS THERMAL CLIP

ACCESSORY PRODUCTS

SOPREMA®

ACS Composite Systems Inc.

INTRODUCTION

ACS Thermal Clips (Solid ACS-S Clip and Adjustable ACS-A Clip) create a highly efficient attachment system that reduces the effects of thermal bridging in wall systems. The ACS Thermal Clip is composed of stainless steel — mostly known for robustness, low thermal conductivity and high melting point — and the insulating pad, made of aerogel with a thickness of 12.7 mm (0.5 in) which has a thermal resistance of R-3 per pad.

TABLE OF CONTENT

1.0. TYPES OF CLIPS 04

1.1. ACS-S Clip (Solid) 04

1.2. ACS-A Clip(Adjustable) 04

2.0. INSTALLATION 06

2.1. Pre-Installation Checklist 06

2.2. Accessories 07

2.3. ACS Thermal Clip with Rigid Insulation 08

2.4. ACS Thermal Clip with Stone Wool Insulation. 09

2.5. ACS Thermal Clip with Spray-Foam Insulation 10

2.6. ACS Thermal Clip with SOPREMA Protected Assembly 11

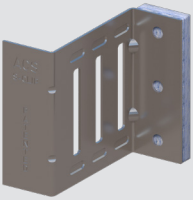
2.7. ACS-A Clip Installation 12

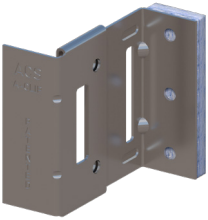
1.0. TYPES OF CLIPS

ACS Thermal Clips are available in two configurations: solid and adjustable. Both types of clips include a thermal break pad at the back (insulation/moisture barrier interface). Both clips have cut-outs that represent 15 to 20% of the clip's volume to minimize the quantity of conductive material.

1.1. ACS-S CLIP (Solid)

ACS-S Clips are solid, one-piece stainless steel clips, shaped similarly to a Z-girt. ACS-S Clips are ideal when a high-performance, cost-effective solution is required, and the back-up structure and cladding materials do not require onsite adjustments of the support system.





1.2. ACS-A CLIP (Adjustable)

ACS-A Clips are two-piece: the wall bracket and the sliding bracket, which are stainless steel clips designed to fit together. Each piece is "L" shaped. The inner piece of the clip fits inside the outer piece, allowing the exact depth of the clip to be adjusted onsite by the installers. The ACS-A Clips are very useful for cladding systems that require very tight tolerances for plumb; are installed over uneven substrates such as masonry or concrete walls; and/or are installed over steel stud walls that are not on the same vertical plane as the slab beams.

For cost savings purposes, if some areas of a building require the precision of ACS-A Clip and others do not, the two types of clips can be used together on the same project.
Customized clips can also be created to accommodate various insulation thicknesses if needed.

INSTALLATION

2.0. INSTALLATION

Before the installation, it is important to know the spacing of the clips. Usually calculated at the design phase, the spacing can be estimated using ACS tools and documents provided to support the design process.

> Note that a project structural engineer (independent of SOPREMA or ACS COMPOSITE SYSTEMS INC.) is required to review and provide the necessary design/assurance that the overall system is structurally acceptable.

TECHNICAL DATA SHEET

SPECIFICATION

STRUCTURAL DESIGN GUIDE

BUILD BETTER GUIDE

2.1. PRE-INSTALLATION CHECKLIST

STEP 1
Talk to the contractor before the job has started to ensure that the studs line up from floor to floor and the walls are on the same plane. This is required for proper ACS-S Clip installation. If the walls are not on the same plane, use the ACS-A Clip.

STEP 2
Read the engineer's notes to find out the clip spacing and required fasteners for all of the different wall types to determine how many clips to order and what type. Verify site dimensions by precise field measurements so that work will be accurately designed, fabricated, and fitted to the structure.

STEP 3
Building surfaces shall be smooth, clean, dry, and free from defects detrimental to the installation of the system. Notify the consultant of conditions not acceptable for the installation of the system.

STEP 4
Inspect the components before the installation and verify that there is no shipping-related damage. Do not install damaged materials.

STEP 5
Verify flashings are in place.

STEP 6 :
Maintain sheathing membrane integrity

2.2. ACCESSORIES

FASTENERS

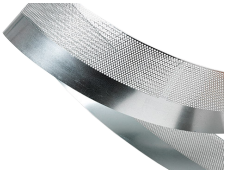
Screw type and size vary depending on the assembly and the required wind resistance on the project. Refer to the structural design guide for more information.

METAL Z-GIRT or ANGLE

Galvanized to G90, Z275 coating or Galvalume to ASTM A792, AZM 150 coating, 1.2 mm (18 ga) or 1.6 mm (16 ga) thickness.

INSULATION STICK PINS
(if necessary)

For some types of insulation (eg. stone wool), it may be necessary to use some type of fastener to ensure that the insulation is in direct contact with the air/vapour barrier such as stainless steel insulation stick pins with a self adhesive base and retainer clip, plates and fasteners, etc...



VENT SCREEN

Continuous screen located at the top and bottom of cladding system, where opening is minimum 19 mm (0.7 in) wide, with minimum 50% free airflow. Also blocks access to insects and certain rodents.

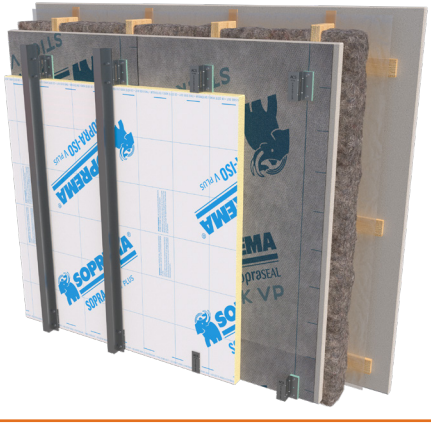
SCREWS PROVIDED WITH ACS THERMAL CLIP

410 stainless steel self drilling screws with SKT 1000 Coating.
#12-14 x 3/4"L, 5/16" Hex head.

2.3. ACS THERMAL CLIP WITH RIGID INSULATION

SOPRA-ISO V PLUS, SOPRA-ISO V ALU and SOPRA-XPS

1. Find stud location by either marking the wall when you are installing the air barrier.
2. Use a laser to find and mark two level points on the wall for the first row of clips (located at the bottom of the wall), then use a chalk line to mark your first row of clips.
3. Install your first horizontal row of clips using the specified fasteners (dependent on wall type).
4. Place the insulation on top of the clips and push down to mark the insulation where the clips are, and then cut and notch the insulation to fit around the clips.
5. Use a level on the first row of insulation, then install the next row of clips on the top edge of the insulation. Continue with this process for the rest of the wall.
6. When all the insulation is installed, install the Z-bar or any other attachement systems using the fasteners provided with the ACS Thermal Clips.



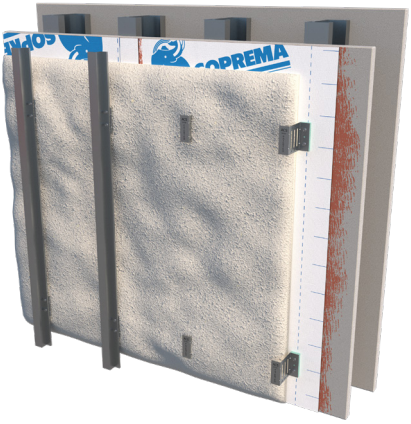
2.4. ACS THERMAL CLIP WITH STONE WOOL INSULATION

1. Find stud location by either marking the wall when you are installing the air barrier.
2. Use a laser to find and mark two level points on the wall for the first row of clips (located at the bottom of the wall), then use a chalk line to mark your first row of clips.
3. Measure the required clip spacing vertically (see engineer's notes) using two points and then use a chalk line to mark the rows for the entire wall. Mark all stud locations.
4. Install all ACS-S Clips on the wall.
5. Install all stone wool insulation. Using an insulation knife, notch the insulation so it can slide past the clip. You may need to install the Z-bar or angle as you go (depending on clip spacing) to help hold in the insulation on the wall or use an insulation pin.
6. When all the insulation is installed, install the Z-bar or any other attachement systems using the fasteners provided with the ACS Thermal Clips.

2.5. ACS THERMAL CLIP WITH SPRAY-FOAM INSULATION

SOPRA-SPF 200 (LT)

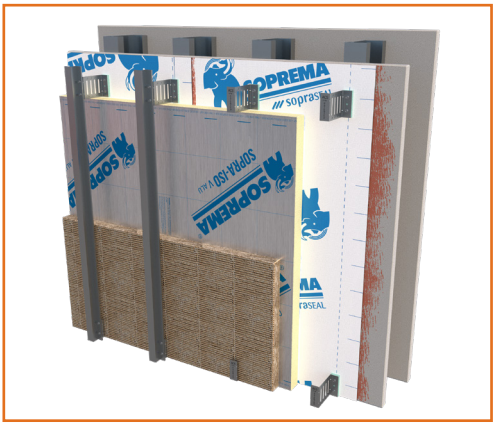
1. Find stud location by either marking the wall when you are installing the air barrier, or by using a magnet.
2. Use a laser to find and mark two level points on the wall for the first row of clips (located at the bottom of the wall), then use a chalk line to mark your first row of clips.
3. Measure the required clip spacing vertically (see engineer's notes) using two points and then use a chalk line to mark the rows for the entire wall. Mark all stud locations.
4. Install all ACS-S Clips on the wall.
5. Allow SPF installer to complete their work.
6. When all the insulation is installed, install the Z-bar or any other attachement systems using the fasteners provided with the ACS Thermal Clips.



2.6. ACS THERMAL CLIP WITH SOPREMA PROTECTED ASSEMBLY

SOPRA-ISO V ALU or SOPRA-ISO V PLUS and Stone Wool

1. Find stud location by either marking the wall when you are installing the air barrier, or by using a magnet.
2. Use a laser to find and mark two level points on the wall for the first row of clips (located at the bottom of the wall), then use a chalk line to mark your first row of clips.
3. Measure the required clip spacing vertically (see engineer's notes) using two points and then use a chalk line to mark the rows for the entire wall. Mark all stud locations.
4. Install all ACS-S Clips on the wall.
5. Cut and notch the SOPRA-ISO V insulation to fit around the clips.
6. Install the SOPRA-ISO V insulation on the whole wall.
7. Proceed with the installation of the stone wool insulation. Using an insulation knife, notch the insulation so it can slide past the clip up to the SOPRA-ISO V insulation. You may need to install the cladding attachement system as you go (depending on clip spacing) to help hold in the insulation on the wall or use insulation stick pins.
8. When all the insulation is installed, install the Z-bar or any other attachement systems using the fasteners provided with the ACS Thermal Clips.



For more information about SOPREMA Protected Assembly, please consult the BUILD BETTER Guide or contact your local sales representative.

2.7. ACS-A CLIP INSTALLATION

The installation methods on the previous pages are describe with the ACS-S Clip to lighten the document. However, the installation steps for ACS-A Clip are essentially the same. The only difference is that you have the opportunity to adjust the depth of the ACS Thermal Clip as shown below.

1

Install the wall bracket to the wall as you would do with a ACS-S Clip.

2

Slide the sliding bracket onto the wall bracket to the desired depth.

3 Use a laser to make sure all the clips are on the same plane.

4

Clamp and fasten the two pieces together by using the screws supplied with the ACS Thermal Clip.

5 Install the insulation following the installation steps described in the previous pages accordingly with the type of insulation of the assembly.

INNOVATION SINCE 1908

SOPREMA has developed around the idea that the quality, durability and reliability of materials must match builders' ambitions and expectations. For more than 100 years, SOPREMA has been using its expertise to develop a variety of high-end products that meet or exceed all the requirements of the construction field.

ROOFS WALLS FOUNDATIONS PARKING DECKS AND FLOORS CIVIL ENGINEERING STRUCTURES ADDITIONAL EXPERTISE

WATERPROOFING INSULATION VEGETATIVE SOLUTIONS SOUNDPROOFING ACCESSORY PRODUCTS

SOPREMA is an international manufacturer specializing in the production of waterproofing and insulation products, as well as vegetative and soundproofing solutions, for the building and civil engineering sectors.

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