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**Disclaimer**

This installation guide is only to be used in combination with SMARTci™ installation drawings and Advanced Architectural Products, LLC’s (henceforth also A2P) suggested details. Details shown in project shop drawings take priority over any similar information in this manual. Shop drawings may be created either by A2P or by the system installation contractor. A2P’s Technical Service Department is available to aide the system installation contractor in the review of shop drawings. This guide is meant to furnish the system installation contractor with recommended methods, procedures and guidelines for the installation of the SMARTci™ system for commercial/industrial applications. Information presented is accurate but may not cover all circumstances, building conditions and/or details of the specific project. Consult an A2P technical representative where this guide does not cover every unique construction condition. It is the sole responsibility of the project engineer and system installation contractor to ensure specified air and weather tightness of a building by good design and workmanship in accordance with approved drawings, using only approved sealants/tapes. It is the sole responsibility of the owner's representative and system installation contractor to uphold quality workmanship in accordance with approved shop drawings to ensure the best operation of the system. A2P recommends installers read this document **completely** before receiving materials at the job site. Guide is subject to change without notice. Installation information is available through A2P at 1 (269) 355-1818. Follow the architect's approved shop drawings and engineering computations for project-specific fastening designs. The engineer of record is liable for verifying applicable design loads and system fastening requirements. All safety methods are the duty of the installer, general contractor or construction manager.
Why SMARTci™?

Stud wall with a conventional system:
fasteners and framing contribute to energy loss.

The Problem: Thermal Bridging

When metal is used to connect the exterior components of a building directly to the interior framing, this causes a thermal bridge. This thermal path of least resistance allows heat (or cold) to escape, creating a vulnerability for cold spots and allowing moisture problems. Using materials that eliminate the thermal bridge help avoid unnecessary heating and cooling costs.

Stud wall with SMARTci™:
greatly minimizes the thermal impact of fasteners and framing.

The Solution: SMARTci™

SMARTci™ was designed to address the inadequacies of other continuous insulation solutions. It’s individual parts were created as a simple, complete solution to help create smarter buildings. Unlike other attachment systems, SMARTci completely prevents thermal bridging that are created by metal fasteners and framing. It doesn’t create cold spots for condensation inside walls. It has a universal attachment design for virtually any cladding, and it can be used over multiple surfaces— not just stud walls.
Welcome to SMARTci™ by Advanced Architectural Products, LLC. This document serves as the installation guidelines for SMARTci™.

SMARTci™ provides buildings with a continuous insulation system and thermal break, as well as a mounting platform for the cladding application. It is an open design that works with almost any substrate, insulation or cladding.

SMARTci™ was created with one goal in mind: to make buildings more efficient. Specially designed to block off heat gaps that other systems neglect, SMARTci™'s thermal efficiency makes it a greener, long-term building investment for the future.

The SMARTci™ system consists of innovative insulated composite GreenGirts™ Simple Z, a primary insulator and auxiliary accessories as needed.

1. GreenGirt™ is available in 2", 2.5", 3", 3.5", 4", 4.5", 5" and 6" depths and can be installed horizontally or vertically. Standard girt length is 96", and a clip system consisting of 12" pieces is also available. GreenGirts™ spacing is typically 16", 24" or 48" on center. Consult the SMARTci™ design manual or A2P Technical Representative for loading design and capabilities for dead and live loads.

2. Insulation for SMARTci™ can be specified as rigid insulation, mineral wool or expandable sprayed foam:
   a. Custom-profiled rigid insulation panels from A2P provide both insulation and a weather seal, in either rigid polyisocyanurate (polyiso) or extruded polystyrene (Ref. System Diagrams, pp. 6-7).
   b. Mineral wool may be installed between GreenGirts™ over a solid substrate and a properly-applied waterproof drainage plane.
   c. Expandable, sprayed foam insulation may be installed between GreenGirts™ over a solid substrate.

Interactive

This guide includes many interactive features. QR codes, such as this one that links to the A2P YouTube Channel, connect to free online content, downloadable documents and instructional videos, for useful information about SMARTci! For more information about a section, scan the adjacent QR code.
1 System Diagrams

**Figure 1.1**
GreenGirl™ components shown, not to scale.

**Figure 1.2**
Typical rigid, closed-cell polyisocyanurate insulation panel, shown with spline inserted, not to scale.

- **GreenGirl™ Simple Z** (various depths)
- 16-18 gauge galvanized metal substrate insert with fastener holes
- Weather barrier seal
- 16-18 gauge galvanized metal cladding insert
- Extend min. 3”
- Anti-siphon
- Custom-profiled top of insulation panel
- Closed cell polyiso/polystyrene foam core
- Impermeable foil facing material
- Stabilizing insulation panel spline
- Custom-profiled bottom of insulation panel
1 System Diagrams

**GreenGirt™ Profile**

GreenGirt™ section is shown, not to scale. In vertical installations, there are two options for orienting the girts to the substrate, as illustrated here.

**Insulation Panel Profile**

Typical rigid, closed-cell polyisocyanurate insulation panel profiles are shown, not to scale, indicating the two orientations related to the building substrate in vertical installations. The side of the panel that should be cut and custom routed when required is identified by a single routed edge profile.
SMARTci™ has been thoroughly evaluated and tested by independent third party consultants and laboratories to determine all aspects of performance. The results of these tests, in combination with comprehensive engineering testing and analysis, enable us to provide design assistance for nearly every project. This includes complete analysis of gravity, wind, live, seismic and thermal loading, as well as allowable deflection, fastening and connection detailing.

2.1 Deflection
The current International Building Code specifies deflection limits for exterior walls. Depending on the exterior wall cladding, the deflection limit may be L/360 for walls with plaster / stucco finish, L/240 for walls with brittle finish, L/120 for walls with flexible finish and L/600 for walls supporting brick veneer. SMARTci™ can be designed to accommodate any of the above cladding / finishes. Contact the A2P engineering department with any specific project requirements.

2.2 Seismic
SMARTci™ can be designed and specified for seismically sensitive projects, to meet all applicable local, state, federal and international codes. Contact the A2P engineering department with any specific project requirements.

2.3 Diaphragm
Although SMARTci™ has some inherent lateral loading resistance, it should NOT be relied upon to provide significant diaphragm strength. Instead, cross bracing (straps, cables, rods, angle iron, etc.) should be used to provide lateral shear resistance.

2.4 Fire Ratings
SMARTci™ has been evaluated for fire rating and passes ASTM E-84 as a Class A construction material, and is compatible with NFPA 285 testing.

2.5 Air & Water Infiltration
Air and water infiltration testing has been successfully conducted on SMARTci™ in accordance with ASTM E-283, ASTM E-330, AAMA 501-1 and AAMA 501-2. The system also meets the requirements of ASHRAE Standard 160, Criteria for Moisture Control Design Analysis in Buildings.

2.6 Energy
As a leader in maximizing building efficiency and conserving energy, SMARTci™ has met or surpassed all of the requirements of ANSI/ASHRAE/IES Standard 90.1, Energy Standard for Buildings Except Low-Rise Residential Buildings, as a continuous insulation system for building envelopes.

2.7 Structural
Structural testing has been successfully conducted on SMARTci™ in accordance with ASTM E-331 and ASTM E-72.
2 Technical Information

2.6 Performance & Quality

Please note, failure to follow the precise procedures outlined in this Installation Guide, all applicable laws, ordinances and codes, and/or accepted industry safety procedures will render any and all warranties null and void. A2P will not be responsible in any way for merchandise, installed or not, that is damaged or defective as a result of negligible practices and/or a failure to follow these guidelines, deficiencies in workmanship or construction, or dangerous site conditions.

Warranties and other product information are available from A2P. For information regarding general and product-specific warranties, please contact A2P at 1 (269) 355-1818.

3 Inspection upon Delivery

3.1 SMARTci™ insulation panels and GreenGirl™ are professionally packaged, wrapped and carefully shipped on flat bed trailers to the construction site. When a shipment is received, check all items against the shipping document for quantities, dimensions, colors, transit damage, etc. Document any shortage of panels, girts and accessories or any damage on the bill of lading and have it signed by the driver. It is the receiver’s responsibility to make any damage claims immediately. Please note that although every effort is made to prevent shipping damage, A2P is not responsible for damage which may occur during transportation, delivery, storage or on-site handling.

4 System Handling

4.1 Pallets Handled by Forklift

Inspect travel route to assure a reasonable level and compacted surface free of ruts and excavations.

The recommended loading/unloading method for bundles less than or equal to 8’ is to use a single forklift with appropriately-spaced forks placed under the center of the bundle, transporting only one at a time.

Extreme caution is suggested when moving pallets of SMARTci™ insulation panels, as the corners and edges are VERY FRAGILE, and damage could render them unusable.

4.2 Pallets Handled by Crane

To prevent damage while lifting, carefully pick up bundles one at a time.

The recommended crane lifting method is to use nylon straps positioned at a minimum of two points along the length of the bundle. Suitable wood spreadersshould be used and located at the top and bottom of the bundles at the strap positions to protect the edges.

Extreme care should be taken to avoid bumping and snatchng of the bundles when lifting.
5 System Storage on Site

Site must have adequate storage space to receive and store SMARTci™ components. This space must be level, firm, clean and free from standing water. Components, especially insulation panels, should be stored in a dry condition, off of the ground, covered continuously when not in use. Avoid outdoor storing for longer than 45 days.

Panels should be inspected upon delivery for presence of moisture. If moisture is present, packaging should be opened immediately to allow ventilation and drainage. Do not store insulation panels in direct sun.

If SMARTci™ is to be used immediately, bundles should be placed at pre-planned strategic locations around the building perimeter, as close as possible to the specific work areas. Review installation shop drawings to determine the best locations.

Insulation panels in opened bundles should be covered by a plastic sheet or tarp at the end of the working day. The covering and bundles must be securely fastened to prevent wind damage.

When handling SMARTci™, ropes, steel cables or chains must not be used. Insulation panel pallets should not be stacked more than two high in the field.

6 Handling and Storage of Auxiliary Accessories

Care should be taken during unloading and storage to prevent damage to small items, such as; GreenGirt™, clips, tape, fasteners, sealants, etc.

Cover all pallet crates or boxes to protect materials from weather but allow for ventilation to prevent condensation. Temperature sensitive items such as butyl tapes and sealants should be stored under controlled conditions to maintain suitable application characteristics.
7 Structural Alignment

Review shop drawings prior to installation to verify that structural members are in the correct location.

Installer must examine the alignment of the structural steel before installation of SMARTci™. The substrate must be square, and support members to which panels are attached must be in the same plane, flat and free of obstructions such as weld marks, bolts or screw heads.

Support members shall be installed within the following tolerances of plus or minus 1/8" (3.17 mm) in 10 feet (3048 mm) in any direction along plane of framing, with non-accumulative spaces.

Any variance from tolerances can affect both performance and aesthetics and must be reported to the architect and general contractor, and corrected by the responsible party before installation begins.

8 Installation & Surface Preparation

Before installing GreenGirt™ or SMARTci™ insulation panels, ensure that the substrate is dry, clean, sound and free of any debris, residue and any other surface contaminants.

8.1 Installer Selection

A2P recommends that SMARTci™ is only installed under the direct supervision of an experienced craftsperson, trained in the proper application of its diverse offering of products and services. Please call 1-269-355-1818 for information regarding authorized installer selection and training programs.

8.2 Masonry & Concrete

Remove high spots and fill in low spots prior to attaching GreenGirt™ to concrete or masonry substrate. Remove any extra materials protruding on surface of walls, such as chunks of mortar or concrete, and even wall surface to within 1/4" per 8 feet. All high and low spots should be leveled to provide an even wall surface.

8.3 Steel & Wood Studs

Verify the substrate is flat, without steps or voids greater than 1/4".
9 Tools & Accessories Required

- Abrasive Chop Saw & Abrasive Wheeled Cutters
- Levels
- Heat Gun
- Corded / Cordless Screw Guns
- Corded / Cordless Drills
- Caulk Guns
- Hand Saws
- Leather Gloves
- Basic Safety Equipment
- Rubber Mallets
- Clamps

IMPORTANT
Personnel working with cutting equipment and power tools should wear proper eye protection and safety equipment at all times to prevent injury.
9 Tools & Accessories Required

Galvanized Metal Angles & Strapping

Tek & Masonry Fasteners

Approved Sealant

Tape

Expandable Sealant

Plastic Shims

CAUTION

GreenGirt™ must NOT be cut with plywood or toothed blades, as it is composed of metal, resin and glass fibers. Use only abrasive chop saw / hand saw blades. Do not use actuated fasteners, impact hammers / impact drills or reciprocating saws!
10 System Installation Sequence

The SMARTci system should be started at a transition or termination point. Depending on the beginning location, refer to general and/or project-specific Construction Details to determine how to start the installation. The example given in these instructions and illustrated in FIG 10.1, p. 15 is of an outside corner assembly on a solid substrate (Ref. Details 5-6, pp.38-41).

1 Install an interior galvanized steel corner (min. 22 gauge) from the bottom upward, ensuring at least a 1” ship lap at all joints with approved sealant.

2 Apply two vertical 1/4” min. continuous beads of approved sealant to both sides of the interior galvanized metal corner (Ref. Details 5-6, pp.38-41).

3 Depending on the direction of installation, as the outside corner is installed, GreenGirts™ are placed specifically and custom sized insulation panels are cut for the assembly (Ref. Details 5-6, pp.38-41).

4 Leave a 1/2” space between the two custom-sized corner panels to allow for approved expandable foam sealant (Ref. Details 5-6, pp.38-41).

Continue to install insulation panels and GreenGirts™ per installation guidelines (Ref. FIGs 11.4.1-12.2.6, pp.17-22).

5 Install exterior galvanized metal corner(s) from the bottom up, attaching to each GreenGirt™ with approved 1/4” #14 low-profile fasteners, max. 16” on center, typical (Ref. Details 5-6, pp.38-41).

6 Once the entire assembly is installed, all vertical joints must be taped from the bottom upward, ensuring at least a 1” ship lap where applicable. This step should be completed after all horizontal seams are taped per Construction Details (Ref. FIGs 11.4.1, p.15; 14.1.10, p.29 & Details 5-6, pp.38-41).
FIG 10.1
With approved engineering, GreenGirt™ is designed to be installed either vertically or horizontally, spanning 16", 24" or 48" apart, with fasteners attaching them to the substrate at 16", 24" or 48" centers. This spacing is determined by the type and size of insulation used, the material and scale of the final cladding, or both.

When attaching fasteners to GreenGirt™, the following general guidelines are to be observed (FIG 11.1.1):

1. The edge distance of any fastener-hole shall be a minimum of 1/2" from the edge of the profile to the closest side of the fastener-hole.
2. The minimum clear distance between holes is 5x diameter.
3. The minimum edge (edge of profile to edge of hole) distance in the longitudinal direction is 3x diameter.
4. The minimum edge (edge of profile to edge of hole) distance in the transversal direction is 2x diameter.

When attaching any sheathing (plywood, fiberglass gypsum, etc.) to GreenGirts™, the ideal location for approved fasteners is in alignment with the Fastening Center Guide. A maximum deviation of 1/4" from the centerline of the fastener to the centerline of the guide is also acceptable. Sheathing seams should NOT align with the center fastener guide channel.
11 System Installation: GreenGirt™

11.2 Steel Fastening
Fastening GreenGirt™ to steel framing can be performed with low-profile 1/4" #14 fasteners, maximum 16" on center, of sufficient diameter and loading capacity for the application, utilizing the pre-drilled holes in the metal retention plates.

11.3 Concrete Fastening
Fastening GreenGirt™ to a concrete or CMU substrate can be accomplished by using approved, low-profile, threaded and coated 1/4" fasteners, maximum 16" on center, sufficient to accommodate the design load. Predrill the GreenGirt™ metal substrate insert as needed. Refer to specific project documents for fasteners types and sizes.

11.4 GreenGirt™ Attachment
It is essential that the starting column of GreenGirt™ be properly secured to the substrate, and is true and plumb. The position of the starting column is generally determined by project-specific factors, such as type of insulation used, size and scale of exterior cladding material, and/or substrate-specific conditions. Generally, projects should start at a termination / transition point.

GreenGirt™ shown on solid substrate construction, installed vertically, with staggered joints. Enlargement shows the 1/16" gap with 1/4" min. continuous bead of approved sealant at each joint, typical. Refer to project-specific conditions, architectural and engineering documents to determine proper starting and spacing.
STEP 1: GreenGirt™ galvanized metal inserts fit into new GreenGirt™, leaving a 1/16” space, with a 1/4” min. continuous bead of approved sealant applied to the adjoining end, with a minimum of 3” overlap (shown on solid substrate wall construction).

STEP 2: The GreenGirt™ pieces are connected with galvanized metal inserts lapped at least 3”, with a 1/4” continuous bead of approved sealant in the 1/16” space between, and approved 1/4” #14 fasteners to stabilize them (shown on solid substrate).
11 System Installation: GreenGirt™

11.5 GreenGirt™ Connections

When connecting two pieces of GreenGirt™, these steps must be followed to ensure a complete bond:

1. Place a 1/4” minimum continuous bead of approved sealant onto the end of the receiving GreenGirt™ (Ref. FIG 11.5.1, p.18).

2. Carefully slide the extended galvanized metal substrate insert and cladding insert into the corresponding channels of the receiving GreenGirt™ with a 1/16” gap and minimum of 3” overlap (Ref. FIG11.5.1, p.18).

3. Fasten the GreenGirt™ through the overlapped galvanized metal inserts into the substrate with approved Tek fasteners (Ref. FIG 11.5.2, p.18).

4. Remove any debris or moisture from the installed GreenGirt™ before continuing to add sealants or insulation panels.

12 System Installation: Insulation Panels

12.1 General Notes

It is important when using the system for this purpose that the detailed installation instructions for SMARTci™ are followed precisely, with no deviation from the suggested methods.

Sequencing the installation of the SMARTci™ system as laid out in this guide, and using only supplied / approved auxiliary materials / accessories, is vital for the function and longevity of the system’s performance and integrity.

SMARTci™ should not be installed in applications below grade, or to damp and/or frozen surfaces. Insulation panels are not intended to be slid into place (Ref. FIGs 12.2.1-12.2.5, pp.20-22 for specific instructions).

- Protect surrounding areas and surfaces from damage.
- Do not apply SMARTci™ insulation panels over walls while they are vulnerable to water intrusion from above or behind.
- Do not block flashing, weeps or other drainage paths with panels.
- SMARTci™ insulation panels should be applied in a running bond pattern using maximum board lengths to minimize number of joints.
- Honor expansion joints as indicated on the drawings. Do not span expansion joints.
- Verify all materials are installed in accordance with current, published literature and local code requirements.
12 System Installation: Insulation Panels

STEP 1: Apply a 1/4" min. continuous bead of approved sealant, at least 2" long in each direction, at all four corners of the panel to be installed, inside the pre-formed center profile channel.

Note! Before installing any insulation panels, previously installed GreenGirts™ must be dry and clean, free from any debris or moisture. Inadequate cleaning could make the panels less effective or prevent a proper bond.

STEP 2: After installing the starting GreenGirts™, clean off all construction debris on the GreenGirts™. There should be no dirt, dust or moisture present when the panel installation begins, which could cause damage and/or compromise their efficiency.
STEP 3: After cleaning all debris and any moisture from the GreenGirl™, Place the SMARTci™ insulation panel firmly into the starting GreenGirl™ member; align the Compression Air Seal into the groove properly. Insert the GreenGirl™ spline into the end vertical channel with a rubber mallet, gently tamping to ensure a snug fit with the corner sealant beads.

Note! Prior to tamping into place, set spline onto GreenGirl™ Compression Air Seal and align with panel channel.

STEP 4: Using a spare piece of GreenGirl™ as a buffer, gently tamp down onto the installed insulation panel with a rubber mallet, ensuring a firm bond, and that no damage is done to the insulation panel.
STEP 5: When installing the next adjacent insulation panel, do not slide the panel into place. Use the spare piece of GreenGirt™ to gently tamp it into place along the length of the top. Use the provided notched tamping block to gently tamp the two panels together to create a firm bond with the Spline between them along the height of the end. Continue installing SMARTci™ insulation panels in this way, bottom to top. Ensure that joints are staggered, and that secure, flush bonds are achieved between full panels.

Note! Upper panel is shown shortened for illustrative purposes

STEP 6: Continue installing the next course of GreenGirt™ above the previously installed insulation panels. Using the provided notched tamping block and a rubber mallet, gently tamp down onto the new girt to ensure a firm bond. The next adjacent piece of GreenGirt™ will be connected at a slight angle above the previously installed insulation panel. To connect GreenGirts™, refer to FiGs 11.5.1-11.5.2 on p. 18.
13 System Installation: Insulation Panel Cutting & Routing

13.1 Custom Panel Cutting

There is a specific sequence to cutting SMARTci™ insulation panels to custom sizes. Once the length, width or both have been determined for the panel, the first step is a standard, straight cut. For installation at foundations, openings, corners, angled roofs or other typical construction details, these flat panel faces need no further routing to be installed correctly.

When cutting panels, do not use knives, razor blades, or hand / reciprocating / jig saws. Use a circular saw with a toothed, plywood-type blade only, and a square to ensure straight, flush cuts of the material (Ref. FIG 13.1.1, p.23). Clean edges of any loose foil pieces before installing the panels as outlined in this guide.

13.2 Custom Panel Routing

The second step in installing custom-sized panels is necessary when the newly-sized panel is connecting to another panel or into a GreenGirt™. Using the provided SMARTci™ Spline Router and SMARTci™ Edge Router profiling attachments, follow the procedures as indicated in FIGs 13.2.1-13.2.4.

Step 1: To cut panels to a custom length or width, use a sturdy, raised surface to support it. Do not cut the panel on the ground, while supported by anything unstable, or individuals. Using a chalk line and square will ensure a clean, straight cut.

FIG 13.1.1
STEP 2: If the new panel is to be connected to another panel along the end(s), run the appropriately-sized SMARTci™ Spline Router squarely along the outside end edges of the insulation panel, in the direction of the arrows located on the router base, to add the channel for the GreenGirt™ Compression Air Seal(s) & spline(s).

A custom-cut spline inserts snugly between GreenGirt™ Compression Air Seals, into the new profile channel of a routed panel.

STEP 3: In the end(s) of the custom cut panel where it is to be connected to another panel, a custom-cut spline must be sized to fit snugly into the newly-routed channel. The spline should fit tightly against the bottom and top Compression Air Seals of the GreenGirt™.
13 System Installation: Insulation Panel Cutting & Routing

**STEP 4:** For a custom-cut panel width, first run the appropriately-sized SMARTci™ Spline Router squarely along the bottom of the insulation panel, in the direction of the arrows located on the router’s base, to create the profile for GreenGirl™ Compression Air Seal.

**Note!** Refer to Insulation Panel Profile, p.9, for proper panel orientation.

**FIG 13.2.3**

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**STEP 5:** Second, follow in the same way the with appropriately-sized SMARTci™ Bottom Profile Router. Ensure that only the bottom of the panel is cut to create a custom-size, as this is the profile created by the supplied router.

**Note!** Refer to Insulation Panel Profile, p.9, for proper panel orientation.

**FIG 13.2.4**

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14 System Installation: Openings Sequence

When using the SMARTci™ system around openings in any structure, it is important to follow the carefully-designed sequence of framing and sealing openings properly. Failure to follow these simple steps may result in building shell vulnerability.

14.1 General Notes

A minimum of 22 gauge galvanized steel should be used to frame openings in conjunction with the SMARTci™ system. All angles are bent at 90° and must be installed from the bottom up, and ship lapped to avoid bucking water, and to create a weather-proof seal. Angle depth should be 1/4” less than the depth of the GreenGirt™ system specified, with a 1/2” space for approved expandable insulation. The assembly should then be sealed with approved tape (Ref. FIGs 14.1.1-14.1.10, pp.26-29).

A full window opening assembly is shown on a solid substrate, with insulation panels cut to fit above and below.
1-Sill: Using an appropriately sized piece of galvanized steel, field cut, notch and bend angle ends up at a 90°, to allow for the ship lap of each jamb angle. Attach to substrate as required (Ref. FIG 14.1.6, p.28 & Detail 4, p.36).

2-Jambs: Using an appropriately sized piece of galvanized steel, field cut, notch and remove end legs, to allow for the ship lap of the sill and header angles. Attach to substrate as required (Ref. FIG 14.1.6, p.28 & Details 2-3, pp.32).

3-Header: Using an appropriately sized piece of galvanized steel, field cut, notch and bend angle ends up at 90°, then cut so that they taper 1/2”-3/4”, front to back. Attach to substrate as required, and add two 1/4” min. continuous beads of approved sealant (Ref. FIGS 14.1.6, 14.1.7, p.28 & Detail 1, p.30). Min. 1/4” bead of approved sealant at outside meeting of header and jamb angles, typical.

Completed opening with custom-cut and routed insulation panels and GreenGirts™, and 1/2” gap filled with expandable sealant (without tape). For taping instructions, see FIG 14.1.1, p.26; FIG 14.1.10, p.29 & Details 1-4, pp.30-37).
All galvanized steel components for openings should be bent at an exact 90° angle to the opening. Installation occurs from the bottom up, ship lapping each new piece to avoid bucking water (Ref. FIGs 14.1.2-14.1.4, p.27).

The outside legs of the galvanized steel header angle are bent upward 90° and cut so that they taper 1/2" to 3/4", front to back, to secure the top insulation panel. A 1/4" min. bead of approved sealant is applied on the seam between the header and jamb angle.
A custom-cut insulation panel section at every opening left jamb is fit and surrounded with 1/2” approved expandable foam sealant, typical.

When installing custom-cut insulation panel segments at the jambs of openings, a 1/2” space must be maintained at the top, bottom and opening side of the segments for approved expandable foam insulation (Ref. Details 2-3, pp.32-35).

A fully-completed, taped opening assembly is illustrated with SMARTci™ installed. Note that all vertical GreenGirts™ are taped, from the bottom up, using approved tape.
15 Construction Details

SMARTci™ - Detail 1: Header with Open Framing
Not to Scale
SMARTci™ - Detail 1: Header with Solid Substrate
Not to Scale
SMARTci™ - Detail 2: Left Jamb with Open Framing
Not to Scale
SMARTci™ - Detail 2: Left Jamb with Solid Substrate
Not to Scale
**SMARTci™ - Detail 3: Right Jamb with Open Framing**

Not to Scale
SMARTci™ - Detail 3: Right Jamb with Solid Substrate
Not to Scale
15 Construction Details

SMARTci™ - Detail 4: Sill with Open Framing

Not to Scale
SMARTci™ - Detail 4: Sill with Solid Substrate

Not to Scale
15 Construction Details

SMARTci™ - Detail 5: Inside Corner with Open Framing
Not to Scale
SMARTci™ - Detail 5: Inside Corner with Solid Substrate
Not to Scale
SMARTci™ - Detail 6: Outside Corner with Open Framing
Not to Scale
SMARTci™ - Detail 6: Outside Corner with Solid Substrate

Not to Scale
SMARTci™ - Detail 7: Parapet with Open Framing

Not to Scale
SMARTci™ - Detail 7: Parapet with Solid Substrate

Not to Scale

MEMBRANE FLASHING (BY OTHERS)

1/2" EXPANDABLE SEALANT (BY OTHERS)

SMARTci™ GREENGIRT ATTACHED TO SUBSTRATE; SPACING AS REQUIRED PER LOADING CONDITIONS AND CODES

APPROVED 1/"-14 LOW PROFILE FASTENERS, MAX. 16" O.C., TYP. (BY OTHERS)

TAPE ALL VERTICAL JOINTS WITH 4" MIN. WIDE APPROVED TAPE; REF. DESIGN GUIDE, FIG. 10.1, P.15

SMARTci™ INSULATION PANEL

SOLID SUBSTRATE
SMARTci™ - Detail 8: Flush Base with Open Framing
Not to Scale
SMARTci™ - Detail 8: Flush Base with Solid Substrate
Not to Scale
SMARTci™ - Detail 9: Notched Base with Open Framing

Not to Scale
**SMARTci™ - Detail 9: Notched Base with Solid Substrate**

Not to Scale