

2414 HARRIS BLVD\_Historic Knippa Huffman Home  
Owner: Mollie & Clay Duckworth  
Architect: Norma Yancey, AIA – Sidetracked Studio  
Contractor: Clay Duckworth – Duckworth Construction

**SCOPE:**

Remove and replace existing brick to all for installation of air & water barrier and cleaning of brick.

The 1927 Knippa-Huffman home was constructed prior to the advent of central heat & air in most Austin residences. Evidence of cyclical moisture presence has been observed from dew point at wall cavity resulting from lack of adequate air & water barrier. There has also been termite damage to some 2x6 sill plates due to damp conditions at sills. Damage was observed following baseboard removal.

The primary objective is to install proper air & water barrier to avoid moisture accumulation in wall cavity. This will also allow for installation of insulation from the exterior as well as a more comprehensive cleaning of the many unwanted layers of paint applied over the years to the masonry veneer.

The interior of the historic home is the original metal lathe and plaster walls. Installation of insulation from the exterior is the only option since a proper air & water barrier must be installed.

**PROCESS:**

The contractor and architect will photo-document the existing conditions including brick coursing and perform detailed counts of brick between window and door openings to ensure proper coursing when the bricks are re-installed.

Existing, historic windows and doors will be retained both in material as well as in placement relative to the building façade. The Mansbendel front door that was stored in the garage since 1954 and restored to its original opening in 2010 will remain as well.

Mortar analysis will be performed to ensure consistent physical attributes of replacement materials. The contractor commits to a meticulous removal, storage, and re-installation of the historic Austin Common masonry veneer. Alternate brick will not be used. The home owner has original bricks stored on site from the 1954 remodel of the residence. These bricks will be used if necessary should any bricks get damaged during the de-installation.

The contractor performed a trial run of brick and mortar removal as part of the new, rear addition scope of work. The bricks came out easily with no issue. These bricks have been cleaned and stored with the bricks from the 1954 remodel noted above.

A careful vetting process went into selecting the appropriate mason to perform the scope of work. Michael Williams has been hired to perform the careful removal and re-installation of the masonry veneer. Mr. Williams has experience working on other historic masonry residences in Austin. A sample of his work can be observed at the corner of Niles & West Lynn.

*-next page-*

In addition to providing a proper air & water barrier and the cleaning of the brick, proper fire-blocking at the mid-floor will be installed as well as blown in insulation at the exterior walls. Lastly, the mason will be use original anchoring method for the re-installation of the Austin Common brick veneer as well as the same tooling at the joints.

## **BUILDING SCIENCE**

The careful removal of the historic Austin Common brick veneer will allow for the contractor to address diffusion, air leakage, and bulk water intrusion inherent in reservoir cladding systems. The contractor will create a drainage plane behind the masonry veneer and install breathable, Delta Vent SA (50 Perm) by Cosella Dorken in conjunction with Stucco & Stone drainage plane and Prosoco stainless base flashing.

*-end-*

## TECHNICAL DATA SHEET

### DELTA®-DRY STUCCO & STONE

Ventilated Rainscreen with Pre-installed Mortar Screen for Manufactured Stone and Conventional Stucco Claddings.

#### MATERIAL

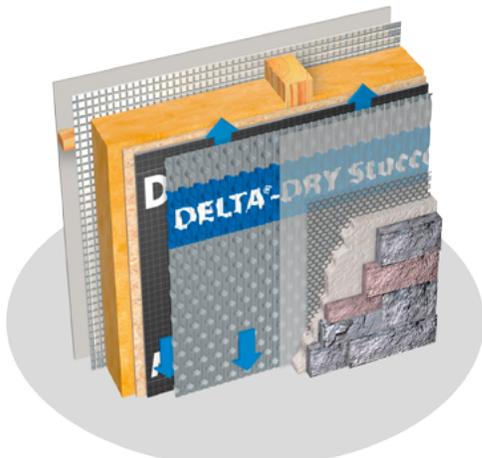
DELTA®-DRY STUCCO & STONE is a 3-dimensional rain-screen membrane made out of a special high-density polyethylene. It provides two-sided drainage and ventilation through its unique dimple and groove design. DELTA®-DRY STUCCO & STONE has a factory pre-installed polypropylene (PP) fabric mortar screen. It is ideal behind absorptive claddings such as manufactured stone veneer and conventional stucco claddings.

#### PROPERTIES

The structured membrane provides drainage and ventilation, as well as a complete capillary break behind the cladding. It protects the building enclosure from bulk water intrusion (i.e. wind-driven rain), and manages water leakage through the cladding. As well, DELTA®-DRY STUCCO & STONE captures and drains transient moisture migrating through the wall structure. DELTA®-DRY STUCCO & STONE provides an air-gap on the interior and exterior side of the membrane for drainage and ventilation. It allows water vapor, driven from the interior to the exterior of the structure, to escape through the ventilated air space between the sheathing board and the membrane. At the same time, DELTA®-DRY STUCCO & STONE minimizes the potential for condensation that could cause damage within the building enclosure. The membrane provides drying potential through ventilation behind any approved exterior cladding. DELTA®-DRY STUCCO & STONE impedes solar-driven moisture towards the interior of the structure as occurs with absorptive cladding materials like adhered manufactured stone veneer and conventional stucco claddings. The mortar screen prevents the scratch coat from filling the drainage grooves of DELTA®-DRY STUCCO & STONE, saving material and speeding the application process.

#### APPLICATION

DELTA®-DRY STUCCO & STONE is installed outboard of the water-resistant barrier over sheathing board. The material cuts easily with a utility knife. Seams are butted together with no overlapping necessary. Wire lath is installed directly over the mortar screen. Manufactured stone and conventional stucco is installed as per manufacturer's instructions over top of DELTA®-DRY STUCCO & STONE.



### Technical Data

Product name	DELTA®-DRY STUCCO & STONE	
Color	Drainage core: silver-gray Geotextile: white	
Material	Drainage core: high-density polyethylene, stabilized (oxidation & UV) Geotextile: polypropylene	
Dimple height	approx. 2/5" (10.5 mm)	ASTM D1777-96
Compressive strength	93 kPa (1,946 psf) @ 8 % strain	ASTM D6364-06
Drainage efficiency	approx. 95%	ASTM 2273
Fungus resistance	Does not support fungus growth	ASTM C1338
Fire resistance	B2	DIN 4102
Flame spread	210	CAN/ULC-S102.2
Smoke developed	105-190	CAN/ULC-S102.2
Water penetration resistance	118 psi (813 kPa) Watertight	AATCC 127
Water vapor transmission	22 ng/(Pa s m <sup>2</sup> )	ASTM E96, Method A
Vapor Permeance	0.14 perms [grains/h/ft <sup>2</sup> /in Hg]	ASTM E96, Method A
Contact surface of rainscreen to WRB	less than 20% greater than 80% open	
Chemical properties	excellent chemical resistance, rot-proof	
Toxicity	non-toxic, non-polluting	
Temperature range	-22°F to +176°F (-30°C to +80°C)	
Weight per unit area	approx. 1.71 oz/ft <sup>2</sup> (525 g/m <sup>2</sup> )	ASTM D5261-92
Roll weight	approx. 18 lbs (8 kg)	
Roll length	46 ft (14 m)	
Roll width	3' 3" (1.0 m)	
Service life expectancy	> 20 years (at pH between 4 and 9). Do not expose to UV light for more than 30 days.	

DELTA® products support sustainable and energy-efficient building practices, including efforts toward achieving LEED® certification (LEED® for New Construction & Major Renovations, LEED® for Core and Shell, LEED® for Existing Buildings and LEED® for Homes).

For technical support, call our technical support team at 1-888-4DELTA4 (1-888-433-5824) extension 326, or visit [www.dorken.com](http://www.dorken.com).



**TECHNICAL DATA SHEET**

**DELTA®-VENT SA**

**Self-Adhered Water-resistive Barrier & Air Barrier**

**MATERIAL**

DELTA®-VENT SA is a 3-layer self-adhered water-resistive barrier (WRB) and air barrier. Its two outer layers are made of a high strength spun-bonded polypropylene (PP) fabric. They are thermally bonded to a highly vapor permeable, watertight polymeric middle layer. DELTA®-VENT SA maintains high vapor permeability and has a full surface coating of a high tack adhesive for bonding to common substrates. It has a split release liner for ease of application. The matte gray color of DELTA®-VENT SA prevents blinding glare during installation.

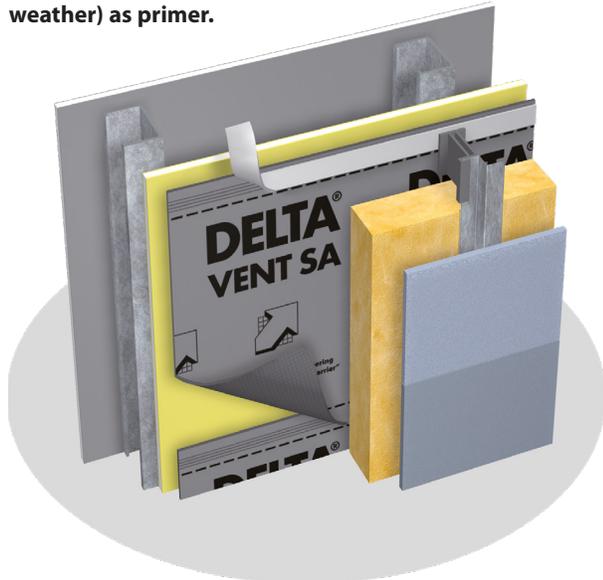
**PROPERTIES**

DELTA®-VENT SA is a vapor permeable WRB, allowing moisture within the building enclosure to escape through the membrane via diffusion. Its permeability and air-tightness make it an ideal air and water-resistive barrier membrane for energy-efficient construction. DELTA®-VENT SA not only passes, but also dramatically exceeds the most stringent requirements of the Air Barrier Association of America (ABAA) and of the National Building Code of Canada (NBC 2010 and NBC 2015) based on the results of ASTM E2357 and CAN/ULC-S742 Standard Test Method for Determining Air Leakage of Air Barrier Assemblies. Full adhesion maximizes air tightness and minimizes fastener penetrations. The product is watertight and protects the building enclosure from wind-driven rain. DELTA®-VENT SA is very light-weight and tear-resistant. This membrane withstands the rigors of jobsites, as well as tough wind and weather. DELTA®-VENT SA is equivalent to a 60 minute Grade D building paper.

**APPLICATION**

DELTA®-VENT SA is installed outboard of the sheathing prior to the application of the final cladding system. DELTA® Accessories complement the WRB / Air Barrier installation. It may be adhered to concrete, masonry, OSB, plywood, or exterior grade drywall.

**Where required, use DELTA®-HF PRIMER DELTA®-ADHESIVE LVC or DELTA®-ADHESIVE (cold weather) as primer.**

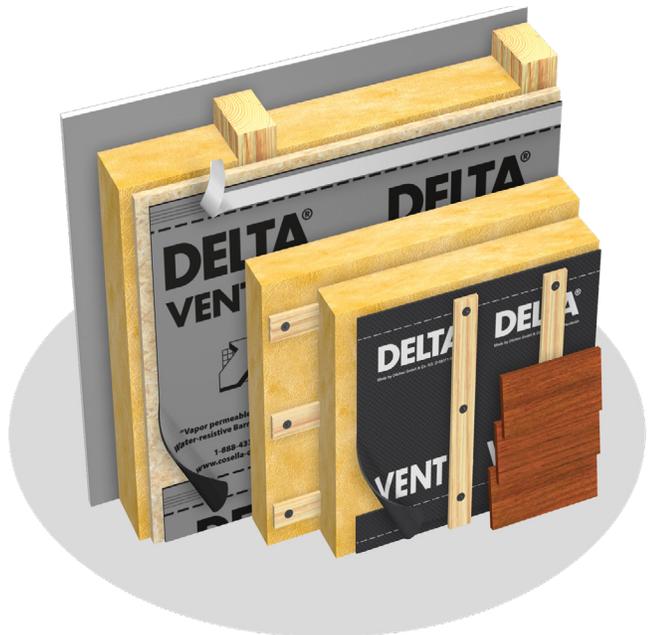


**Technical Data**

Product name	DELTA®-VENT SA	
Color	gray	
Adhesive coating	Full surface coating with vapor permeable pressure-sensitive adhesive	
Water vapor transmission	214 g/m <sup>2</sup> /24 h	ASTM E96-05, Proc. A
	343 g/m <sup>2</sup> /24 h	ASTM E96-05, Proc. B
Vapor permeance	31 perms [grains/h/ft <sup>2</sup> /in Hg]	ASTM E96-05, Proc. A
	50 perms [grains/h/ft <sup>2</sup> /in Hg]	ASTM E96-05, Proc. B
Air Leakage of Air Barrier Assemblies	< 0.2 L/(s·m <sup>2</sup> ) @ 75 Pa (0.04 cfm/ft <sup>2</sup> @ 1.57 lb/ft <sup>2</sup> ) as per ABAA	ASTM 2357-11
Air Leakage of Air Barrier Assemblies	Class A1 Meets the recommendations of NBC 2010, NBC 2015 and ABAA requirements.	CAN/ULC-S742-11
Breaking strength	MD 71 lb	ASTM D5034-95
	CD 65.4 lb	
Elongation at break	MD 27.8 %	ASTM D5034-95
	CD 60.1 %	
90° Peel adhesion	Pass	AAMA 711-5.3 (ASTM D3330)
Accelerated aging (U.V)	Pass	AAMA 711-5.4
Elevated temperature	Pass (Level 3)	AAMA 711-5.5 (ASTM D3330)
Thermal cycling	Pass	AAMA 711-5.6
Adhesion after water immersion	Pass	AAMA 711-5.8
Bent test	Pass	AC-38 3.3.4
Nail Sealability	Pass	ASTM D1970-01
Water resistance hydrostatic pressure	Pass (55 cm > 5 hours) 60 minute Grade D building paper equivalent	AATCC 127-1985
Linear dimensional change at elevated temperature 185 °F (85 °C)	MD -1.4%	ASTM D1204-08
	CD +0.1%	
Resistance to puncture	78.6 lbs (333.1 N)	ASTM E154-99 (10)
Low temperature flexibility	Pass	ASTM D1970-01
Crack bridging ability	Pass -15 °F (-26 °C)	ASTM C1305-06

### LOCKED TIGHT ADHESIVE EDGE

DELTA®-VENT SA has a special edge running along the front side of one long edge. It has a release liner that, when removed, exposes a high tack adhesive. This adhesive bonds tightly and permanently with the next overlapping course of DELTA®-VENT SA, creating a secure and very air and water-tight seal.



### Technical Data

Flame spread	14	ASTM E84-09
	NFPA Class A; IBC Class A	
Smoke developed	47	ASTM E84-09
	NFPA Class A; IBC Class A	
Air permeance	Pass ( $< 0.02 \text{ l}/(\text{s} \times \text{m}^2) @ 75 \text{ Pa}$ )	ASTM E2178 CAN/ULC-S741-08
Application temperature	Minimum 40 °F (5 °C)	
Service temperature	-40 °F to +176 °F (-40 °C to +80 °C) W / Primer	
	-13 °F to +176 °F (-25 °C to +80 °C) W/O primer	
Roll weight	approx. 40 lb (18 kg)	
Roll size	4' 11" (1.5 m), 19.5" (50 cm), 9.75" (25 cm) x 115" (35 m)	
Maximum UV (sunlight) exposure	Always cover as soon as possible. Maximum exposure 50 days.	
DELTA® Accessories	DELTA®-MULTI BAND 2" x 82' (60 mm x 25m) DELTA®-FLEX-BAND 4" x 33' (100 mm x 10 m) 6" x 33' (15 cm x 10 m) 9" x 33' (22 cm x 10 m) 12" x 33' (30 cm x 10 m) DELTA®-FLASHING 6" x 75' (150 mm x 22.8 m) 9" x 75' (230 mm x 22.8 m) DELTA®-FAS CORNER DELTA®-THAN 310 ml (10.9 lf oz) / cartridge and 20.48 fl.oz. (600 ml) (sausage) DELTA®-TILEXX 310 ml (10.9 lf oz) / cartridge DELTA®-HF PRIMER 1.3 gal. (5 L) / pail or DELTA®-ADHESIVE LVC 4.72 gal. (17.9 L) / pail DELTA®-ADHESIVE 4.72 gal. (17.9 L) / pail	

DELTA® products support sustainable and energy-efficient building practices, including efforts toward achieving LEED® certification (LEED® for New Construction & Major Renovations, LEED® for Core and Shell, LEED® for Existing Buildings and LEED® for Homes).

For technical support, call our technical support team at 1-888-4DELTA4 (1-888-433-5824) extension 326, or visit [www.dorken.com](http://www.dorken.com).



Dörken Systems Inc. 4655 Delta Way Beamsville, Ontario L0R 1B4  
1-888-4 DELTA 4, (905) 563-3255 Fax: (905) 563-5582  
info@dorken.com, www.dorken.com

A DÖRKENGROUP company



# R-Guard®

AIR & WATER BARRIER

## SS ThruWall

R-Guard SS ThruWall, stainless steel fabric flashing, is available in two forms – one for standard use and one for coastal regions – each of which is bonded on one side to a layer of polymeric fabric. SS ThruWall is designed for use with cavity wall, masonry veneer construction, and is compatible with PROSOCO R-Guard® building envelope products.

Use SS ThruWall as part of a building-wide R-Guard air barrier system.

### ADVANTAGES

- Made of 60% recycled material – and recyclable itself.
- Non-staining – appropriate for use with limestone.
- Superior puncture resistance and tensile strength.
- Flexible and easy to cut and form by hand.
- Fire resistant – ASTM E 84 tested, Class A material.
- Mold resistant – ASTM D 3273 tested.
- Will not degrade in high temperature application.
- Coastal version available with better chemical resistance to salt corrosion.
- Available in 60-foot rolls in 12-inch, 18-inch, 24-inch, or 36-inch sizes.

### Limitations

- Not for below-grade applications.
- Not recommended for permanent exposure.

### REGULATORY COMPLIANCE

#### VOC Compliance

R-Guard SS ThruWall is not regulated under national, state and district VOC regulations.

### TYPICAL TECHNICAL DATA

FORM	stainless steel sheet with polypropylene coating, silver/gray color
STAINLESS STEEL	Type 304 SS ThruWall
	Type 316 SS ThruWall Coastal
THICKNESS	7 mils
SPECIFIC GRAVITY	8.8–8.9
VOC CONTENT	not applicable
SHELF LIFE	not applicable

### SAFETY INFORMATION

Use personal protective equipment as required. **Gloves are recommended due to sharp edges.**

Always read full label for precautionary instructions before use. Use appropriate safety equipment and job site controls during application and handling.

# Product Data Sheet

## R-Guard SS ThruWall

24-Hour Emergency Information:  
INFOTRAC at 800-535-5053

### PREPARATION

All masonry surfaces receiving through-wall flashings must be free from loose materials, and reasonably smooth. Measures must be taken to ensure free drainage of water to the exterior surfaces of the wall. All work should be executed in conformance with accepted trade practices.

### Surface and Air Temperatures

Surface and ambient temperatures should be 40° F (4° C) and rising and below 110° F (43° C) during application and drying.

### Equipment

Handle with gloves due to sharp edges.

### Storage & Handling

Store in a cool, dry place. Maintain temperature of 40–110° F (4–43° C). Do not double stack pallets. Dispose of unused product and container in accordance with local, state and federal regulations.

### APPLICATION

Read “Preparation” and all Safety Information before use.

**ALWAYS TEST** each surface for desired adhesion results before starting overall application. Test with the same equipment, recommended surface preparation and application procedures planned for general application. Let test application dry thoroughly before performing adhesion tests.

### Packaging & Accessories

Use as packaged. Do not use for applications other than specified.

#### **Stainless Steel Fabric Flashing** (both standard & coastal version)

- 12 inches x 60 feet
- 18 inches x 60 feet
- 24 inches x 60 feet
- 36 inches x 60 feet

#### **Termination Bar:**

1 inch wide x 8 feet long with top sealant lip, 1/4 inch holes every 8 inches (24 gauge), 25 per box

#### **Stainless Steel End Dam:**

4 inches x 4 inches x 4 inches / 100 per box

#### **Stainless Steel Inside Corner:**

4 inches x 6 inches x 6 inches / 100 per box

#### **Stainless Steel Outside Corner:**

4 inches x 10 inches x 6 inches / 50 per box

#### **Standard Clear Weep Vent:**

3/8 inch x 1/2 inch x 3-3/8 inch / 200 per box

#### **Drip Edge:**

3 inches x 8 feet with 30° 1/4-inch lip / 35 per box

### Application Instructions

Provide proper drainage for all flashing installed through masonry veneer. Weep vents should be in the head joints on the first course immediately above the through-wall flashing. Take precautions to keep weep vents free of mortar droppings with weep vent protection materials pursuant to accepted trade practices.

**NOTE:** R-Guard SS ThruWall is wet-set with *either* R-Guard FastFlash® or R-Guard Joint & Seam Filler. References to FastFlash® below can be substituted with Joint & Seam Filler instead.

**Horizontal Masonry Surfaces:** Apply a bead of FastFlash® to the masonry surface. Wet-set SS ThruWall into the FastFlash® and top with a bed of mortar. Recess through-wall flashing on exterior masonry to protect from permanent UV exposure.

**Vertical Masonry Surfaces:** Spot surface with FastFlash® until masonry is set. Use Termination Bar to fasten SS ThruWall to the back wall. Apply a bead of FastFlash® to the top edge of the Termination Bar and tool and seal the joint using a dry trowel or spatula. Create a profile that directs bulk water away from the joint. Allow product to skin over.

#### **Foundation Sill Flashing**

1. Apply a bead of FastFlash® to the masonry surface.
2. Wet-set SS ThruWall in the FastFlash® and top with a bed of mortar.
3. Recess flashing on the exterior face of the masonry and turned up on the inside not less than 2-inches or be carried upward across the cavity a minimum of 6-inches.
4. Secure to the back wall with Termination Bar and FastFlash®. Where sill and column meet, bring flashing up the column a minimum of 10-inches.

**Cavity Wall Flashing:** Wet-set SS ThruWall in FastFlash® and top with mortar. Recess flashing on the exterior face of the masonry wall and across the cavity, upward a minimum of 8-inches and secure to the back wall.

**Spandrel Flashing:** Start from the outside toe of the shelf angle. Apply a bead of FastFlash® and wet-set SS ThruWall. Top with mortar. Proceed up the

# Product Data Sheet

## R-Guard SS ThruWall

vertical face of the beam and then turn up on the inside not less than 2-inches.

**Parapet or Copings:** Wet-set SS ThruWall in FastFlash® and top with mortar. Recess flashing on the exterior face of both sides of the wall.

**Head and Sill Flashing:** Recess SS ThruWall on the outside of the wall or lintel angle, then carry up the wall as indicated. Extend flashing 6-inches beyond each side of the opening and turn up at the sides forming a pan. **NOTE: All end dams shall be folded, not cut.**

**Other Areas:** All membrane flashing at other locations shall be installed in accordance with accepted trade practices and/or as indicated by project drawings.

**Joining of Materials:** Lap the SS ThruWall a minimum of 6-inch. Apply a bead of FastFlash® immediately above and below the edges. Use a dry joint knife, trowel or chipper brush to spread the wet product to create a seamless membrane. Use enough FastFlash® to create an opaque, monolithic flashing membrane free of voids or pinholes.

### Cleanup

For tools and equipment used to apply FastFlash® or Joint & Seam Filler, clean with mineral spirits or similar solvent immediately after use. Follow all safety precautions. Remove cured material mechanically using a sharp-edged tool.

### WARRANTY

The information and recommendations made are based on our own research and the research of others, and are believed to be accurate. However, no guarantee of their accuracy is made because we cannot cover every possible application of

our products, nor anticipate every variation encountered in masonry surfaces, job conditions and methods used. The purchasers shall make their own tests to determine the suitability of such products for a particular purpose.

PROSOCO, Inc. warrants this product to be free from defects. **Where permitted by law, PROSOCO makes no other warranties with respect to this product, express or implied, including without limitation the implied warranties of merchantability or fitness for particular purpose.** The purchaser shall be responsible to make his own tests to determine the suitability of this product for his particular purpose. PROSOCO's liability shall be limited in all events to supplying sufficient product to re-treat the specific areas to which defective product has been applied. Acceptance and use of this product absolves PROSOCO from any other liability, from whatever source, including liability for incidental, consequential or resultant damages whether due to breach of warranty, negligence or strict liability. This warranty may not be modified or extended by representatives of PROSOCO, its distributors or dealers.

### CUSTOMER CARE

Factory personnel are available for product, environment and job-safety assistance with no obligation. Call 800-255-4255 and ask for Customer Care – technical support.

Factory-trained representatives are established in principal cities throughout the continental United States. Call Customer Care at 800-255-4255, or visit our web site at [www.prosoco.com](http://www.prosoco.com), for the name of the PROSOCO representative in your area.

### BEST PRACTICES

All work should be executed in conformance with accepted trade practice.

Provide proper drainage for all flashing installed through masonry. Weep vents should be in the head joints on the first course immediately above the flashing. Take precautions to keep weep vents free of mortar droppings with weep vent protection materials pursuant to accepted trade practice.

**All end dams shall be folded, not cut.**

R-Guard SS ThruWall is wet-set with either R-Guard FastFlash® or Joint & Seam Filler.

Use personal protective equipment as required. **Gloves are recommended due to sharp edges.**

Illustrations depicting the use of PROSOCO R-Guard® products are available at [www.prosoco.com](http://www.prosoco.com) by downloading the R-Guard Installation Guidelines.

To schedule field technical support, contact your PROSOCO Technical Customer Care toll-free at 800-255-4255. Field visits by PROSOCO personnel are for the purpose of making technical recommendations only. **PROSOCO is not responsible for providing job site supervision or quality control.** Proper application is the responsibility of the applicator.