History
Our History

In 1958, Charles W. Weaver and Luke S. Weaver founded Charles W. Weaver, Inc., a residential masonry contracting firm based in Lancaster County, PA. Established on sound morals and impeccable business ethics, three generations of the Weaver family have guided the company to meet the changing demands of the construction industry. Adhering to the values set down by its founders, Weaver has found success as one of the industry's leaders.

In 1985, Weaver Masonry was joined by newly established Weaver Precast, as a way for the company to reenter the residential construction market. Weaver Precast is licensed to manufacture and install the Superior Walls® system and the Epic™ Wall system. Superior Walls® foundation system is designed primarily for below grade basement wall applications in new home construction. A revolutionary product, each foundation is custom made to customer specifications. The Epic™ Wall system, in contrast to Superior Walls®, is an above grade application with a class 5 hurricane wind resistance rating, making it an excellent product for the above ground building markets of Florida and the South.

In 2003 the Weaver Group continued to expand, adding DecoCrete, a decorative stamped concrete fabricating company, to its lineup of divisions. DecoCrete is a process by which color, texture and patterns are placed on freshly poured concrete to create the natural look of brick, slate, stone and tile. DecoCrete by Weaver Concrete Specialties,
Inc. is a partnership between Weaver Group president Gary Weaver and his son Jared Weaver.

Beginning at 67 basements per year in 1985, Weaver Precast has grown to produce and install over 12,000 jobs and over 2,250,000 feet of walls in homes throughout the Mid-Atlantic region. A brand new 69,000 sq. ft. expansion of Weaver's Ephrata production facilities and a new corporate headquarters will allow Weaver to double its capacity and manage the growing business with greater ease and efficiency.

From a small masonry shop in Lancaster County, Weaver Precast has grown to become an innovator and leader in the industry. Manufacturing quality products and providing customers with the highest level of service has built Weaver into a company that is building the future of the building industry.

**Facilities**

Weaver Precast currently operates four production facilities to keep customers supplied with quality products. Two of the facilities, along with corporate headquarters, are located in Pennsylvania. One manufacturing operation in Orlando, FL and one in Spartanburg, SC (opening June 2006) supply the southern markets.

Weaver's Pennsylvania operations include manufacturing of Superior Walls® in Shrewsbury, and a new corporate headquarters and a newly expanded Superior Walls® production facility in Ephrata. Investing over a half million dollars in new state-of-the-art equipment, the new 69,000 sq. ft. expansion of the Superior Walls® production plant includes a central production area, 2 overhead bridge cranes, curing areas, a concrete batch plant, inside trailer loading docks and material handling and storage areas. This addition to the existing manufacturing capacity will triple production at Ephrata and double capacity company wide to meet the growing demand for Superior Walls®.

The manufacturing facility in Orlando, Florida produces the Epic™ Wall system. The Epic™ Wall System has flourished over the last 10 years in the above ground application markets giving Weaver and its southern manufacturing facility a growing customer base in the hot construction markets of the Florida.
Florida Projects

Superior Walls by Weaver Precast of Florida (WPF) cut its teeth in the late 1990’s specializing in track home subdivisions for companies like Ryland Homes and D.R. Horton, building hundreds of homes in a subdivision. As the years passed WPF developed a base of custom home builders while it broadened its product mix. WPF manufactured and shipped Superior Wall, basement walls to South Carolina and Georgia in the early 2000’s in anticipation of Weaver Precast’s newest plant in Spartanburg, SC (opening June 2006). WPF also manufacture commercial projects like tilt-wall concrete buildings and concrete modular classrooms.
While WPF continues to expand its customer base with new track home developers and custom home builders, WPF has also, branched into multistory construction with two and three story custom homes along with high profile town home projects.

Lakewood Forest Development by Whitemark Homes
Near Rte 50 & I417, Orlando 2006

Heritage Keys – 616 Town homes by Land & Co
Rte 192 & FL Turnpike, Kissimmee 2006

Heritage Keys – Installation on May 4, 2006
Rte 192 & FL Turnpike, Kissimmee 2006

2 Story Custom Home by L. Blashin
Altamonte Springs 2005

3 Story Custom Home by M Ray
Panama City, 2006
In February 2006 WPF was asked to participate in *Extreme Makeover: Home Edition* episode 320 ("Rainford Family" of Riviera Beach, Florida) that aired in two back-to-back episodes on March 19, 2006. WPF installed the exterior walls for the Rainford family’s new home in just 2½ hours. The home is for a cancer-stricken man whose dying wish is to fix up his house ravaged by Hurricane Wilma. See additional photos at the home builder’s Extreme Makeover web site – www.extrememajestic.com.
Weaver Group of Companies, Owner: Gary Weaver

Companies:
Weaver Masonry
Weaver Precast
Weaver Precast of FL
Weaver Precast of SC
Weaver Concrete Specialties
We-Mar, Inc.

Address: 824 E. Main St.
Ephrata, PA 17522

Web site: www.weaverprecast.com

Weaver Precast of FL

Contact information:
Superior Walls by Weaver Precast of FL
350 Thorpe Rd
Orlando, FL 32824
800-291-2213 ext 212
www.weaverprecast.com/florida
Benefits
Features and Benefits of the ‘EPIC Wall System’

Homeowner Benefits:
- Increased ‘R’ value: R 15.3 vs R 4.0 with block
- 6” exterior wall thickness vs. 8 ¾” with block
- Added safety factor: Walls tested to 235 MPH wind speed
- EPIC Wall Systems eliminate step and mortar line cracks
- EPIC Wall Systems are installed to exacting standards

Contractor Benefits:
- Reduced cycle time: most houses set in 1 day
- Reduced carrying cost of construction loans
- Increased sales opportunities: upgraded product
- Controlled cost due to ‘Stable’ pricing
- Eliminated dependency on block masons
- Reliable and dependable scheduling
- Furring lath applied
- Eliminate lintel inspection
- Reduced tipping charges: eliminates block waste
CONTRACTOR ADVANTAGES
USING EPIC WALL SYSTEM

- Custom engineering to meet all your design needs
- Outside corners are mitred, bolted and sealed reducing the amount of stucco required
- Higher R-Value than traditional methods reduces HVAC tonnage required
- Trusses set the same day reducing time and carrying costs, and sharing crane costs
- No site waste, eliminating labor and tipping fees
- Several inspections reduced to one, saving time
- Ship lap joints, increase strength between panels and provide a more water tight seal
- Special precast window sills provided
- Wiring installed with ease, no major drilling
- Insulation and furring strips arrive pre-installed eliminating job site work
- Administrative and scheduling burden for multiple trades is reduced
- Superior strength of system compared to traditional methods
- No step/joint cracking from foundation or slab settlement
- High density concrete and superior caulking reduce moisture seepage
- Reduced pest infiltration through monolithic concrete pouring
- Six inch walls instead of eight inch, increasing square footage inside structure
- Safe Rooms available for storm and home infiltration protection

Superior Walls®
by Weaver Precast of FL
WORKSHEET COMPARISON
Masonry (CMU) vs. Weaver Precast – Epic® Wall System

Builder: __________________________________________________________

Home Model: ______________________________________________________

Lineal Feet: ________________________________________________________

MASONRY

<table>
<thead>
<tr>
<th>Item</th>
<th>CMU</th>
<th>EPIC®</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dowel Rods</td>
<td>$</td>
<td>$</td>
</tr>
<tr>
<td>Labor to Place Dowel Rods</td>
<td>$</td>
<td>$</td>
</tr>
<tr>
<td>CMU Materials</td>
<td>$</td>
<td>$</td>
</tr>
<tr>
<td>Precast Lintels and Sills</td>
<td>$</td>
<td>$</td>
</tr>
<tr>
<td>Steel Reinforcement Bars</td>
<td>$</td>
<td>$</td>
</tr>
<tr>
<td>Lintel Concrete</td>
<td>$</td>
<td>$</td>
</tr>
<tr>
<td>CMU Labor</td>
<td>$</td>
<td>$</td>
</tr>
<tr>
<td>Pumping Equipment</td>
<td>$</td>
<td>$</td>
</tr>
<tr>
<td>Yard Waste / Clean-Up</td>
<td>$</td>
<td>$</td>
</tr>
<tr>
<td>Coordination / Scheduling</td>
<td>$</td>
<td>$</td>
</tr>
</tbody>
</table>

Total Masonry Cost: $ ____________

difference: $ ____________

INTERIOR FURING

<table>
<thead>
<tr>
<th>Item</th>
<th>CMU</th>
<th>EPIC®</th>
</tr>
</thead>
<tbody>
<tr>
<td>Materials (Furring Strips)</td>
<td>$</td>
<td></td>
</tr>
<tr>
<td>Labor</td>
<td>$</td>
<td></td>
</tr>
</tbody>
</table>

BENEFITS

- Additional Living Space - Square Feet $ ____________
- Value $ ____________
- No Sill Leaks $ ____________
- No Yard Waste $ ____________
- Less Coordination $ ____________
- More Pest Resistance $ ____________
- Smaller HVAC unit $ ____________
- Ready for Drywall $ ____________
- Greater Insulation Value $ ____________
- Day Delays $ ____________
- Total Saving / Added Values $ ____________

MASONRY TOTAL: $ ____________

(WORKSHEET)
Engineering Calculations
Mr. Weaver,

The following are results of the R & D testing on your Epic Wall System mock-up conducted at our laboratory July 1, 1998.

The Specimen was impacted three (3) times with an 8', 9 pound, 2 x 4 traveling at 50.0 fps (34 mph) twice at center, mid-span (the thinnest part of the assembly) and once at the bottom left corner. At the conclusion of the test the unit was visually examined for signs of damage. It was determined that no penetration, reasure or damage occurred.

The specimen was then subjected to uniform static cycle loading. The pressure was maintained for one (1) second and reduced to zero between each load, performed in a continuous manner.

The results were as follows. D/R 86.6 psf=186 mph wind. Readings taken at center mid span.

<table>
<thead>
<tr>
<th></th>
<th>Deflection</th>
<th>Permanent Set</th>
</tr>
</thead>
<tbody>
<tr>
<td>600 Times</td>
<td>(05 D/R) +65 psf</td>
<td>.130&quot;</td>
</tr>
<tr>
<td>70 Times</td>
<td>(.6 D/R) +78 psf</td>
<td></td>
</tr>
<tr>
<td>1 Time</td>
<td>(1.3 D/R) +130 psf</td>
<td>.212&quot;</td>
</tr>
</tbody>
</table>

At the conclusion of the test the specimen was visually inspected for signs of damage. It was determined that no local yielding or structural duress occurred.

Respectfully submitted

James Bialek
Vice President CTLA
ENGINEERING SPECIFICATIONS FOR WEAVER PRECAST’S EPIC WALL

PRODUCT DESCRIPTION:

HIGH STRENGTH CONCRETE WALLS, DESIGNED TO BE USED FOR RESIDENTIAL AND COMMERCIAL APPLICATIONS.

MATERIALS:

- $f'c= 5000$ psi
- Rebar Grade 60
- Pressure Treated Lumber

GENERAL NOTES:

1. ALLOWABLE LOADS ARE FACTORED; THEREFORE SERVICE LOADS MUST BE FACTORED, $1.2 \times DL + 1.6 \times LL$.
2. THE TABULATED VALUES INCLUDED HEREIN ARE NOT TO BE USED FOR DESIGN. EACH EPIC WALL PANEL IS INDIVIDUALLY DESIGNED FOR THE APPLIED LOADS ON ANY GIVEN STRUCTURE. TABULATED VALUES ARE GIVEN FOR REFERENCE AND FOR GENERAL INFORMATION PURPOSES ONLY.
3. SELF WEIGHT IS INCLUDED IN THE ALLOWABLE LOADS.
4. SAFE LOAD RATINGS BASED ON ACI 318.
5. REBAR PER ASTM A615.
6. ALL HEADERS MEET OR EXCEED L/360.
7. HEADER UNIFORM LOAD CAPACITIES BASED ON WORST FAILURE CASE: BENDING, SHEAR, DEFLECTION.
8. HEADERS LOADED SIMULTANEOUSLY WITH UPLIFT OR GRAVITY AND LATERAL LOADS SHOULD BE VERIFIED FOR COMBINED LOADING WITH THE FOLLOWING EQUATION:
a. **APPLIED VERTICAL LOAD + APPLIED HORIZONTAL LOAD < 1.0**

SAFE VERTICAL LOAD  \hspace{1cm} SAFE HORIZONTAL LOAD

9. **STANDARD EPIC WALLS BELOW DESIGNED FOR A MAXIMUM WIND SPEED OF 130 MPH, EXPOSURE C, IMPORTANCE FACTOR =1**

**HEADER CROSS SECTION:**

![Diagram of header cross section]

**HEADER SAFE LOAD TABLES:**

<table>
<thead>
<tr>
<th>ALLOWABLE UNIFORM LOAD Wu (12x6 2-#4 TOP 2-#4 BTM)</th>
</tr>
</thead>
<tbody>
<tr>
<td>LENGTH (FT-IN)</td>
</tr>
<tr>
<td>----------------</td>
</tr>
<tr>
<td>GRAVITY (KLF)</td>
</tr>
<tr>
<td>UPLIFT (KLF)</td>
</tr>
<tr>
<td>LATERAL (KLF)</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>ALLOWABLE UNIFORM LOAD Wu (16x6 2-#4 TOP 4-#4 BTM)</th>
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</thead>
<tbody>
<tr>
<td>LENGTH (FT-IN)</td>
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<tr>
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<tr>
<td>GRAVITY (KLF)</td>
</tr>
<tr>
<td>UPLIFT (KLF)</td>
</tr>
<tr>
<td>LATERAL (KLF)</td>
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</tbody>
</table>
**ALLOWABLE MOMENT ØMn (12x6 2-#4 TOP 2-#4 BTM)**

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<tr>
<th>LENGTH (FT-IN)</th>
<th>3-0&quot;</th>
<th>5-0&quot;</th>
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<tbody>
<tr>
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<td>16.77</td>
<td>16.77</td>
<td>16.77</td>
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<td>16.77</td>
<td>16.77</td>
<td>16.77</td>
<td>16.77</td>
<td>16.77</td>
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<tr>
<td>LATERAL (K-FT)</td>
<td>8.69</td>
<td>8.69</td>
<td>8.69</td>
<td>8.69</td>
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**ALLOWABLE MOMENT ØMn (16x6 2-#4 TOP 4-#4 BTM)**

<table>
<thead>
<tr>
<th>LENGTH (FT-IN)</th>
<th>8-0&quot;</th>
<th>10-0&quot;</th>
<th>12-0&quot;</th>
<th>14-0&quot;</th>
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<tbody>
<tr>
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<td>45.19</td>
<td>45.19</td>
<td>45.19</td>
<td>45.19</td>
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<tr>
<td>UPLIFT (K-FT)</td>
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<td>22.98</td>
<td>22.98</td>
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<tr>
<td>LATERAL (K-FT)</td>
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<td>12.64</td>
<td>12.64</td>
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</table>

**ALLOWABLE SHEAR ØVn (12x6 2-#4 TCP 2-#4 BTM)**

<table>
<thead>
<tr>
<th>LENGTH (FT-IN)</th>
<th>3-0&quot;</th>
<th>5-0&quot;</th>
<th>7-0&quot;</th>
<th>9-0&quot;</th>
<th>11-0&quot;</th>
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</thead>
<tbody>
<tr>
<td>GRAVITY (KIPS)</td>
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<td>6.72</td>
<td>6.72</td>
<td>6.72</td>
<td>6.72</td>
</tr>
<tr>
<td>UPLIFT (KIPS)</td>
<td>6.72</td>
<td>6.72</td>
<td>6.72</td>
<td>6.72</td>
<td>6.72</td>
</tr>
<tr>
<td>LATERAL (KIPS)</td>
<td>5.41</td>
<td>5.41</td>
<td>5.41</td>
<td>5.41</td>
<td>5.41</td>
</tr>
</tbody>
</table>

**ALLOWABLE SHEAR ØVn (16x6 2-#4 TCP 4-#4 BTM)**

<table>
<thead>
<tr>
<th>LENGTH (FT-IN)</th>
<th>8-0&quot;</th>
<th>10-0&quot;</th>
<th>12-0&quot;</th>
<th>14-0&quot;</th>
<th>16-0&quot;</th>
</tr>
</thead>
<tbody>
<tr>
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<td>8.45</td>
<td>8.45</td>
<td>8.45</td>
<td>8.45</td>
</tr>
<tr>
<td>UPLIFT (KIPS)</td>
<td>8.45</td>
<td>8.45</td>
<td>8.45</td>
<td>8.45</td>
<td>8.45</td>
</tr>
<tr>
<td>LATERAL (KIPS)</td>
<td>7.21</td>
<td>7.21</td>
<td>7.21</td>
<td>7.21</td>
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</tr>
</tbody>
</table>

**BOND BEAM CROSS SECTION:**

![Bond Beam Cross Section Diagram](image)
WALL CAPACITY:

SAMPLE CALCULATION (USING 8 FT HIGH WALL WITH 2” SKIN):

1. LATERAL CALCULATION (F1):
   a. DESIGN PRESSURE ON WALL = 50 PSF * 2 FT * 1.6 = 160 PLF < 278 PLF

2. SHEARWALL CAPACITY (F2):
   a. DETERMINE Vu
   b. DIVIDE Vu BY (WALL LENGTH – OPENINGS) TO DETERMINE PLF, FACTOR LOAD
   c. MULITPLY ALLOWABLE SHEAR (495 PLF) BY AVAILABLE WALL LENGTH AND DIVIDE BY 2 FT, TO DETERMINE ALLOWABLE SHEAR.

3. AXIAL CAPACITY (P):
   a. DETERMINE FACTORED SERVICE LOAD ON WALL.
   b. COMPARE TO ABOVE TABLE.

4. CHECK COMBINED LOADING
   a. F1/F1all + F2/F2all + P/Pall < 1
Two Story Details
# Insulation Calculations

## R Value of Epic Wall

<table>
<thead>
<tr>
<th>Material</th>
<th>&quot;R&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 inches concrete</td>
<td>0.32</td>
</tr>
<tr>
<td>4&quot; styrofoam</td>
<td>15.4</td>
</tr>
<tr>
<td>1/2 inch drywall</td>
<td>0.45</td>
</tr>
<tr>
<td></td>
<td>16.01</td>
</tr>
</tbody>
</table>

## R Value of 5 1/4" x 3 1/2" Concrete Rib + Foam + 1/2 Inch Drywall

<table>
<thead>
<tr>
<th>Material</th>
<th>&quot;R&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 1/2 inches concrete</td>
<td>0.56</td>
</tr>
<tr>
<td>1/2&quot; styrofoam</td>
<td>1.93</td>
</tr>
<tr>
<td>1/2 inch drywall</td>
<td>0.45</td>
</tr>
<tr>
<td></td>
<td>2.94</td>
</tr>
</tbody>
</table>

## R Value of 8" Block + 3/4" Airspace + Insulation + Drywall

<table>
<thead>
<tr>
<th>Material</th>
<th>&quot;R&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td>8&quot; concrete block</td>
<td>1.11</td>
</tr>
<tr>
<td>3/4&quot; airspace</td>
<td>0.17</td>
</tr>
<tr>
<td>Insulation</td>
<td>2.17</td>
</tr>
<tr>
<td>1/2 inch drywall</td>
<td>0.45</td>
</tr>
<tr>
<td></td>
<td>3.9</td>
</tr>
</tbody>
</table>
Superior Walls®
by Weaver Precast of FL

Fire Rating

Epic™
WALL SYSTEMS
FIRE RATING

TABLE 709.2.1.1 (SBCCI CODE)
Rₚ +60  Rₚ^{0.59} = 7.1 FOR 2" CONCRETE

TABLE 709.2.1.4A (SBCCI CODE)
STUCCO ON NON EXPOSED SIDE FACTOR = 1.0
1.0 X 5/8" = 5/8"
2" CONC. + 1" = 3.0" EQUIVALENT CONCRETE THICKNESS

TABLE 709.2.1.2 (SBCCI CODE)
3.0" CONC. = 10.4  53.6^{0.59} = 10.4

TABLE 709.2.1.4AB (SBCCI CODE)
½" DRYWALL

TABLE 709.2.1.2.3 (SBCCI CODE)
INSULATION  Rₚ^{0.59} = 2.5
TIME 53.6 MIN.
TIME 15.0 MIN
TIME 5 MIN
73.6 MIN. TOTAL

FIRE RATING AT RIBS
Rₚ^{0.59} = 15.1 FOR 4 1.4" CONCRETE
TIME 101 MIN. TOTAL
April 5, 2005

Superior Walls of America
Aaron Schoeneberger, Director of Marketing
937 East Earl Road
New Holland, PA 17557

Dear Aaron,

Subject: Extreme Makeover Home Edition

On behalf of Beazer Homes, I would like to thank Superior Walls of America for donating valuable time, resources and personnel for the Extreme Makeover: Home Edition. Beazer Homes was proud to work with Superior Walls of America on the Harper family home.

Building with the industry's leading precast foundation wall system expedited the construction process and added valuable additional living space to the Harper home. Without the use of the Superior Walls precast foundation, this worthy project could not have been completed within the established 5 day time frame. Utilizing the Superior Walls system provided our team the ability to build the Harper's dream home with efficiency and with the highest quality products available on the market today.

Again, we extend our thanks to Superior Walls of America for being a part of the construction of not only a home, but of a new life for the Harper family.

Kind Regards,

[Signature]

Lou Stefens
Division President - Georgia
April 27, 2005

Mr. Tom Adkins  
Weaver Precast of Florida  
PO Box 770760  
350m Thorpe Road  
Orlando, FL 32824

Dear Mr. Adkins:

Our builder, Meiben Homes in Port St. Lucie contracted you to construct and install the precast wall system for our home that is being custom built in St. Lucie West.

I would like to take this opportunity to let you know how pleased we were with Jose and the crew of workers who expertly and diligently put each concrete wall section into place on Monday, April 18, 2005. Your crew of workers are well trained and did whatever it took to satisfy and complete this task the same day. They were extremely courteous and customer friendly, they are a credit to your organization and are the best advertisement for your company.

In addition, your truck driver, while waiting for trailers to unload assisted the construction crew with drilling, fastening and helping out in every capacity there was.

Again I thank you and your staff for a job well done.

Very truly yours,

Barbara Farley

cc: Meiben Homes
September 5, 2002

Weaver Precast of Florida
350 Thorpe Road
Orlando, FL  32824

Attn:  Chris Bryan

Ref:  Product Approval

Dear Mr. Bryan,

The purpose of this letter is to give a response to your questions about approval for your SuperiorWalls and EpicWalls products as they relate to construction within the City limits of Kissimmee. I have had an opportunity to review the engineering and back up information on these products, as well as visiting your manufacturing facilities. Based upon information gathered from the aforementioned, your products would be allowed as an alternate method as defined in Section 103.7.1 of the 2001 Florida Building Code.

Plans submitted utilizing these precast wall sections must be designed by a State of Florida Licensed Engineer or Architect and be submitted in concert with the complete construction blueprint package at the time of permit application. Furthermore, the City of Kissimmee is located within the 110 mph wind zone region, and all systems related to structural design must meet these minimum standards as outlined in the Code. If you have any questions regarding our processes, feel free to contact me at any time.

Sincerely,

James T. Zicaro, CBO
Building Official
November 15, 2002

Attn: Chris Bryan
Weaver Precast of Florida
350 Thorpe Road
Orlando, Fl 32824

Re: Product Approval

Dear Mr. Bryan:

The purpose of this letter is to give a response to your request for approval of Superior Walls and Epic Walls Products as they relate to construction in Osceola County, Florida. I have reviewed the information which was supplied to this office and have also had several members of my Plan Review staff review the information and we are satisfied that the product meets the requirements of the Florida Building Code. Based upon that information and our review, your products will be allowed as an alternate method as defined in Section 103.7.1 of the 2001 Florida Building Code.

When applying for a permit to use either of the systems you would be required to have the design of the structure signed and sealed by a licensed professional engineer or architect in the State of Florida. That information would have to be submitted at the same time as the permit was applied for and will be reviewed as part of your plan review for that project. Please keep in mind that the information submitted must be submitted as it applies to this particular area and our wind load requirements. Should you have any questions concerning this approval please feel free to contact me at 407-343-2276.

Sincerely,

[Signature]
Jeffrey D. DeBoer
Building Official

c: Jose Ramos
   Tom Blair
   Don Middleton
   Roy Stevens
   Roy Jackson
June 10, 2002

WEAVER PRECAST OF FLORIDA
PO BOX 770740
Orlando, Fl. 32877-0760

Dear Vern,

I just wanted to take this opportunity to compliment your product and services. We were very happy with the timing of your deliveries in coordination with our schedules. Observers were amazed how quickly the buildings were enclosed and ultimately completed. We also have been very satisfied with the actual product both structurally and aesthetically.

It has been over a year since we occupied our house and longer since we completed our office building. We have been very satisfied with our utility bills. So much so that we recently built our daughter a new home with Weaver Precast. We have built many other buildings with the insulated precast walls and we have not had any complaints about utility costs. We believe Weaver precast walls are a large contributing factor to the energy conservation of our buildings.

We have other projects planned and naturally Weaver Precast will play a very important role.

Sincerely,

Lawrence M Palombi
Monday, July 22, 2002

Vern Huffines
P.O. Box 770760
Orlando, Fl. 32877

Dear Vern,

Let me take this opportunity to thank you for all of your efforts regarding the Weaver Precast walls in our home. Listed below are some of the advantages we have experienced with The Weaver Precast walls compared to the traditional block construction of our past houses.

Construction Time - Our walls went up in less the time of the block walls we previously used on our other homes. Once the slab was cured, the walls were set the next day.

Efficiency – Efficiency was very important to us when we built this house. After living in the house, we find it much easier to maintain temperature in our new house compared to others we had.

Sound – Our house is very quiet with the Weaver Precast Walls. We live on a corner lot where two streets meet and have yet to hear even a single car go by.

Durability – In Florida there is always the risk of a hurricane. I feel much better knowing my walls are solid and not hollow block. I can say with confidence that I have the most durable house in my neighborhood.

Please feel free to have anyone interested in your product contact me. Thank you again for the quality product and professional services by your company.

Sincerely,

[Signature]

Mike Rublaltus
Peach C. Buencamino
President- Corinthian Homes, Inc.
and
Weaver Precast of Florida, Inc.

We have lived in our new home for one full year and continue to be pleased with the quality construction and careful attention to details. When we purchased our new home we were unfamiliar with the Epic Wall System but after experiencing all four seasons in our new home we are greatly impressed with the system.

One of our concerns in purchasing a larger home was the additional cost of heating and cooling. We have continued to be surprised that our electric bills are very similar to our previous (1,000 sq. ft. smaller) home. We cool and heat our home to very comfortable levels, even more so than in previous homes. Once this house heats or cools to a set temperature, the inside temperature stays noticeably constant. We notice very little change in temperature throughout the day and night due to the insulating capability of this wall system.

On cold, windy winter days we do not notice any drafts. In the previous homes during cold days we would always be aware of “colder” and “warmer” areas inside but in this home this does not occur.

Another outstanding aspect is the “quietness” of this home! No matter what is occurring outside – whether traffic or windy storms with lighting this is by far the quietest home we have ever been inside. This aspect is noticeable not only to us but to almost everyone who has ever visited our home. We rarely notice when our landscape company mows the lawn.

Our home backs up to an extensive wooded area and another concern was controlling insects in a home near woods full of all sorts of bugs, spiders, and scorpions. We do not have any insect problems. We wonder if this is partially a result of the inability of the insects to enter our home due to the wall system.

In the future, we would definitely consider using this wall system when building a new home. The benefits are varied. Potential hurricane damage is always a concern living in central Florida. The fact that the wall system is rated to withstand Force 5 hurricane winds has added to our appreciation of the Epic Wall System. Even without the energy saving features of the wall system, the “quietness” would convince us to include this in home building in the future.

Sincerely,

Charles and Frances Guest
Winter Springs, Florida
September 12, 2000

VIA TELEFAX AND U.S.MAIL  (407) 812-7672

Operations Manager
Weaver Precast of Florida, Inc.
350 Thorpe Road
P.O. Box 770760
Orlando, Florida 32877

Re:        Weaver Epic Wall Systems

Dear Mr. Weaver:

As we discussed the other day in person, I am extremely pleased with the Epic Wall System which was utilized in the recent construction of my new residence. I believe the Weaver Precast Walls promote excellent energy efficiency. Your system, combined with other energy saving features built into my house, has significantly reduced the utility bill in my new home.

For anyone interested in building an energy efficient new residence or commercial building I would highly recommend the Epic Wall System from Weaver Precast.

Should you have any further questions, please do not hesitate to contact me.

Very truly yours,

W. Scott Powell

WSP/cs
Lloyd O. McKenrick, Builder  
13151 SE 120th Street  
Ocklawaha, Fl 32179  
(352) 288-4973

July 2, 2002

Weaver Precast of Florida, Inc.  
PO Box 770740  
Orlando, Fl 32877-0760

Dear Vern & Jerry,

It's been one year now since we moved into our new home and we are so happy with everything, especially the energy bills. We did many things to make our home energy efficient but I believe the best thing we did was use your walls. I think they are great.

If anyone in our area wants to talk to a really satisfied customer, give them my name and number. Thanks for a great job and fine product.

Sincerely,

[Signature]

Lloyd O McKenrick
Quotes
APPLICATIONS

For self-sealing joints in: Manholes, Box Culverts, Double Pours, Containment Structures, Concrete Slabs, Bridge & Deck Abutments, Large Septic Tanks, Wall or Floor Penetrations, Tunnels, Cold Joints, Retaining Walls, Controlled Environment & Utility Vaults, Water & Wastewater Treatment Facilities

A HIGHLY-ADHESIVE SEALING GASKET

ConSeal CS-231 Waterstop is a remarkable, rubber-based product that has been formulated with special, hydrophilic compounds that allow it to expand in a controlled fashion when exposed to moisture, thereby sealing off leaks and restoring long-term, watertight joint integrity. Traditional, clay-based waterstop products, on the other hand, expand uncontrollably and eventually deteriorate, causing a complete loss of joint integrity.

HYDRATION – DEHYDRATION CYCLE TESTING

The test evaluates the integrity of CS-231 Waterstop when exposed to cycles of hydration and dehydration. A cycle consists of nine days full immersion in water followed by five days air drying. ConSeal CS-231 showed no visible signs of deterioration after completion of 10 cycles of exposure.
PHYSICAL PROPERTIES

<table>
<thead>
<tr>
<th>Property</th>
<th>Spec</th>
<th>CS-231</th>
</tr>
</thead>
<tbody>
<tr>
<td>Specific Gravity</td>
<td>ASTM D71</td>
<td>1.35 + 5</td>
</tr>
<tr>
<td>Hydrocarbon content</td>
<td>ASTM D4</td>
<td>47% min.</td>
</tr>
<tr>
<td>Volatile Matter</td>
<td>ASTM D6</td>
<td>1% max.</td>
</tr>
<tr>
<td>Penetration, cone 77°F, 150 gm. 5 sec.</td>
<td>ASTM D217</td>
<td>40 + 5</td>
</tr>
</tbody>
</table>

Application Temperature Range: -10°F to 125°F (-22°C to 52°C)
Service Temperature Range: -30°F to 180°F (-34°C to 82°C)

NSF Certified Standard 61
Safe For Drinking Applications

LIMITED WARRANTY
This information is presented in good faith, but we cannot anticipate all conditions under which this information and our products, or the products of other manufacturers in combination with our products, may be used. We accept no responsibility for results obtained by the application of this information or the safety and suitability of our products, either alone or in combination with other products. Users are advised to make their own tests to determine the safety and suitability of each such product or product combinations for their own purposes. It is the user’s responsibility to satisfy himself as to the suitability and completeness of such information for this own particular use. We sell this product without warranty, and buyers and users assume all responsibility and liability for loss or damage arising from the handling and use of this product, whether used alone or in combination with other products.
MATERIAL SAFETY DATA SHEET

CS-231
Controlled Expansion Waterstop Sealant

PRODUCT IDENTIFICATION

<table>
<thead>
<tr>
<th>H.M.I.S RATING</th>
<th>NFPA RATING</th>
</tr>
</thead>
<tbody>
<tr>
<td>HEALTH : 0</td>
<td>HEALTH : 0</td>
</tr>
<tr>
<td>FIRE : 1</td>
<td>FIRE : 1</td>
</tr>
<tr>
<td>REACTIVITY : 0</td>
<td>REACTIVITY : 0</td>
</tr>
</tbody>
</table>

PRODUCT NAME: CS-231
PRODUCT DESCRIPTION: Hydrophilic Butyl Sealant

HAZARDOUS INGREDIENTS
Not applicable for this product.

HAZARDOUS COMPONENTS
Not applicable for this product.

PHYSICAL DATA

SPECIFIC GRAVITY (H2O=1) : 1.30
VOLATILE (% VOLUME) : 0.00 %
SOLUBILITY IN WATER : Insoluble
EVAPORATION RATE (BuAc=1) : N/A
VOLATILE ORGANIC CONTENT : N/A
APPEARANCE / ODOR : Black tacky solid, slight petroleum odor

BOILING POINT : N/A
MELT / FREEZE PT. : N/A
VAPOR DENSITY : N/A
VAPOR PRESSURE : N/A

FIRE AND EXPLOSION HAZARD DATA

FLASH POINT: 400 °F
METHOD USED: COC

FLAMMABLE LIMITS IN AIR, % BY VOLUME:
UEL UPPER: N/D
LEL LOWER: N/D

Extinguishing Media: Dry chemical, carbon dioxide, foam, water

Unusual Fire and Explosion Hazards: None known

Special Fire fighting Procedures: None Known
REACTIVITY DATA

STABILITY: Stable

MATERIALS TO AVOID: Strong oxidizing agents

CONDITIONS TO AVOID: None known

HAZARDOUS POLYMERIZATION: Will not occur

HAZARDOUS DECOMPOSITION OR BY-PRODUCTS: Upon ignition may form CO₂, CO, and various hydrocarbon fumes.

HEALTH HAZARDS

ACUTE: None known

CHRONIC: None known

SIGNS AND SYMPTOMS OF EXPOSURE: None known

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE: None known

TOXICITY DATA: National Toxicology Program: No
I.A.R.C. Monographs: No
OSHA: No

EMERGENCY AND FIRST AID PROCEDURES:
Eye contact: Flush with warm water for 15 minutes. If irritation persists, contact physician.
Skin contact: Wash contaminated area with soap and water.
Ingestion: DO NOT INDUCE VOMITING, Contact a physician.

ROUTES OF ENTRY:
Inhalation: No
Eyes: No
Skin: No
Ingestion: Not likely
PRECAUTIONS FOR SAFE HANDLING AND USE

Steps To Be Taken In Case Material Is Released Or Spilled: Remove sources of ignition.

Waste Disposal: Dispose of in accordance with local, state and federal regulations.

Precautions to be taken in handling and storage: Rotate stock. Do not stack cartons on end.

CONTROL MEASURES

Respiratory Protection: Not required under normal applications.

Ventilation:
Local exhaust: N/A  Special: N/A
Mechanical: N/A  Other: N/A

Protective Gloves: Chemical resistant, Imperious

Eye Protection: Safety goggles or glasses

Other protective clothing or equipment: N/A

Hygienic Practices: Wash hands with soap and water after working with this material. Practice good personal hygiene.

The information and recommendations provided herein are believed to be accurate at the time of preparation obtained from sources believed to be reliable. Concrete Sealants, Inc., makes no warranty, expressed or implied, concerning this document or the accuracy of the information contained herein.

The information and recommendations contained herein are not intended to relieve the reader of responsibility to investigate and understand the laws, procedures, and regulations applicable to the readers enterprise, not to relieve the reader of responsibility to comply with laws applicable to the readers enterprise and place of business and to verify independently the information provided in this document as it may relate to the reader’s specific process or application.
Chem-Calk® 915

ONE-COMPONENT POLYURETHANE SEALANT, GUN GRADE

PRODUCT NAME
Bostik Chem-Calk® 915—A One-Component Polyurethane Elastomeric Sealant, Gun Grade.

MANUFACTURER
Bostik Findley, Inc.
211 Boston Street
Middleton, MA 01949-2128 USA
Telephone: (888) 603-8558
Technical Service: (800) 523-2678
Technical FAX: (215) 957-0716
http://www.bostikfindley-us.com

PRODUCT DESCRIPTION
Chem-Calk® 915 sealant is a one-component architectural grade polyurethane sealant capable of dynamic joint movement totaling 50% of original joint geometry (±25%). The sealant cures to a tough, flexible rubber when exposed to moisture present in the atmosphere.

Composition:
Chem-Calk® 915 polyurethane sealant has a consistency like toothpaste, its physical properties will remain relatively stable over time and in varying weather conditions. Its physical properties are relatively unchanged over a wide temperature range, -40°F to 150°F (-40°C to 66°C).

Basic Uses:
Chem-Calk® 915 sealant is designed for sealing expansion and control joints in pre-cast concrete panels, for sealing various roofing and siding applications, and for sealing perimeters around doors, windows and other wall penetrations.

Chem-Calk® 915 polyurethane sealant may be factory-applied to seal shop finished products or field-applied to seal erected building components in both new and remedial applications.

The sealant cures to form a durable, flexible, watertight bond with most building materials in any combination including stone, masonry, ceramic, marble, wood, steel, aluminum, fibercement board and many other synthetic materials. In many cases, no primer is required.

Some substrates have variable surface characteristics depending on their source. The unpredictability of such surface characteristics makes it desirable to have a Pretested Adhesion to Substrates Test (PATS Program) on appropriate samples.

Application Limitations:

a) Chem-Calk® 915 sealant is sensitive to UV light. When subjected to UV light, it can superficially change color and not retain its brilliant white characteristics. The change is limited to the surface layer and typically does not compromise its sealing properties. The sealant should be stored in a cool, dark location.

b) Chem-Calk® 915 sealant is not recommended for use in sealing horizontal decks, patios, driveways or terrace joints where abrasion or physical abuse is encountered.

c) Chem-Calk® 915 sealant is not recommended for use in sealing submerged dynamic joints, particularly where porous surfaces permit water infiltration to bond surfaces.

d) Chem-Calk® 915 sealant is not recommended for exterior or interior structural sealing below the waterline in marine applications.

e) Chem-Calk® 915 sealant requires atmospheric pressure to cure properly. It should not be used in totally confined or air free spaces.

f) Chem-Calk® 915 can be applied at lower than optimal temperatures. However, care must be taken to assure that all substrates are free of frost and/or condensation. Lastly, Chem-Calk® 915 cures with reaction with relative humidity, curing times can be extended due to lack of humidity. The sealant should be stored at 40°F (5°C) or above at standard warehouse conditions.

g) Chem-Calk® 915 sealant should not be applied with wet tooling techniques; using solvents, water or detergent/soap solutions is not recommended.

### TABLE 1: CHEM-CALK® 915 TYPICAL UNCURED PROPERTIES*

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
<th>Test Method/Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tool/Work Time</td>
<td>60 minutes</td>
<td>Bostik Test Method</td>
</tr>
<tr>
<td>Skin Time</td>
<td>4 hours</td>
<td>TT-S-00230C/ASTM C 679</td>
</tr>
<tr>
<td>Curing Time @ 77°F</td>
<td>2 - 4 days</td>
<td>Varies w/ relative humidity</td>
</tr>
<tr>
<td>Flow, Sag or Slump</td>
<td>0.1 inch</td>
<td>TT-S-00230C/ASTM C 639</td>
</tr>
<tr>
<td>Staining</td>
<td>None</td>
<td>TT-S-00230C/ASTM C 510</td>
</tr>
</tbody>
</table>

* Values given above are not intended to be used in specification preparation.

### TABLE 2: CHEM-CALK® 915 – TYPICAL PROPERTIES**

(After 14 days cure at 77°F & 50% RH)

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
<th>Test Method/Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hardness (Shore A)</td>
<td>38</td>
<td>ASTM D 2240</td>
</tr>
<tr>
<td>Modulus @ 100% Elongation</td>
<td>65 psi</td>
<td>ASTM D 412</td>
</tr>
<tr>
<td>Tensile Strength</td>
<td>133 psi</td>
<td>ASTM D 412</td>
</tr>
<tr>
<td>Elongation</td>
<td>68.5%</td>
<td>ASTM D 412</td>
</tr>
<tr>
<td>Adhesion in Peel</td>
<td>&gt;25 ppi</td>
<td>TT-S-00230C/ASTM C 794</td>
</tr>
<tr>
<td>Stain</td>
<td>None</td>
<td>TT-S-00230C/ASTM C 510</td>
</tr>
<tr>
<td>Ozone Resistance</td>
<td>Good</td>
<td>TT-S-00230C/ASTM C 719</td>
</tr>
<tr>
<td>Joint Movement Capability</td>
<td>±25%</td>
<td>ASTM C 793</td>
</tr>
</tbody>
</table>

** Values given above are not intended to be used in specification preparation.
TABLE 3:  
CHEM-CALK® 915 – ASTM C-794 ADHESION-IN-PEEL 
TO COMMON CONSTRUCTION SURFACES*

<table>
<thead>
<tr>
<th>Surface</th>
<th>lbs. / Inch</th>
<th>Failure Type and %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mill Finished Aluminum**</td>
<td>10</td>
<td>Adhesive – 100</td>
</tr>
<tr>
<td>Anodized Aluminum</td>
<td>&gt;25</td>
<td>Cohesive – 100</td>
</tr>
<tr>
<td>Steel</td>
<td>15</td>
<td>Adhesive – 100</td>
</tr>
<tr>
<td>Galvanized Steel</td>
<td>&gt;25</td>
<td>Cohesive – 100</td>
</tr>
<tr>
<td>Stainless Steel**</td>
<td>11</td>
<td>Adhesive – 100</td>
</tr>
<tr>
<td>Fiberglass</td>
<td>22</td>
<td>Cohesive – 100</td>
</tr>
<tr>
<td>ABS**</td>
<td>10</td>
<td>Adhesive – 100</td>
</tr>
<tr>
<td>Rigid PVC**</td>
<td>8</td>
<td>Adhesive – 100</td>
</tr>
<tr>
<td>Plywood***</td>
<td>&gt;25</td>
<td>Cohesive – 100</td>
</tr>
<tr>
<td>Concrete***</td>
<td>&gt;25</td>
<td>Cohesive – 100</td>
</tr>
<tr>
<td>Brick</td>
<td>&gt;25</td>
<td>Cohesive – 100</td>
</tr>
<tr>
<td>Granite</td>
<td>&gt;25</td>
<td>Cohesive – 100</td>
</tr>
<tr>
<td>Marble**</td>
<td>&gt;10</td>
<td>Adhesive – 100</td>
</tr>
<tr>
<td>Limestone***</td>
<td>&gt;25</td>
<td>Cohesive – 100</td>
</tr>
</tbody>
</table>

* Values given above are not intended to be used in specification preparation.  
** With primer, value is >25, Cohesive – 100.  
***Peeled values are reduced when unprimed samples are water-immersed.

Applicable Standards:  
Chem-Calk® 915 sealant meets or exceeds the test requirements of TT-S-00230C (COM-NBS) for one-component sealants as Class A, Non-Sag; and conforms to ASTM C920 Standard Specifications for Elastomeric Joint Sealant as Type S, Grade NS, Class 25, Use NT, A and M; Canadian Specification CAN/CSG 19.13.

TECHNICAL DATA

Chem-Calk® 915 polyurethane sealant is resistant to normal weathering conditions such as rain, sunlight, snow, sleet, ultraviolet radiation, ozone, atmospheric contamination, and pollution.

Joints formed with this sealant can be expected to extend and compress a total of 50% of the installation width with no more than 25% movement in a single direction without affecting the seal or adhesive bond.

Chem-Calk® 915 sealant may be used with bulk dispensing equipment. Consult Bostik Technical Services for specific equipment recommendations.

INSTALLATION

Joint Design:
More joint movement can be accommodated in a thin bead of sealant than a thick bead. Chem-Calk® 915 polyurethane sealant should be no thicker than 1/16" (1.7mm) and no thinner than 1/32" (6.4mm). In joints between 1/2" and 1", the ratio of sealant width to depth should be approximately 2:1. Sealant depth in joints between 1/4" and 1/2" should be 1/4" deep. Joints with dynamic movement should not be designed in widths less than 1/4".

Priming:
Chem-Calk® 915 polyurethane weatherproofing sealant generally does not require priming for masonry, anodized aluminum, galvanized steel and many common building materials. If sealant is to be applied to a material with specially treated surfaces or of particularly unusual surface characteristics, consult Bostik for primer recommendations. Prior to any use, however, it is always recommended that a bead of sealant be applied on the surface to test adhesion. See Pretested Adhesion to Substrates Program.

Method of Application:
Install backup material or joint filler, spacer shims and tapes as specified.

Food Status:
Chem-Calk® 915 has no food status. (See Chem-Calk® 1200 silicone sealant or Chem-Calk® 900 polyurethane sealant.)

Packaging:
Chem-Calk® 915 polyurethane sealant is available in 10.3 fl. oz. (304 ml) cartridges, 24 per case; 20 fl. oz. (600 ml) sausage packs, 12 per case (90 cases per pallet); 2 gallon packs, 100 per pallet; and 5 gallon (19 litre) bulk container, 32 pallets per pallet.

Colors:
Chem-Calk® 915 is available in the following standard colors (cartridges):
- White: Stone
- Limestone: Bronze
- Black: Tan
- Aluminum: Stone

Colors available for the Chem-Calk® 915 prefinished CertainTeed WeatherBoards™ FiberCement Siding Program are:
- White: Beige
- Mist: Tan
- Light Gray: Dark Gray
- Sand: Clay
- Blue: Cream

Chem-Calk® 915 colors available for 20 oz. sausages are:
- White: Limestone
- Antique White: Almond
- Aluminum-Stone: Black
- Stone: Tan

h) Chem-Calk® 915 sealant should not be applied to surfaces with special protective or cosmetic coatings without prior consultation of the manufacturer. Such surfaces include, but are not limited to, mirrors, reflective glass, or surfaces coated with Teflon™, polyethylene, or polypropylene.

i) Chem-Calk® 915 Sealant should not be applied to unpredictable absorptive surfaces such as marble, limestone, or granite unless a standard appearance has been agreed on as a result of testing for stain and/or discoloration.

j) Chem-Calk® 915 is paintable when cured with latex-type paints. Oil based paints may not dry properly if applied over Chem-Calk® 915.

k) In general, Chem-Calk® 915 and other one-component urethanes are not designed as glazing sealants in which the adhesive bond to glass is exposed to sunlight. The user or specifier should establish that any application of Chem-Calk® 915 in glazing will not expose the glass bond to appreciable amounts of ultraviolet radiation.
Apply Chem-Calk® 915 polyurethane sealant in a continuous operation using a positive pressure adequate to properly fill and seal the joint. Tool the sealant with adequate pressure to spread the sealant against the backup material and onto the joint surfaces. A tool with a concave profile is recommended to keep the sealant within the joint.

Excess sealant should be dry-wiped from all surfaces while still uncured, following with a commercial solvent such as xylol, toluol, or methyl ethyl ketone. Should sealant accidentally begin to cure on adjacent porous surfaces, the excess sealant should be allowed to progress through the initial cure or setup. It should be removed promptly by abrasion or other mechanical means.

CURED SEALANT IS USUALLY VERY DIFFICULT TO REMOVE WITHOUT ALTERING OR DAMAGING THE SURFACE TO WHICH THE SEALANT HAS BEEN MISAPPLIED.

Precaution:

On contact, uncured sealant causes irritation. Avoid contact with eyes and skin. Contact lens wearers take appropriate precautions. IN CASE OF CONTACT, FLUSH EYES WITH WATER. CALL A PHYSICIAN. Remove from skin with dry cloth or paper towel. KEEP OUT OF REACH OF CHILDREN. Chem-Calk® 915 is manufactured for industrial use only. Use in accordance with Material Safety Data Sheet.

AVAILABILITY

Chem-Calk® 915 polyurethane sealant is available throughout the United States through distributors. For the name of your nearest distributor, contact Bostik at 888-603-8558. For technical support, call (800) 523-2678.

Shelf Life:

When stored at or below 80°F (27°C), Chem-Calk® 915 polyurethane weatherproofing sealant has a shelf life of fifteen months from date of manufacture.

WARRANTY

Limited Warranty:

All statements, technical information and recommendations set forth herein are based on tests which Bostik Findley believes to be reliable. However, Bostik Findley does not guarantee their accuracy or completeness. The buyer should conduct its own tests of this product before use to determine proper preparation technique and suitability for proposed application. Any sale of this product shall be on terms and conditions set forth on Bostik’s order acknowledgment. Bostik warrants that the product conforms with Bostik written specifications, and is free from defects. BOSTIK FINDLEY, INC. DISCLAIMS ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING THE WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE BUYER’S SOLE REMEDY FOR NONCOMPLIANCE WITH THIS WARRANTY SHALL BE FOR THE REPLACEMENT OF THE PRODUCT OR REFUND OF THE BUYER’S PURCHASE PRICE. IN NO CASE WILL BOSTIK FINDLEY, INC. BE LIABLE FOR DIRECT, CONSEQUENTIAL, ECONOMIC OR OTHER DAMAGES.

MAINTENANCE

No maintenance should be needed. If sealant becomes damaged, replace damaged portion. Clean surfaces in damaged area, and repair with fresh Chem-Calk® 915.

TECHNICAL SERVICES

Pretested Adhesion to Substrates (PATS) Program:

The program is intended to eliminate potential field problems by pretesting Bostik’s construction sealants with samples of building materials on which the sealant will be applied. The tests will aid in determining the proper surfaces preparation method, effective solvents for cleaning and whether priming is necessary to achieve optimum adhesion. Following this procedure will remove many of the unknown variables that affect field success.

Test samples or coupons should be identified as to manufacturer, origin, designed use, building project, person and firm originating the request. Appropriate sketches or drawings showing the intended use can be helpful. Contact your local Bostik Findley representative.
Superior Walls®
by Weaver Precast of FL

Insulation/Shims

Epic™ WALL SYSTEMS
Typical Physical Properties
of Carpenter Expanded Polystyrene

Carpenter expanded polystyrene is a rigid, foamed plastic with resilient closed cells in a range of densities, sizes and profiles to meet your application and specifications. The Carpenter EPS production systems have been crafted by the industry’s leader in customer-critical timing technology and innovation. Carpenter customizes production and services to meet your customer’s requirements and exceed their expectations, every day.

Advantages
- Low material and insulation costs
- Wide range of sizes and densities
- Easy to handle and apply
- Consistently well-fused products
- Accurate cuts
- Simple to cut and shape with common tools
- Provides an excellent surface for laminate base
- Accurate piece counts
- Excellent bond with drywall and non-solvent type adhesives
- Clean and odorless
- Restricts moisture penetration

Characteristics
- No CFC’s or HCFC’s
- Low thermal conductivity
- Reflective white color
- Effective over wide temperature range
- High strength-to-weight ratio
- Will not twist or warp under normal use
- Unaffected by vibration
- Minimal dusting
- Resistant to most acids and alkalis
- Does not support bacterial growth

Code Compliance
Carpenter’s EPS can be manufactured to meet ASTM specifications C578-95; Types XI, I, VIII, II or IX. When ordering material please be specific as to which ASTM type product is necessary.

Certain systems are Factory Mutual Approved and are eligible to be UL Classified. Carpenter’s EPS complies with the flammability requirements of BOCA, ICBO and SBCCI building codes. RADCO 3rd party certification on required products.

Dade County Compliance Approval. Please contact your Carpenter representative for details.

CSI Division 7 is applicable to EPS construction products.

www.carpenter.com
# Typical Physical Properties of Carpenter EPS Insulation

<table>
<thead>
<tr>
<th>Property</th>
<th>Units</th>
<th>ASTM Test</th>
<th>Type XI</th>
<th>Type I</th>
<th>Type VIII</th>
<th>Type II</th>
<th>Type IX</th>
</tr>
</thead>
<tbody>
<tr>
<td>Density, Minimum</td>
<td>pcf</td>
<td>D1622</td>
<td>.70</td>
<td>.90</td>
<td>1.15</td>
<td>1.35</td>
<td>1.80</td>
</tr>
<tr>
<td>Density Range</td>
<td>pcf</td>
<td></td>
<td>.70-.89</td>
<td>.90-.114</td>
<td>1.15-.134</td>
<td>1.35-.179</td>
<td>1.80-.2.20</td>
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<tr>
<td>Thermal Conductivity (k Factor)</td>
<td>BTU/hr. (sq. ft.) (F/in.)</td>
<td>C518</td>
<td>.28</td>
<td>.24</td>
<td>.23</td>
<td>.22</td>
<td>.21</td>
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<tr>
<td>Thermal Resistance (R Value)*</td>
<td>at 40°F thickness</td>
<td>3.6</td>
<td>4.17</td>
<td>4.25</td>
<td>4.55</td>
<td>4.76</td>
<td></td>
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<tr>
<td></td>
<td>at 75°F</td>
<td>3.3</td>
<td>3.85</td>
<td>3.92</td>
<td>4.17</td>
<td>4.35</td>
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<tr>
<td>Strength Properties</td>
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<tr>
<td>Compressive 10% Deformation psi</td>
<td>D1621</td>
<td>5.9</td>
<td>10-14</td>
<td>13-18</td>
<td>15-21</td>
<td>25-33</td>
<td></td>
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<tr>
<td>Flexural psi</td>
<td>C203</td>
<td>10-18</td>
<td>25-30</td>
<td>32-38</td>
<td>40-50</td>
<td>55-75</td>
<td></td>
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<tr>
<td>Tensile psi</td>
<td>D1623</td>
<td>14-18</td>
<td>16-20</td>
<td>17-21</td>
<td>18-22</td>
<td>23-27</td>
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<tr>
<td>Shear psi</td>
<td>D732</td>
<td>11-13</td>
<td>18-22</td>
<td>23-25</td>
<td>26-32</td>
<td>33-37</td>
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<tr>
<td>Shear Modulus psi</td>
<td></td>
<td>190-230</td>
<td>280-320</td>
<td>370-410</td>
<td>460-500</td>
<td>600-640</td>
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<tr>
<td>Modulus of Elasticity psi</td>
<td></td>
<td>110-150</td>
<td>180-220</td>
<td>250-310</td>
<td>320-360</td>
<td>460-500</td>
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<tr>
<td>Moisture Resistance</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>WVT perm. in.</td>
<td>E96 (Proc. A)</td>
<td>1.9-3.9</td>
<td>1.2-3.0</td>
<td>1.1-2.8</td>
<td>0.9-2.5</td>
<td>0.6-1.5</td>
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<tr>
<td>Absorption (vol.) %</td>
<td>C272</td>
<td>&lt;4.0</td>
<td>&lt;3.5</td>
<td>&lt;3.0</td>
<td>&lt;3.0</td>
<td>&lt;2.0</td>
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<td>Capillarity</td>
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<tr>
<td>Coefficient of Thermal Expansion</td>
<td>in./(in.) (F)</td>
<td>D696</td>
<td>0.000035</td>
<td>0.000035</td>
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<tr>
<td>Maximum Service Temperature °F</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td>Long-term</td>
<td></td>
<td>167</td>
<td>167</td>
<td>167</td>
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<tr>
<td>Intermittent</td>
<td></td>
<td>180</td>
<td>180</td>
<td>180</td>
<td>180</td>
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<tr>
<td>Oxygen Index %</td>
<td>D2863</td>
<td>24</td>
<td>24</td>
<td>24</td>
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<tr>
<td>Dimensional Stability %</td>
<td>Change</td>
<td>D2126</td>
<td>max.</td>
<td>max.</td>
<td>max.</td>
<td>max.</td>
<td>max.</td>
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<tr>
<td></td>
<td>(Proc.C &amp; E)</td>
<td>2.0</td>
<td>2.0</td>
<td>2.0</td>
<td>2.0</td>
<td>2.0</td>
<td></td>
</tr>
</tbody>
</table>

* R means resistance to heat flow. The higher the R-value, the greater the insulating power.

**Warranty Information**
Carpenter Co. (“Carpenter”) warrants it will replace without charge any Carpenter product that is not merchantable because of defects in materials or workmanship. Notice of a claim under this warranty must be given promptly in writing, in no case later than 45 days after the defect becomes known to the purchaser. THIS EXPRESS WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. THE REMEDY OF REPLACEMENT IS THE SOLE AND EXCLUSIVE REMEDY ARISING FROM THE SALE OF CARPENTER’S PRODUCTS. IN NO CASE WILL CARPENTER BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL LOSS OR DAMAGE, including, without limitation, damage to other property, loss of profits, loss of goodwill, or other economic loss, whether such incidental or consequential loss or damage is claimed on account of breach of warranty, breach of contract, negligence, strict liability in tort, or any other legal theory. GOODS SOLD FOR RESALE ARE ALL SUBJECT TO THESE TERMS, AND ALL OFFERS ARE EXPRESSLY CONDITIONED UPON ACCEPTANCE OF THESE TERMS.

**Warning**
EPS foam is flammable. Modified EPS, like most plastic foams, is flammable. Do not expose EPS to open flames or other direct or indirect high temperature ignition sources such as burning operations, welding, burning cigarettes, space heaters or naked lights. When burning, EPS will consume oxygen, releasing great heat and smoke and potentially toxic gases such as carbon monoxide and carbon dioxide. Do not use, install or store EPS except in strict compliance with BOCA, ICBO or SBC Codes, Code of 1998, and any fire-related laws/ordinances. Failure to comply with these codes/laws may increase the risk of fire and result in personal injury or property damage from smoke, flames or water.

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**Carpenter Co.**
5016 Monument Avenue, Richmond, VA 23228
Phone: 804-359-9800
Toll-free: 800-288-3830
Fax: 804-353-0694

**Plant Locations**
- Fogelsville, PA
  800-380-8004
- High Point, NC
  800-723-1633
- Lakeland, FL
  800-723-7749

www.carpenter.com
**PRODUCT DATA SHEET**

**Korolah Stone Shims**

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**Product Description**

**Dimension:**
- 1/16" x 2" x 2"
- 1/8" x 2" x 2"
- 1/4" x 2" x 2"
- 3/8" x 2" x 2"
- 1/2" x 2" x 2"

**Finish:**
- Korolah plastic
- Molded from a fire retardant engineered copolymer plastic.
- Compressive strength of 10 to 12,000 psi.

**Uses:**
- To level and plumb stone

**Advantages:**
- Simple and economical to install
- Will not corrode in contact with limestone
- Has excellent stability, eliminates rust, stained concrete, etc.
- Extremely long life

**For technical assistance call us toll free at 1-800-659-4731.**
INSTALL 1/2" DIA X 8" SIMPSON TITEN WD @ LOCATIONS SHOWN ON PRINT W/ 3 5/8" MIN. EMBEDMENT INTO EPICORE

"3 BAR X 1/2"
SHOP WELD TO ANGLE

(1) "3 CONT.

"3 BAR CAST 4" INTO BEAM @ 2'-0" O.C.

2" TOPPING

PT 1X6 @ EPIC WALL

4" THICK PRECAST HOLLOWCORE SLAB

3'-0" MIN. BEARING

EXTERIOR WALL
HOLLOWCORE PARALLEL

SCALE: 1/2"=1'-0"
EXTerior wall
HOLLOWCORE PERPENDICULAR
2

scale: 1/2"=1'-0"
Columns
HALF COLUMN #1

ASSEMBLED COLUMN
TOTAL (6) PLACES PER
1 TOP, MIDDLE & BOTTOM
1/2" X 3" BOLT
4" SHORT BRACKET

ASSEMBLED COLUMN
TOTAL (8) PLACES PER
ASSEMBLED COLUMN

(4) #4 REBAR VER.TOP PER HALF COL
HORIZONTALLY
BANDED AT 3/4" C.

2" LONG BKT
W/1/2" X 1/2" WEDGE ANCHOR

(2) PLACES EACH HALF
COLUMN TO FOOTING
BOLT ASSEMBLED

TOTAL (4) PER
CONCRETE COMPRESSIVE STRENGTH
5000 PSI @ 28 DAY

WEAVER PRECAST
OF FLORIDA LLC
NTS

SQUARE COLUMN DL.

5000 PSI @ 28 DAY
CONCRETE COMPRESSIVE STRENGTH

4) #4 REBAR VER. PER COL.

2 MIN EDGE DISTANCE

AT 8" O.C. HORIZONTALLY

#2 REBAR BANDED

BOLT ASSEMBLED
(4) PLACES
W/1/2" X 8" 1/2" WEDGE ANCHOR
2" LONG BKT
Stucco Protocol on EPIC Wall

To apply stucco to the Epic Wall a bonding agent must first be used.

There are two ways to apply stucco over seems and joints.
  1) Use an expansion joint.
  2) Or tack 10” of paper-backed wire mesh centered over the joint.
     Then apply stucco over the mesh.

Keep in mind that the urethane caulk will move when hot or cold. That is why a minimum of 10 inches of paper-backed wire mesh must be tacked over the joint. Same process for corners or a plastic corner bead can be purchased.

Walls are made of 5,000 psi concrete. It can be drilled and Tap-cons are okay. Be sure to use a quality bit that is sharp. A Hilti gun can also be used but we have no recommendation as to which charge to use.

As we are not professional stucco contractors we make no recommendation as to thickness.

Thank you,

Tom Atkins
Plastic Shrinkage Cracks

Shrinkage cracks are fairly common with concrete and not a cause for concern. Although they can be unsightly, they pose no threat of structural damage or potential for leakage. This type of crack is less than 1/16" in width, limited to the surface of the wall and does not run all the way through the wall.

A Superior Wall is manufactured in the horizontal position, with the exterior side of the wall facing up and exposed to the air present in the factory atmosphere. Shrinkage cracking occurs on the surface (while the wall is flat in the form) as the concrete curing process takes place. The exposed surface water evaporates faster than the rising bleed water (from inside the concrete) can replace it. This evaporation will cause the top surface to become less plastic or dry out and stiffen, while the underlying concrete material is still uncured. As the concrete material below cures, it shrinks, putting some stress on the area above that has already started to set, causing the shrinkage cracking.

These cracks do not need any type of repair. However, the customer may want to do some type of cosmetic repair. There are numerous products available, from stucco type materials to elastomeric masonry paints (see chapter 7).

Shrinkage Crack Repair

Below you will find generic descriptions of a few of the repair procedures, however SWA does not have experience with the Epoxy injections, stitching, or drilling and plugging procedures.

1. Epoxy Injection – (expensive, may be limited by ambient temperature, requires high degree of skill)
2. Routing and Sealing – (simplest and most common procedure)
3. Stitching – (tends to stiffen the structure, does not actually close the crack)
4. Drilling and Plugging – (only applicable when cracks run in reasonably straight lines accessible from 1 end)
5. Flexible Sealing – (economical, suitable for active cracks)
6. Grouting – (lack some strength, requires skill for application, works well in fine cracks)
7. Dry Packing – (watertight, durable, should only be used on dormant cracks)

Routing and Sealing
This method involves enlarging the crack along its exposed face and filling and sealing it with a suitable joint sealant. The routing operation consists of preparing a groove at the surface that is sufficiently large to receive the sealant using a concrete saw, hand tools, or pneumatic tools. The surface of the routed joint should be cleaned with an air jet and permitted to dry before placing the sealant. The purpose of the sealant is to prevent water from reaching the reinforcing steel, hydrostatic pressure from developing within the joint, staining the concrete surface, etc. Epoxies and Urethanes are the most common and Urethanes are the easiest to work with.
Grouting

Portland Cement Grouting
This procedure consists of cleaning the area along the crack; installing built-up seats (grout nipples) at intervals astride the cracks; sealing the crack between the seats with cement paint, sealant, or grout; flushing the crack to clean it and test the seal; and then grouting the whole area. Products that may be used include, among others, Blendcrete® or Thoroseal®.

Chemical Grouting
Chemical grouting consists of a solution of two or more chemicals that combine to form a gel, a solid precipitate, or a foam, as opposed to cement grouts that consist of suspensions of solid particles in fluid. The advantage of chemical grouts include their applicability in moist environments, wide limits of control of gel time, and their application in very fine fractures. Disadvantages are the high degree of skill needed, their lack of strength, and the requirement that grout not dry out in service.

Drypacking
Drypacking is the hand placement of a low water content mortar followed by tamping or ramming of the mortar into place, producing intimate contact between the mortar and the existing concrete. Because of the low water-cement ratio of the material, there is little shrinkage, the patch remains tight and is of good quality with respect to durability, strength, and water tightness. Drypacking is not recommended for repairing active cracks. The crack should be prepared by widening the slot to about 1 inch. After the slot is thoroughly cleaned and dried, a bond coat, consisting of cement slurry or equal quantities of cement and fine sand mixed with water to a fluid paste consistency, should be applied. Placing of the dry pack mortar should begin immediately. The mortar consists of one part cement, three parts of sand passing a No. 16 sieve, and just enough water so that the mortar will stick together when molded into a ball by hand. It should be placed in layers. The mortar may be finished by laying the flat side of a hardwood piece against it and striking it several times with a hammer. Surface appearance may be improved by a few light stokes with a rag or sponge float. The repair should be cured by using either water or a curing compound. The simplest method of moist curing is to support a strip of folded wet burlap along the length of the crack.

Settling Walls

Foundation Walls Settling
There are many things to consider prior to installing a foundation. You must account for things like soil bearing values, weather conditions, water tables, and even the type of backfill. Neglect even one of these and any foundation can fail.

Once the walls are cast and set in place, they don’t change unless an outside force causes them to change. Almost every time this happens, the culprit is the soil below the walls. Maybe the walls were set on fill soil. Another possibility is that the contractor or builder may have misjudged the presumptive soil bearing capacities. If the soil capacity is lower than required, the soil will not support the load imposed on it and the walls will settle.

Another possibility is an improperly constructed stone trench footing. If the wrong stone is used or it is improperly vibrated in lifts as required, the stone will settle, allowing the walls to settle also. Another reason for this trench to fail is that it may not have been constructed in undisturbed virgin soil. The bottom of the trench, as well as both sides must be virgin soil. If the trench is in fill soil the stone will migrate into the fill, reducing the stone base, allowing the wall to settle.
Please call us for any further information you may need at:

Weaver Precast of Florida
350 Thorp Road
Orlando, FL 32824

800.291.2213