



Evaluation Service

CERTIFICATION PROGRAM AUTHORIZATION FOR PRODUCT CERTIFICATION

Aerosmith Fastening Systems
5621 Dividend Road
Indianapolis, IN 46241
800-528-8183
www.aerosmithfastening.com

Attn: Spencer Jessee

The Product described below has been evaluated against the 2017 Florida Building Code and has been updated in the *Pei Evaluation Service, LLC* Florida Product Directory. The approval is based on evaluating relevant testing documentation, accompanied by related drawings for the subject product noted below. Independent third party auditing services are provided by *Progressive Engineering Inc.* Third party evaluation services conducted by *Pei Evaluation Service, LLC*, an ISO 17065 Accreditation Body.

1. The Product Evaluation reports known as PER-06014 and PER-07021 be found on website www.p-e-i.com/documents/gripshank.pdf and www.p-e-i.com/documents/SurePin.pdf

RECORD OF PRODUCT TESTING				
COMPANY	Product Category	SERIES MODEL & PRODUCT DESCRIPTION	PRODUCT COMPLIANCE	
Aerosmith Fastening Systems	Structural Components (Anchors)	Gripshank® Pins / Surepin® Fasteners	ASCE 7	2010
			ASTM B117	2016
			ASTM E330	2002
			ASTM D1761	2006

2. This Certification report will expire on **April 30, 2021** and requires on-going third party validation by an accredited evaluation service.

3. Product Tested by: *Progressive Engineering Inc.*

4. Product Reported by: *Pei Evaluation Service, LLC*

5. The product described is designed and manufactured to comply with the requirements of the Florida Building Code. See www.p-e-i.com/reports.html for the approved product installation guidelines as tested by *Progressive Engineering Inc.* Product certification compliance only pertains to the assemblies and actual material tested.

Authorized for Certification



Dated: April 20, 2020

58640 State Road 15 - Goshen, IN 46528
Phone: 574-533-0337 - www.p-e-i.com



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Compliance - Evidence Submitted

1. Test Reports for :

- a. Minimum Design Loads and Associated Criteria for Buildings and Other Structures - ASCE.SEI 7-10
- b. Standard Test Method for Structural Performance of Exterior Windows, Curtain Walls & Doors by Uniform Static Air Pressure Difference - ASTM E330
- c. Standard Test Method for Mechanical Fasteners in Wood - ASTM D1761
- d. Standard Practice for Operating Salt Spray (Fog) Apparatus - ASTM B117

2. Review of Test Standards

The following test standards were reviewed and compared to determine if there were substantial procedural changes between the original test standard and the current test standard. Based on our review, the procedures specified by the original test standard and current test standards listed have remained equivalent. The change that were made do not affect the compliance of the products tested and noted in this compliance certificate.

Florida Building Code

ASTM D1761 (1988)

ASTM B117 (2009)

Current Test Standard

ASTM D1761 (2006)

ASTM B117 (2016)

3. Quality Assurance:

Progressive Engineering Inc.

4. Florida Building Code Statements

This Certificate of Compliance is being issued Per Rule Chapter 61G20-3 Section 61G20-3.005 of the Florida Department of Business & Professional Regulation. As the product certification entity, we certify that the product is in compliance with the requirements of the 2017 Florida Building Code.

5. Limits of Use

- This product is to be installed on framing that is equal to or stronger than the materials listed.
- Product is to be installed on steel framing that is equal to or stronger than the studs listed.
- Product is to be installed only where the product assemblies listed meet or exceed the local wind speed and are in conformance with the 2017 FBC installation requirements.
- Product is not to be used a nail base. Mechanical attachment of Exterior Claddings must be made directly to the framing.
- Fasteners shall be driven flush with the gypsum panel surfaces without countersinking or being deep enough to break the glass mat.



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5. Limits of Use continued.

- Fasteners for wood panel sheathings (plywood and OSB) shall be driven no more than 1/16" from the panel surface with no more than two (2) out of ten (10) fasteners driven great than 1/16" (per APA Technical Note TT-012B, 12/2011)
- Cold Formed Steel Framing (CFSF) shall comply with ICC AC230, October, 2018, section 3.3. for grades, dimensions, mechanical properties (Fy - 50 ksi min.)
- Product(s) shall be stored in the original unopened packaging at the site and store in an enclosed area providing protection from physical dmage and exposure from the elements until use. Products shall be stored to prevent exposure to standing or cascading water.

Product must be installed per Aerosmith Fastening Systems' product literature and specifications.

The independent certifier is not responsible for any product warranty, either expressed or implied. The certification only pertains to the assemblies and actual material tested.

Independent product evaluator is not responsible for any product warranty, either expressed or implied.

Independent product evaluators' liability shall not exceed the amount required to produce this report.

The engineers of record for each specific project is responsible for specifying appropriate use and application of the product tested.

We affirm that the installation instructions as uploaded comply with the evaluation reports as written.

6. Code Compliance

Product meets the 2017 Florida Building Code for the standards evaluated.

7. Product Descriptions:

The VersaPin Gripshank Fasteners are manufactured from AISI C 1060 steel, heat treated to a Rockwell C hardness between 52 and 55, have a minimum tensile strength of 240 ksi and a bending yield strength of 250 ksi. The pins are electro-zinc plated with a chromate rinse, mechanically zinc plated ASTM B633 Type 1 SC, ASTM B695 Type 1 Class 5 or a nickel metal alloy. The plating is a minimum thickness of .0002" thick.

The pins are manufactured with a nominal finished shank dia. of .100" and a nominal head dia. of .250" or .312". The shank has a proprietary thread and the point is ballistic shaped. The approved pins are identified by an **Aerosmith** logo head stamp as shown on pages 5 and 6 of this **Product Evaluation Report**. The pins are collated for powered installation tools.



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7. Product Descriptions cont.:

The **SurePin**[®] Fasteners are manufactured from AISI 1060 steel, heat treated to a Rockwell C hardness between 52 - 55 for the core and a R45N surface hardness between 39 - 50 for the surface, have a minimum tensile strength of 65,000 psi. The pins are electro-zinc plated with a chromate rinse or are mechanically zinc plated or use a nickel alloy electro-plate.

The **SurePin**[®] Fasteners are designed with a smooth shank or smooth step shank profile and a ballistic end point. The pins are manufactured per the nominal dimensions shown in Table 2 and Table 3 of this evaluation report. The pins are identified by the **Aerosmith** logo head stamp shown in Figure 5 of this evaluation report. The pins are collated for powered nail gun application.

8. Framing Materials

Steel Framing

The steel framing shall comply with ASTM A653 with the following minimum steel thickness for each nominal gauge tested.

Table 1 - Ultimate Withdrawal Values for Gauge Steel Framing

Steel Gauge	Minimum Thickness	Gripshank Ultimate Withdrawal Values	Helical Ultimate Withdrawal Values
14	.071"	596 lbs.	351 lbs.
16	.055"	449 lbs.	330 lbs.
18	.045"	337 lbs.	235 lbs.
20	.037"	284 lbs.	--

Approved Siding Material

James Hardie Building Products 5/16" Hardipanel[®] Vertical Siding & 5/16" Hardiplank[®] Lap Siding or equivalent. The siding is to be installed using the siding manufacturer's installation instructions and Gripshank Fasteners. The minimum steel thickness to be used is 20 gauge.

Approved Exterior Sheathing

DensGlass Gold Exterior Sheathing 1/2" and 5/8" Fireguard Type X. The sheathing is to be installed using the sheathing manufacturers Installation Instructions and **Gripshank** Fasteners. The cold-formed steel studs shall have a minimum 20 gauge thickness.

The Sure-Board Series 200W Structural Panel 5/8" or 1/2" thick Type X gypsum board adhered to 22 ga. Steel. Aerosmith pins shall be installed in compliance with manufacturers Installation Instructions. The minimum steel thickness to be used is 20 gauge.



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8. Framing Materials continued

Approved Plywood Sheathing

Plywood sheathing complying with USDC Product Standard PS-1 or PS2-92 (UBC Standards 23-2 or 23-3). **Aerosmith** pins shall be installed in compliance with manufacturers Installation Instructions. The cold-formed steel studs shall have a minimum 20 gauge thickness.

Approved Structural Cement Panel

USG Structural Panel Concrete Subfloor and Concrete Roof Deck 3/4" Structural Cement Panel reinforced with fiberglass strands. The sheathing is to be installed using the sheathing manufacturers Installation Instructions and **Gripshank Fastener 2385A** (0.100" x 1-1/2") only. Applies to installation on 16 gauge, 50 ksi cold-formed steel only.

9. Approved Gripshank Pins

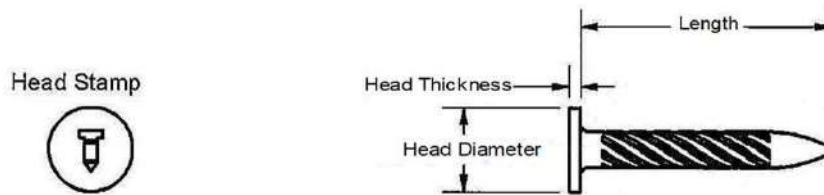


Figure 1 - Profile of Approved Helical Pins per Table 1

Table 2 - Aerosmith Helical Pins Nominal Dimensions^{1,2}

Approved Pin	Head Diameter	Head Thickness	Length
2191 Z or AG ²	0.250	0.035	0.750
2351 Z or AG/SG ²	0.250	0.035	1.375
2501 Z or SG ²	0.250	0.035	2.000
2631 Z or SG ²	0.250	0.035	2.500

Notes:

1. Z - Zinc coated pin
2. AG - SG - Aerosmith alloy plating PT2000™ coated pin



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9. Approved Gripshank Pins continued

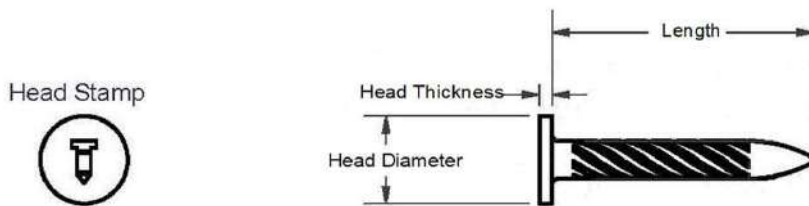


Figure 2 - Profile of Approved Gripshank Knurled Pins per Table 2

Table 3 - Aerosmith Gripshank Knurled Pins Nominal Dimensions^{1,2}

Approved Pin	Head Diameter	Head Thickness	Length
2192 Z or AG/SG ²	0.250	0.035	0.750
2352 Z or AG/SG ²	0.250	0.035	1.375
2502 Z or SG ²	0.250	0.035	2.000

Notes:

1. Z - Zinc coated pin
2. AG - SG - Aerosmith alloy plating PT2000™ coated pin

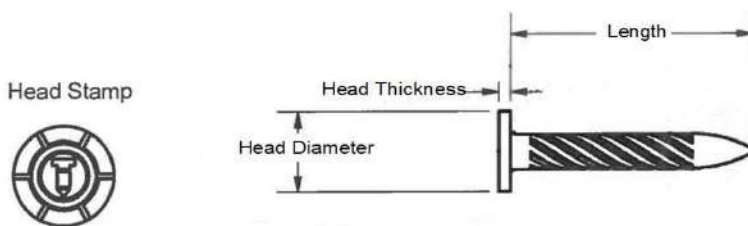


Figure 3 - Profile of Approved Gripshank Knurled Pins per Table 3

Table 4 - Aerosmith Gripshank Knurled Pins Nominal Dimensions^{1,2}

Approved Pin	Head Diameter	Head Thickness	Length
2255 AG ²	0.312	0.035	1.000
2325 Z or AG ²	0.312	0.035	1.250
2385 Z or AG ²	0.312	0.035	1.500
2505 Z or SBG ²	0.312	0.035	2.000
2635 Z or SBG ²	0.312	0.035	2.500

Notes:

1. Z - Zinc coated pin
2. AG or SBG - Aerosmith alloy plating PT2000™ coated pin



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9. Approved Gripshank Pins continued

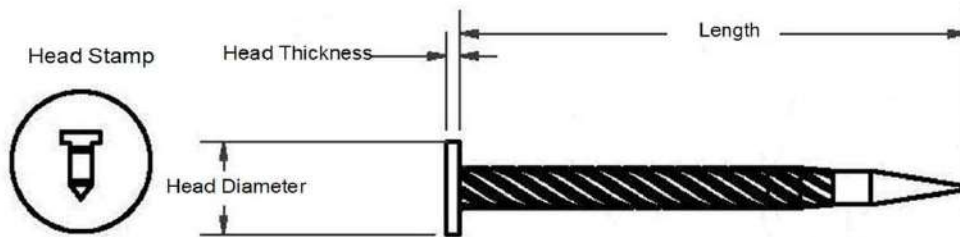


Figure 4 - Profile of Approved Gripshank Knurled Pins with Super Sharp Point per Table 4

Table 5 - Aerosmith Gripshank Knurled Pins with Super Sharp Point Nominal Dimensions^{1,2}

Approved Pin	Head Diameter	Head Thickness	Length
2229 G	0.250	0.035	0.875
2359 G	0.250	0.035	1.375
2389 G	0.250	0.035	1.500
2509 G	0.250	0.035	2.000
2639 G	0.250	0.035	2.500

Notes:

1. AG or SBG - Aerosmith alloy plating PT2000™ coated pin

10. Approved SurePin Smooth Pins

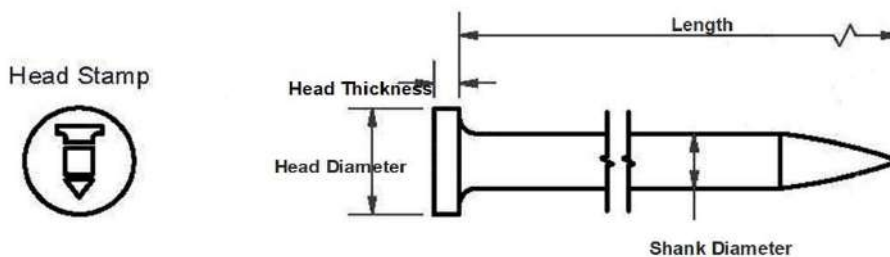


Figure 5 - Profile of Approved Smooth Pins per Table 2



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10. Approved SurePin Smooth Pins continued

Table 6 - Aerosmith SurePin® Smooth Pin Nominal Dimensions¹

Approved Pin	Head Diameter	Head Thickness	Length	Shank Diameter
5193Z Smooth Galvanized Pin	0.300"	0.070"	0.750"	0.145"
5253Z Smooth Galvanized Pin	0.300"	0.070"	1.000"	0.145"
5323Z Smooth Galvanized Pin	0.300"	0.070"	1.250"	0.145"
5383Z Smooth Galvanized Pin	0.300"	0.070"	1.500"	0.145"
5453Z Smooth Galvanized Pin	0.300"	0.070"	1.750"	0.145"
5503Z Smooth Galvanized Pin	0.300"	0.070"	2.000"	0.145"
5573Z Smooth Galvanized Pin	0.300"	0.070"	2.250"	0.145"
5633Z Smooth Galvanized Pin	0.300"	0.070"	2.500"	0.145"

Note:

1. Z - Zinc Coated Smooth Pin



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11. Table 7 Test Results - ASTM E330

Table 7 - Allowable Design Pressure Based on ASTM E330 Tests

Siding Type & Dimensions	Nominal Head Diameter	Fastener Spacing	Gage - Tensile Strength	Stud Size	Stud Spacing	Design Load
5/8" Densglass Fireguard Gold Type X	.312"	8" o.c. Perimeter 8" o.c. Field	16 ga. - 50 KSI	1-3/8" x 3-5/8"	16"	38.1 psf
5/8" Densglass Fireguard Gold Type X	.312"	8" o.c. Perimeter 8" o.c. Field	16 ga. - 33 KSI	1-3/8" x 3-5/8"	24"	40.3 psf
5/8" Densglass Fireguard Gold Type X	.312"	8" o.c. Perimeter 8" o.c. Field	18 ga. - 33 KSI	1-3/8" x 3-5/8"	24"	25.5 psf
5/8" Densglass Fireguard Gold Type X	.312"	8" o.c. Perimeter 8" o.c. Field	22 ga. - 33 KSI	1-3/8" x 3-5/8"	24"	24.7 psf
5/8" GlasRoc Sheathing Panels	.312"	8" o.c. Perimeter	22 ga.	--	24"	21.6 psf
5/8" GlasRoc Sheathing Panels	.312"	8" o.c. Perimeter	18 ga.	--	24"	21.8 psf
5/8" GlasRoc Sheathing Panels	.312"	8" o.c. Perimeter	16 ga.	--	24"	21.5 psf
5/8" GlasRoc Sheathing Panels	.312"	8" o.c. Perimeter	16 ga.	--	16"	34.2 psf
5/8" GlasRoc Sheathing Panels	.312"	6" o.c. Perimeter	16 ga.	--	24"	25.6 psf
5/8" USG Sheetrock Type X Gypsum	.312"	8" o.c. Perimeter 8" o.c. Field	22 ga. - 33 KSI	1-3/8" x 3-5/8"	24"	22.9 psf
1/2" Densglass Gold	.312"	8" o.c. Perimeter 8" o.c. Field	22 ga. - 33 KSI	1-3/8" x 3-5/8"	16"	23.3 psf
1/2" GlasRoc Sheathing Panels	.312"	8" o.c. Perimeter	22 ga.	--	16"	21.7 psf
5/8" USG Securock Firecode X Glass-Mat Sheathing	.312"	6" o.c. Perimeter 4" o.c. Center of Field Stud	18 ga.	1-5/8" legs	24"	32.8 psf
5/8" USG Securock Firecode X Glass-Mat Sheathing	.312"	6" o.c. Perimeter 4" o.c. Center of Field Stud	16ga.	1-5/8" legs	24"	35.3

Notes:

- Pins were installed 3/8" from panel edge & 2" from corners.
- The values in this table are based on testing per ASTM E330, and represent the capacity of the sheathing to resist flexural failure or fastener pull-through using a 2.5 Safety Factor. Framing design is the responsibility of the Designer of record.
- Table 9 shows Seismic and Wind Shear Wall values using Aerosmith Brand Pin Fasteners in Cold Formed Steel Framing. The maximum aspect ratio considered is 2:1. A Simpson Strong-Tie model HTT4 Tension Tie (or equivalent) is required at both ends of the wall and must be installed per manufacturer's installation instructions. All steel must be a minimum of 50 ksi.



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12. Table 8 ASCE 7-10

Table 8. Gripshank Fasteners

Maximum Allowable Wind Speed (mph-3 second gust) Based on **2018 IBC** section 1609.1.1 (ASCE 7 - 10)

Siding Type & Dimensions	Nominal Head Diameter	Nailing Method	Stud Spacing	Zone	Exposure				
					B	C		D	
					<30'	15'	30'	15'	30'
48" x 96" Hardipanel Vertical Siding	.250"	Face	16"	4	120	110	100	100	100
				5	110	100	90	90	90
48" x 96" Hardipanel Vertical Siding	.250"	Face	24"	4	110	100	90	90	90
				5	100	90	85	85	-
5/16" tk. x 6-1/4" wide Hardiplank Lap Siding	.250"	Face	24"	4	170	150	150	140	130
				5	150	140	130	130	120
5/16" tk. x 7-1/4" wide Hardiplank Lap Siding	.250"	Face	24"	4	150	140	130	120	120
				5	130	120	110	110	100
5/16" tk. x 8-1/4" wide Hardiplank Lap Siding	.250"	Face	24"	4	130	120	110	110	100
				5	120	110	100	100	90
5/16" tk. x 5-1/4" wide Hardiplank Lap Siding	.312"	Blind	24"	4	140	-	-	-	-
				5	125	-	-	-	-
5/16" tk. x 6-1/4" wide Hardiplank Lap Siding	.312"	Blind	24"	4	120	110	100	100	90
				5	110	100	90	90	85
5/16" tk. x 7-1/4" wide Hardiplank Lap Siding	.312"	Blind	24"	4	90	85	-	-	-
				5	85	-	-	-	-
5/16" tk. x 8-1/4" wide Hardiplank Lap Siding	.312"	Blind	24"	4	85	-	-	-	-
				5	-	-	-	-	-
5/16" tk. x 6-1/4" wide Hardiplank Lap Siding with 15/32" Plywood Underlayment	.312"	Blind	24"	4	120	110	100	100	100
				5	110	100	90	90	90

1. For Vertical Siding, pins were set 8" o.c. in the field, 4" o.c. around the perimeter, 3/8" from panel edge & 2" from corners.
2. For Lap siding, butt joints were placed at 1/3 and 2/3 of wall height, siding was overlapped 1-1/4", and pins were set at 3/8" from siding end and 3/4" up from bottom edge.
3. All siding used Gripshank fasteners, 20ga x 33ksi CWN C-studs (depth = 1-3/8", flange = 3-5/8", and a return = 3/8"), wall heights for the above values = 30ft or less.
4. Zone 4 is the interior section of the wall between Zone 5s & Zone 5 is the section within a minimum of 3 ft. of all corners.



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13. Table 9 Unadjusted Shearwall Static Test Results using Gripshank® Pins

Table 9 - Unadjusted Shearwall Static Test Results using Gripshank® Pins

Maximum Allowable Shear for Plywood Shear Walls using .100" Pins (lbs. per foot)								
Plywood Grade	Framing Spacing	Minimum Steel Gauge	Minimum Panel Thickness	Pin Spacing				
				6" on Edge	4" on Edge	3" on Edge	2" on Edge	4" on Edge
				6" in Field	6" in Field	6" in Field	6" in Field	8" in Field
Structural I	24"	20 ga., 33 mils	3/8"	155	235	310	395	---
	24"	20 ga., 33 mils	7/16"	170	255	340	435	---
	24"	20 ga., 33 mils	15/32"	205	305	410	520	---
Grades other than Structural I	24"	20 ga., 33 mils	3/8"	140	210	280	360	---
	24"	20 ga., 33 mils	7/16"	155	230	310	390	---
	24"	20 ga., 33 mils	15/32"	185	275	370	470	---
APA Rated Sheathing	16"	16 ga., 54 mils	19/32"	---	---	---	---	551.9 using 3x safety factor

Notes:

1. Values listed are test values and have not been changed by wind or seismic adjustment factors.
2. The minimum panel edge distance for pin placement is 3/8 inch
3. The track-to-stud connection is permitted to be any means of one .100" diameter by 3/4" long Aerosmith pin at each track-to-stud connection, for a total of two at each end to each stud.
4. Nominal head diameter is .250".



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14. Performance Testing on SurePin® Fasteners

Table 10 - Performance Testing on the following SurePin® Fasteners

Approved Fastener ^{1,2}	Minimum Penetration Depth	Ultimate Load ³ (lbf)	Design Load ⁴ (lbf)
Aerosmith 5323HP - 1-1/4" Smooth Galvanized Pin	3/4" -- 1"	1165.51	233.10
Aerosmith 5503HP - 2" Smooth Galvanized Pin	1-1/8" -- 1-3/16"	1168.83	233.77

Notes:

1. 5323HP Pin installed using the MAX HN-120A Pneumatic Nail Gun.
2. 5503HP Pin installed using the Hitachi NR 90AE -- 3-1/4" Round Head Framing Nail Gun.
3. Ultimate load is based on installation of the fastener embedded into concrete block at web center.
4. Design load is based on installation of the fastener embedded into concrete block at web center calculated with a 5.0 factor of safety.