



Pei Evaluation Service® is an accredited ISO Standard 17065 Product Certifier, accredited by the IAS. This **Product Evaluation Report** represents a product that Pei ES has Evaluated. This product has a Product Evaluation Service Agreement & Follow-up Inspection Service Agreement. This **Product Evaluation Report** in no way implies warranty for this product or relieves **Aerosmith Fastening Systems** of their liabilities for this product. This **PER** is an official document if it is within one year of the initial or re-approval date.

Initial Approval
September, 2007

Re-Approved
May, 2018

See all Pei ES Listings at: www.p-e-i.com

Report Owner

Aerosmith Fastening Systems
5621 Dividend Road
Indianapolis, IN 46241

Approved Manufacturing Locations

Pei ES has on file a list of each approved manufacturing location and which product is approved to be manufactured at each location.

Product

SurePin® Pneumatic Fasteners

For Evaluation Report Questions

www.aerosmithfastening.com
Aerosmith Contact: Robert Shluzas
Phone: (800) 528-8183

General Details

The **SurePin®** Fasteners are manufactured by independent companies. Any company manufacturing product for **Aerosmith**, that is intended to be evaluated by this **PER**, has an agreement in place and has been previously inspected by **Pei** and approved by **Pei ES**.

Listing Details

SurePin® Fasteners are pneumatically driven steel pins used to attach cement fiberboard siding and sheathing materials direct to concrete block. The smooth portion of the shank must be embedded into the concrete per requirements of Table 1 of this evaluation report for approved depth penetration into the concrete.

Product Description

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 1 and Figure 2 of this evaluation report. The pins are collated for powered nail gun application.

General Product Usage and Limitations

1. The **SurePin®** Fasteners are limited to use in resisting negative wind forces evaluated in this **PER**.
2. Fire Rated assemblies are outside of the scope of this **PER**.

Code Compliance

2009 International Residential Code	2012 International Residential Code	2015 International Residential Code
2009 International Building Code	2012 International Building Code	2015 International Building Code
1997 Uniform Building Code	2010 National Building Code of Canada	

2012 / 2015 IBC

Section 1404.10 - Fiber cement Siding to meet ASTM C1186, Type A or ISO 8336 Category A (min. 1/4" thick per table 1405.2) and must be identified on label listing an approved quality control agency.

Section 1405.16 - Fiber cement siding shall be installed in accordance with the approved manufacturer's instructions.

Section 1405.17 - Shall be securely fastened using zinc coated or other **approved** corrosion resistance fasteners per Table 2304.9.1 / 2304.10.1 (for wood construction) or manufacturer's instructions.

2012 IRC

Masonry Walls **MUST** conform to IRC Sections R606 - R609.

Exterior wall coverings must conform to IRC Section R703

R703.4 / R703.3.2 - Wall covering attachment per Tables R703.4 / R703.3(1) for attachment to wood framing or with **approved** corrosion resistant fasteners.

R703.10 - Fiber cement siding to meet ASTM C1186, Type A, minimum Grade II or ISO 8336, Category A, minimum Class 2 with installation per approved manufacturers instructions and Section R703.1.

Note: Designers, Engineers, and installers shall install the fasteners at a spacing that meets the wind pressure requirements of the applicable code.

2015 IRC

Masonry Walls MUST conform to IRC Sections R606.

R703 - Wall covering attachment per Tables R703.3(1) / R703.3.2 for attachment to wood framing or with **approved** corrosion resistant fasteners.

2010 NBC

Section 9.27.5.4 - Attachment of Cladding - Sheet Type Cladding - 2" Minimum fastener length for Cladding that exceeds 7mm thickness, Max Spacing is 12". (≥ 7mm thick cladding minimum fastener length is 1.5")

Section 9.27.5.5 - Nails or staples for the attachment of cladding and wood trim shall be corrosion-resistant and shall be compatible with cladding material.

Section 9.27.5.7 - Fasteners for cladding other than that described in Sentence (1) shall penetrate through the nail-holding base or not less than 25mm into the framing.

Tested to

ASTM E488-96 Section 5.2 - Standard Test Method for Strength of Anchors in Concrete and Masonry Elements.

Table 1 - ASTM E488-96 Section 5.2 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.

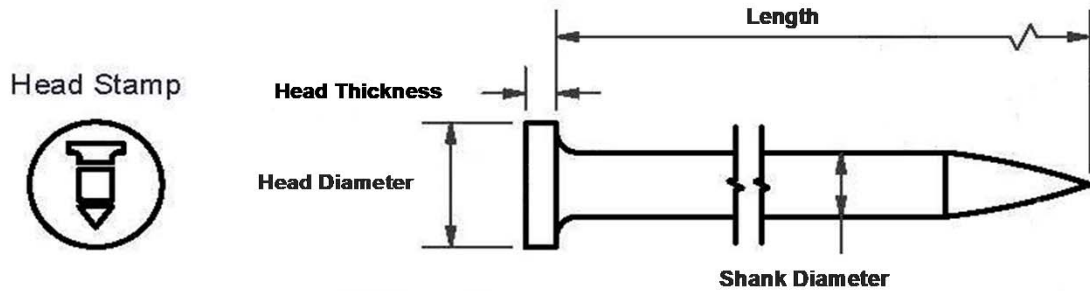


Figure 1 - Profile of Approved Smooth Pins per Table 2

Table 2 - 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"
2253Z Smooth Galvanized Pin	0.250"	0.060"	1.000"	0.102"

Note:

1. Z - Zinc Coated Smooth Pin

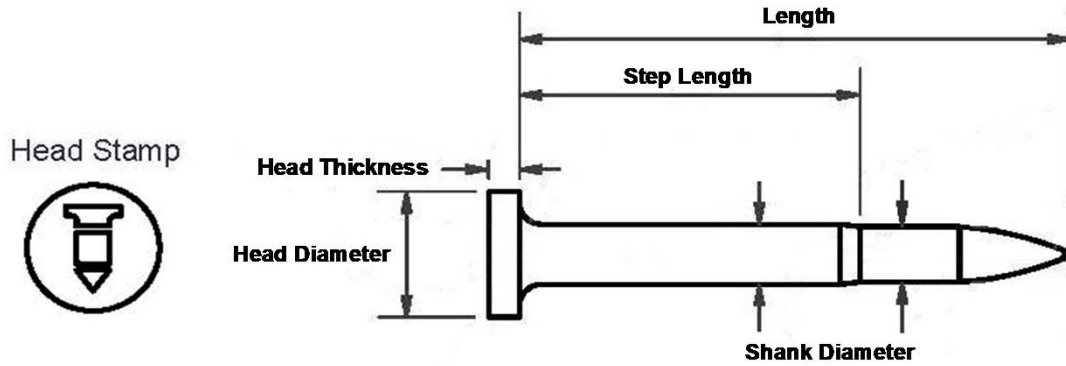


Figure 2 - Profile of Approved Smooth Step Pins per Table 3

Table 3 - Aerosmith SurePin® Smooth Step Pin Nominal Dimensions¹

Approved Pin	Head Diameter	Head Thickness	Length	Step Length	Shank Diameter
5323ZST Smooth Step Galvanized Pin	0.300"	0.070"	1.250"	0.795"	0.145" / 0.128"
5383ZST Smooth Step Galvanized Pin	0.300"	0.070"	1.500"	1.045"	0.145" / 0.128"
5503ZST Smooth Step Galvanized Pin	0.300"	0.070"	2.000"	1.545"	0.145" / 0.128"

Note:

1. ZST - Zinc Coated Smooth Step Pin

Product Labeling

Each Box of fasteners shipped, that are covered by this **PER**, must have a label attached with at least the following information:

1. **Aerosmith Fastening Systems** name, address or website.
2. Fastener designation
3. This **PER** number & **Pei ES** Logo
4. The catalog number
5. A lot number & Manufacturing Plant Identification / Traceability
6. A Trademark head stamp by **Aerosmith** as shown below in Figure 1 and Figure 2

Product Documentation

- A Product Evaluation Service Agreement between **Pei Evaluation Service®** and **Aerosmith Fastening Systems**
- A Follow-up Inspection Service Agreement between **Progressive Engineering Inc.** and **Aerosmith Fastening Systems**
- A Quality Control Manual - Dated: 7/7/2017
- A **SurePin®** Fastening Guidelines for Cement Fiber Board - Dated: August, 2006
- A **SurePin®** Concrete Connection Technical Bulletin
- A **SurePin®** Plywood Subfloor Installation Bulletin
- A Technical Data Sheet for **Aerosmith** Fasteners for Hardie Siding Applications
- A Intertek ETL SEMKO test report No. 3117855-001 - ASTM E488-96 with **SurePin®** Fasteners attaching Hardie Siding in concrete block - Dated: March 30, 2007



Figure 3 - SurePin® plastic collated form



Figure 4 - SurePin® in collated form