



**ICC PEI LLC** is an accredited **ISO Standard 17065** Product Certifier, accredited by the A2LA. This **Product Evaluation Report** represents a product that **ICC PEI LLC** 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, 2021

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### Report Owner

#### **Aerosmith Fastening Systems**

5621 Dividend Road  
Indianapolis, IN 46241

### Product

#### **SurePin® Pneumatic Fasteners**

### Approved Manufacturing Locations

**ICC PEI LLC** has on file a list of each approved manufacturing location and which product is approved to be manufactured at each location.

### For Evaluation Report Questions

[www.aerosmithfastening.com](http://www.aerosmithfastening.com)

**Aerosmith** Contact: Spencer Jessee

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 **ICC Pei LLC**.

### Listing Details

**SurePin®** Fasteners are pneumatically driven steel pins used to attach fiber-cement 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 masonry units.

### 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

**2012, 2015, 2018 & 2021 International Residential Code**

**2012, 2015, 2018 & 2021 International Building Code**

**2010 National Building Code of Canada**

#### 2012 IRC

Section R104.11 - Surepin fasteners meet the intent of the IRC when installed in accordance with the manufacturers' installation instructions and this PER report.

Section R301.1.3 - The fasteners may be used in Structures regulated under the IRC when an Engineered design is submitted in accordance with Section R301.1.3.

Section R703.4 - Method of attachment for exterior wall covering materials to cold-formed steel stud wall framing shall conform to the manufacturers' installation instructions.

Masonry Walls MUST conform to IRC Sections R606 - R609.

#### 2015 IRC

Section R104.11 - Surepin fasteners meet the intent of the IRC when installed in accordance with the manufacturers' installation instructions and this PER report.

Section R703.3.2 - Requires the attachment of exterior wall coverings in accordance with Table R703.3(1) and the wall covering manufacturer's installation instructions.

#### 2018 IRC

Section R104.11 - Surepin fasteners meet the intent of the IRC when installed in accordance with the manufacturers' installation instructions and this PER report.

Section R703.3.3 - Requires the attachment of exterior wall coverings in accordance with Table R703.3(1) and the wall covering manufacturer's installation instructions.

Section R104.11 - Surepin fasteners meet the intent of the IRC when installed in accordance with the manufacturers' installation instructions and this PER report.

**2021 IRC**

Section R104.11 - Surepin fasteners meet the intent of the IRC when installed in accordance with the manufacturers' installation instructions and this PER report.

Section R703.3.3 - Requires the attachment of exterior wall coverings in accordance with Table R703.3(1) and the wall covering manufacturer's installation instructions.

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**2012, 2015, 2018 & 2021 IBC**

Section 1403.10 - Fiber cement Siding to meet ASTM C1186, Type A or ISO 8336 Category A (min. 1/4" thick per table 1404.2) and must be identified on label listing an approved quality control agency.

Section 1404.16 - Fiber cement siding shall be installed in accordance with the approved manufacturer's instructions.

Section 1404.17 - Shall be securely fastened using zinc coated or other **approved** corrosion resistance fasteners in accordance with the manufacturer's instructions.

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

**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". ( $\geq 7\text{mm}$  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**

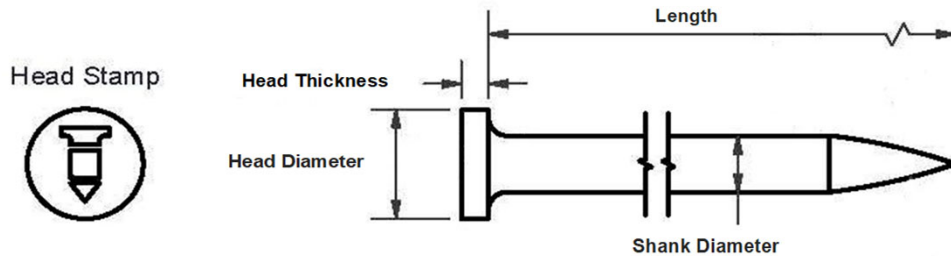
**ASTM E488-96 Section 5.2** - Standard Test Method for Strength of Anchors in Concrete and Masonry Elements.

**Table 1 - ASTM E488-96 Section 5.2 Performance Testing on the following SurePin® Fasteners**

Approved Fastener <sup>1,2</sup>	Minimum Penetration Depth	Ultimate Load <sup>3</sup> (lbf)	Design Load <sup>4</sup> (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 MAX HN-120A -- 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.



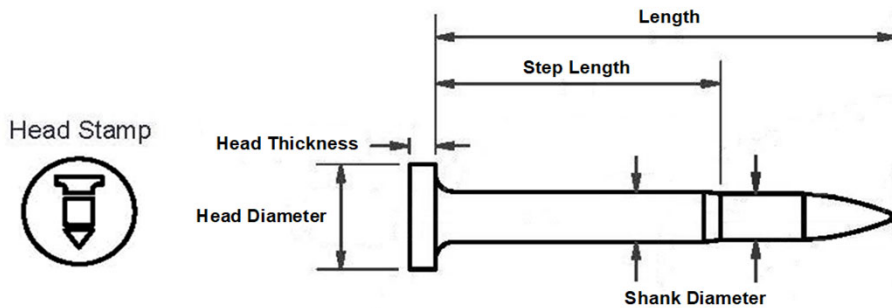
**Figure 1 - Profile of Approved Smooth Pins per Table 2**

**Table 2 - Aerosmith SurePin® Smooth Pin Nominal Dimensions<sup>1</sup>**

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 Dimensions<sup>1</sup>**

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 & ICC Pei or **Pei ES** Logo
4. The catalog number
5. A lot number & Manufacturing Plant Identification / Traceability
6. A Trademark head stamp by **Aerosmith** as shown above 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: 7/1/2021
- 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**