

Evaluation Report

“Tube Framing Clamp System”

Manufactured by

Chicago Clamp Company

2350 South 27th Avenue
Broadview, IL 60155

for

Florida Product Approval

FL 13750.1

Florida Building Code 2007

Per Rule 9B-72

Method: 2 – B

Category: Structural Components

Sub - Category: Pre-Engineered AC Stands

Product Name: *Tube Framing Clamp System*

Material: *Steel*

Prepared by:

James L. Buckner, P.E., S.E.C.B.

Florida Professional Engineer # 31242

Florida Evaluation ANE ID: 1916

Project Manager: Youry Demosthenes

Report No. 10-120-TFCS-StlonStl-ER

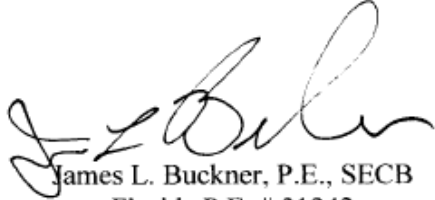
Date: 5 / 4 / 10

Contents:

Evaluation Report Pages 1 – 8

CBUCK, Inc.

1334 S. Killian Drive, Suite 4, West Palm Beach, Florida 33403
Phone: (561)491-9927 Fax: (561)491-9928 Website: www.cbuckinc.net



James L. Buckner, P.E., SECB
Florida P.E. # 31242
5/5/10

1.0 Product

- 1.1 **Manufacturer** Chicago Clamp Company
- 1.2 **Product Name** Tube Framing Clamp System

2.0 Evaluation Scope:

2.1 Evaluation Criteria:

Florida Building Code (FBC) 2007
State Product Approval Rule 9B-72.070 (2) (b)
International Building Code (IBC) 2009

2.2 Evaluation Classification:

Category: Structural Components
Sub Category: Pre-Engineered AC Stands

2.3 Evaluation Method:

Method 2 (b). Products for which there are no specific code standards shall demonstrate compliance with the intent of the code by evaluation report.

2.4 Properties Evaluated

Structural Properties

2.5 Limits of Evaluation:

This product assembly evaluation is limited to compliance with the criteria in section 2.1 and properties in section 2.2 of this report.

3.0 Evaluated Uses:

The Tube Framing Clamp System is a structural support system used to carry loads of roof top mechanical equipment.

4.0 Product Assembly Description:

4.1 General:

The Tube Framing Clamp System is a pre-engineered structural system designed to support roof top mechanical equipment. The clamp system allows the components to be attached to roof support bar joist or beams without welding. The assembly is located directly beneath the corrugated roof deck.

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5.0 Support for the Product:

Type: Roof Support Bar Joists/Beams
 Support Spacing: Up to 7'5" o.c.
 Material: Steel
 Yield Strength: 33 ksi Minimum
 Flange Thickness: 5/16" Minimum

(Design of support system is outside the scope of this evaluation)

6.0 Product Assembly Structural Performance:

6.1 Resistance:

Assembly of 2 Tube Main Beams and 2 Tube Cross Beams	
Load Type	Total Design Load on Assembly (lbs)
Concentrated:	4,000 <i>(Positive or Negative)</i>
Uniform:	4,000 <i>(Positive or Negative)</i>

Individual Member	
Load Type	Total Design Load on 1 Member (lbs)
One Tube Main:	2,000 <i>(Positive or Negative)</i>
One Tube Cross:	2,000 <i>(Positive or Negative)</i>

6.2 Resistance Basis:

Tube Main (2 per Assembly)
 Span: Up to 7'5"
 Spacing: Up to 6'3"

Tube Cross (2 per Assembly)
 Span: Up to 6'3"
 Spacing: 2' Minimum

Design loads limited to deflection Span of L/240 as measured in test at design load.
 Design Loads have a minimum safety factor of 2:1 based on the test loads

7.0 Performance Standard:

7.1 The product described herein has demonstrated compliance with:
ASTM E72-02 – Concentrated Load Test (Modified)
 Test loads applied over a 2' x 2' area in the center of the assembly

8.0 Code Compliance:

- 8.1 The product assembly described herein has demonstrated compliance with the Florida Building Code 2007, Section 1713.2.
- 8.2 The product assembly described herein has demonstrated compliance with the International Building Code 2009, Section 1714.2.

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9.0 Limitations and Conditions of Use:

9.1 Scope of "Limitations and Conditions of Use" for this evaluation:

This evaluation report for "State Approval" contains technical documentation, specifications and installation method(s) which include "Limitations and Conditions of Use" throughout the report in accordance with Rule 9B-72.070. Per Rule 9B-72.060, the Florida Building Commission is the authority to approve products under "State Approval".

9.2 Option for application outside "Limitations and Conditions of Use"

Rule 9B-72.070(1)(e) allows engineering analysis for "project specific approval by the local authorities having jurisdiction in accordance with the alternate methods and materials authorized in the Code". Chapter one of the FBC and IBC addresses design for alternative materials, design and methods of construction. Any modification of the product as evaluated in this report and approved by the Florida Building Commission is outside the scope of this evaluation and will be the responsibility of others.

9.3 This report does not evaluate the use of this product for use in the FBC High Velocity Hurricane Zone code section. (Dade & Broward Counties)

10.0 Quality Assurance:

The manufacturer has demonstrated compliance of products in accordance with the Florida Building Code and Rule 9B-72.070 (3) for manufacturing under a quality assurance program audited by an approved quality assurance entity through Keystone Certifications, Inc. (FBC Organization ID# QUA 1824).

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11.0 Components

11.1 End Clamp:

Material: Steel

11.2 Carriage Bolt:

Size: 1/2" x 2"

11.3 Retainer Heel Clip:

11.4 Lock Washer:

Size: 1/2" Dia.

11.5 Hex Nut:

Size: 1/2" Dia.

11.6 T-Bracket Clamp:

Material: Steel

11.7 Bolt Grade 5 (yellow):

Size: 1/2" x 3"

11.8 Locknut:

Size: 1/2" Dia.

11.9A Tube Main:

Material: Steel
Yield Strength: 50 ksi Minimum
Size: HHS 4 x 2 x 1/8

11.9B Tube Cross:

Material: Steel
Yield Strength: 50 ksi Minimum
Size: HHS 4 x 2 x 1/8

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12.0 Installation Method:

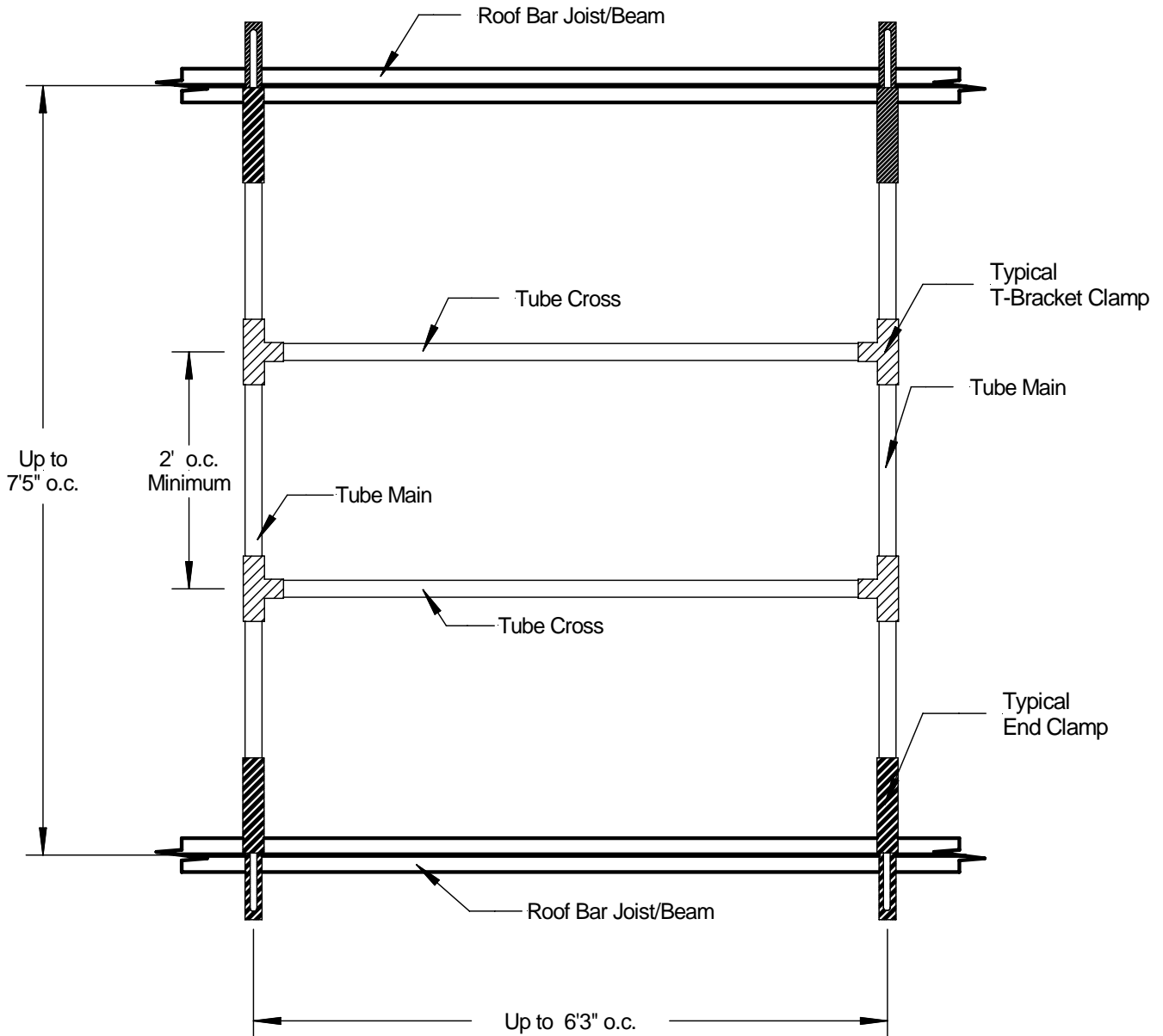
“Tube Framing Clamp System” shall be installed in compliance with the installation method listed in this report. The installation method described herein is in accordance with the scope of this evaluation report. Refer to manufacturer’s installation instructions as a supplemental guide for attachment.

(Refer to installation method on Pages 7 through 8 of this evaluation report.)

13.0 Evaluation Reference Data:

- 13.1 ASTM E72-02 Concentrated Load Test (Modified)
By Farabaugh Testing & Engineering (FBC Organization ID# TST 1654)
Report #: T212-10, Dated: 05 / 3 / 10
- 13.2 Quality Assurance
Keystone Certifications, Inc. (FBC Organization ID# QUA 1824)
Chicago Clamp Company Licensee #781
- 13.3 Certification of Independence
By James L. Buckner, P.E. @ CBUCK Engineering
(FBC Organization # ANE 1916)

**Installation Method
Chicago Clamp Company
"Tube Framing Clamp System Attached to Roof Joists/Beams Support**



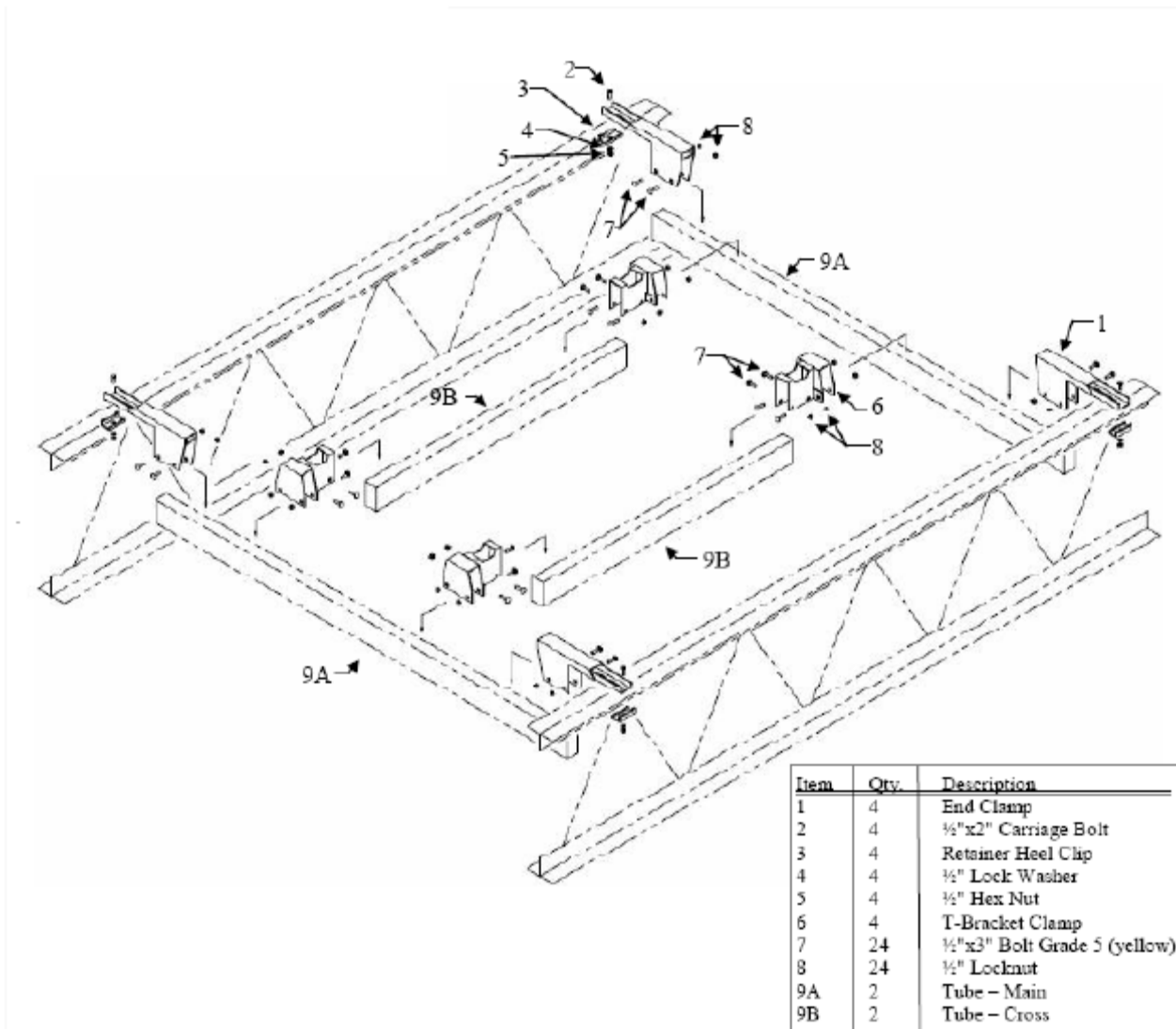
Typical Framing Assembly

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Installation Method Chicago Clamp Company "Tube Framing Clamp System Attached to Roof Joists/Beams Support



Item	Qty.	Description
1	4	End Clamp
2	4	½"x2" Carriage Bolt
3	4	Retainer Heel Clip
4	4	½" Lock Washer
5	4	½" Hex Nut
6	4	T-Bracket Clamp
7	24	½"x3" Bolt Grade 5 (yellow)
8	24	½" Locknut
9A	2	Tube - Main
9B	2	Tube - Cross

Typical Framing Components

Refer to manufacturer's Installation Guide as a supplemental guide for attachment.