



Residential North America

Product Evaluation Report
MiTek® Inc.
RT16M Masonry Rafter Tie

Florida Product Approval #10739
Florida Building Code
Per Rule 61G20-3
Method 1-d

Category: Structural Components
Subcategory: Wood Connector
Compliance Method: 61G20-(1)(d)
HVHZ

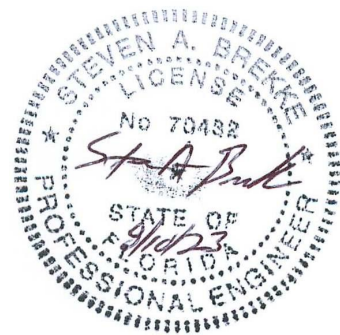
Product Manufacturer:
MiTek Inc.

16023 Swingley Ridge Rd
Chesterfield, MO 63017

Engineer Evaluator:
Steven Brekke, P.E.
FL P.E. #70432

Validator:
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FL P.E. #88223

Contents:
Evaluation Report Pages 1-4



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Compliance Statement:

The product as described in this report has demonstrated compliance with the Florida Building Code, Sections 2304.10.3.

Product Description:

Designed as a retrofit connector for trusses installed on top plates. Can also be used as a hold-down for a roof or floor system.

Product Material:

18 Ga. Steel ASTM A653 Gr 40 G90 Galvanized

Materials:

Wood

Wood members must be Douglas Fir with a minimum specific gravity (G) of 0.50, or an approved member with an equivalent specific gravity (G) of 0.50 or greater. Wood members shall have a moisture content not exceeding 19 percent (16 percent for structural engineered lumber). Wood members must be used under continuously dry conditions and where sustained temperatures are limited to 100° F.

Preservative and Fire-Retardant-treated Wood

Connectors or fasteners used in contact with preservative-treated and fire-retardant-treated wood shall be in accordance with Section 2304.10.5.

Nail

Nails shall meet the requirements in Table and the Requirements specified in ASTM F 1667.

Fasteners

Required fastener types and sizes are specified in the Table.

Masonry

Material and quality of masonry construction must comply with the applicable sections of the FBC. Minimum concrete or grout compressive strength shall be 2500 psi.

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Design Procedure:

The allowable loads shown in the Table are based on allowable stress design and include a 60% increase for wind and seismic load conditions per Section 11.3.2 of the NDS. No further increases are permitted.

The allowable loads are based on wood members with a moisture content not exceeding 19 percent (16 percent for structural engineered lumber). If moisture content exceeds this value, a wet service factor, C_m , must be applied per Section 11.3.3 of the NDS. The allowable loads are based on wood members under continuously dry conditions and where sustained temperatures are limited to 100° F. Wood members that will experience sustained exposure to temperatures exceeding 100°F shall be adjusted by the temperature factor, C_t , per Section 11.3.4 of the NDS.

Wood members to which the anchor is attached must be designed by a registered design professional per the FBC. Masonry constructions must be a minimum of fully grouted, C90, CMU block designed by a registered design professional per the FBC. Concrete compressive strength shall be 2,500 psi or greater at 28 days.

Installation:

Install the rafter tie in accordance with this evaluation report and the manufacturer's installation instructions.

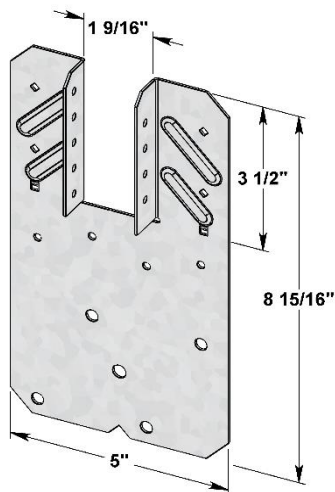
Testing and Specification:

1. ASTM D1761-88(2000): Job No. 08-6760 by Product Testing Inc.
2. ASTM D 1761 to ASTM D7147-11 comparison letter, sealed by Steven Brekke, P.E.
3. ANSI/AWC National Design Specifications for Wood Construction (NDS) 2018

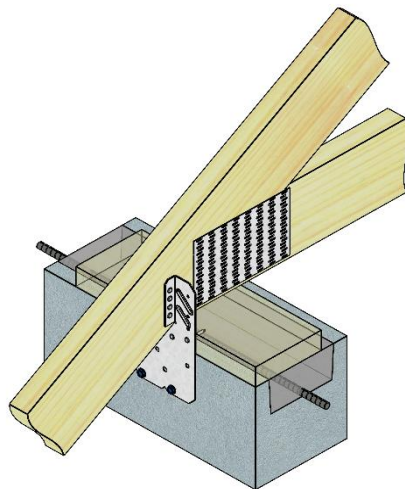
Quality Assurance Entity:

The manufacturer has established compliance in accordance with Florida Building Code and Rule 61G20-3.005 (3) for manufacturing under a quality assurance program audited by an approved quality assurance entity.

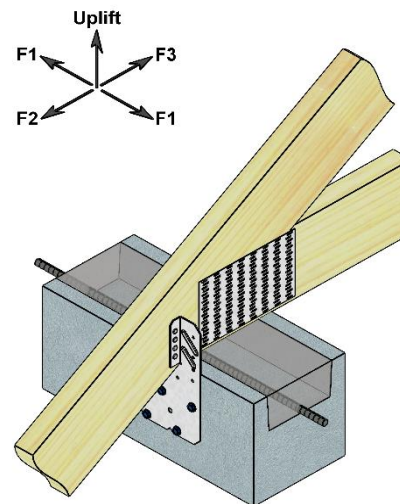
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RT16M



Typical RT16M Installation
With Top Plate



Typical RT16M Installation
Without Top Plate

STOCK NO.	STEEL PROPERTIES ¹		FASTENER SCHEDULE ^{2, 3, 6}						ALLOWABLE LOADS (lbs.) ^{4,5}			
			Rafter/Truss		Top Plate		CMU/Concrete ⁷		Uplift	Parallel to Wall (F1)	Perpendicular to Wall (F2)	Perpendicular to Wall (F3)
	Gauge	Grade	Qty	Size	Qty	Type	Qty	Type ⁵	160%	160%	160%	160%
RT16M	18	40	9	10d x 1 1/2	--	--	4	1/4" Ø x 1 3/4" Tapcon®	1395	630	125	490
			9	10d x 1 1/2	4	16dC	2		1360	630	125	490

For SI: 1 inch = 25.4 mm, 1 psi = 6.89 kPa, 1 lbf = 4.45 N

¹Steel conforms to ASTM A653 Gr40 standards with a minimum galvanized coating of G90.

²A 10d x 1 1/2 common nail has a diameter of 0.148 inch and a length of 1 1/2 inches.

³A 16d common nail has a diameter of 0.162 inch and a length of 3 1/2 inches.

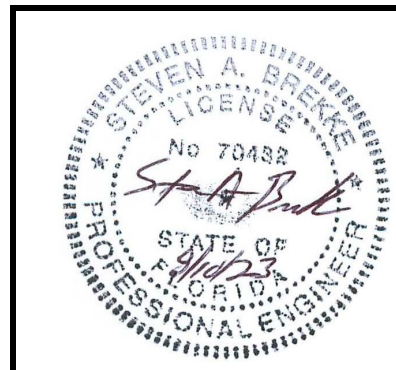
⁴Allowable loads have been increased 60% for wind and seismic loads. No further increase is permitted.

⁵Install with 1/4" x 1-3/4" Tapcon® Concrete Screws in accordance with the manufacturer's installation specifications. Concrete screws are not supplied with the RT16M connector.

⁶Install concrete screws in lower two holes for Single Top Plate or Conventional Raised Foundation or Modular Home Installations.

⁷Concrete compressive strength shall be 2,500 psi or greater at 28 days.

⁸Moisture barrier may be required.



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Name: RT16M Masonry Rafter Tie

Sheet 1

Date:
8/9/2023

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