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the PROSOCO family**



PROSOCO

**Veneer Anchor System for
Optimum Air Barrier
Integrity**

CTP-16

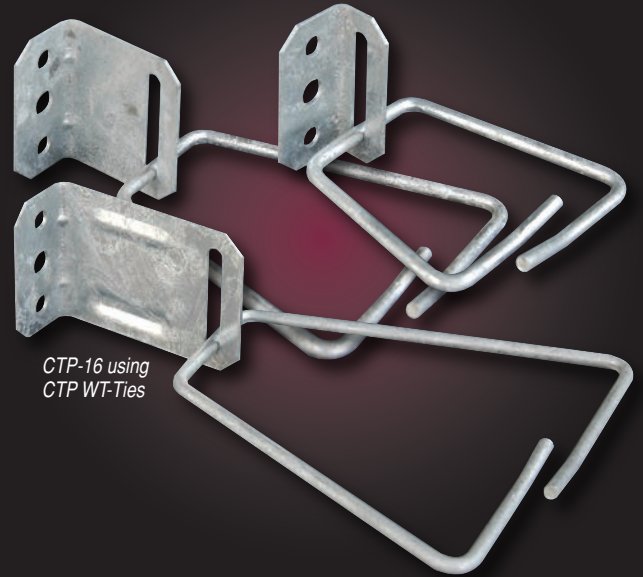
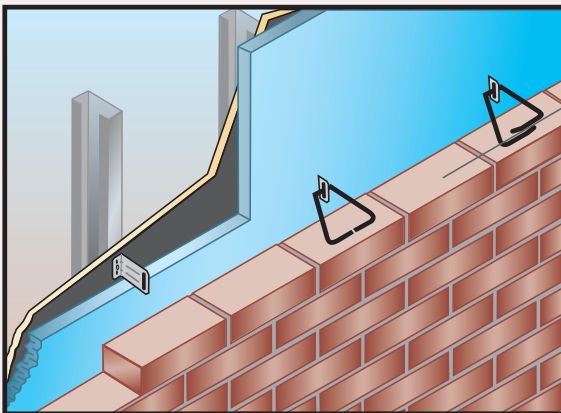
A veneer anchoring system that helps keep the air barrier intact and the veneer in place

For anchored veneers, the CTP-16 assembly should be applied for cavity wall construction of Level 1 institutional type and Level 2 industrial type buildings for seismic performance categories A through E. The CTP-16 system can be used with and without rigid insulation board and is ideal for spray foam insulation applications. The CTP-16 is recommended for optimum air barrier integrity. Recommended for veneer anchorage to metal stud, wood stud, masonry, and concrete substrates. Use in new construction or retrofit masonry applications. Contributes to green building construction and restoration projects.

The **CTP-16 Veneer Anchor System** is designed to meet or exceed relevant codes and building standards for veneer ties in the United States. The **CTP-16** is a patented wire tie and plate combination system which provides adjustability, minimal free-play, strength, stiffness, positive connection, and corrosion resistance.

Using the patented **CTP WT-Tie** wire tie for reinforcement or the standard **CTP V-Tie "V"** tie meets relevant veneer tie requirements of TMS 402. The anchor plate has been designed for mounting on the surface of sheathing or stud, and accommodates properly oriented insulation board without puncture.

The vertical orientation of the **CTP-16** base plate assures good coverage of spray foam insulation. It prevents gaps found beneath horizontal plates, and doesn't require secondary cleaning of spray foam insulation common to other adjustable tie systems.



CTP-16 using
CTP WT-Ties

A Brick Veneer Anchor for Steel Stud, Wood Stud, Masonry or Concrete Construction



Construction Tie Products, Inc. is committed to supplying the highest quality masonry tie and construction systems in North America and satisfying all stringent national codes and standards for today's building structures. CTP, Inc. promises to be a reliable product source along with on-time business integrity for all demanding builders. Call anytime for technical assistance or recommendations.

CTP, Inc. • www.CTPanchors.com
Phone: (785) 830-7380 • Fax: (219) 874-3626

CTP-16 Product Information

Features and Benefits

- **FEATURE 1:**

The tie system provides great strength performance at MAXIMUM tie eccentricity (worse case).
Ultimate Tension = 450 lbs;
Ultimate compression = 600 lbs with a 4" cavity plate of applied loading.

- **BENEFIT 1:**

Allows for greater tie spacing and as a result, creates fewer breeches in the air barrier system.

- **FEATURE 2:**

Assembly stiffness is greater than 6300 lbs/in in tension and 13,800 lbs/in in compression.

- **BENEFIT 2:**

The veneer wall deflection under load will be minimal, which lessens the likely hood of cracking and the resultant moisture migration through the crack.

- **FEATURE 3:**

The veneer tie system is designed for positive single connection using the center hole location to the back-up building structures with mechanical fasteners.

- **BENEFIT 3:**

The use of a single tek screw with 16 gauge metal stud back up, or the use of a single brass CTP Masonry Fastener for concrete or masonry back-up; or the use of a single 1/4" lag for wood stud back up creates fewer penetrations through the air barrier system.

- **FEATURE 4:**

Large bearing area. The CTP-16 Base Plate is 1" x 2" which provides a solid contact area.

- **BENEFIT 4:**

Optimum bearing area is created and keeps sheathing stress below 67 psi at 50 psf applied loading and maximum spacing.

- **FEATURE 5:**

Base plate and tie combination offer significant adjustability.

Vertical adjustability = 1-1/2"

Horizontal movement = +/- 1/2"

- **BENEFIT 5:**

Provides installation ease and it accommodates for the thermal and seismic movement of the veneer

- **FEATURE 6:**

Tie cannot disengage.

- **BENEFIT 6:**

Complies with TMS 402/ACI 530/ASCE 5 and TMS 602/ACI 530.1/ASCE 6 requirements.

- **FEATURE 7:**

Product features no sharp corners.

- **BENEFIT 7:**

Minimizes personal safety risk.

- **FEATURE 8:**

Base plate assembly is mounted vertically to the stud system.

- **BENEFIT 8:**

Eliminates mortar build up on the plate which creates a moisture bridge to the back-up, installs easily and aligns with insulation board. Spray foam applications do not plug the slot or sag about the plates projection.

- **FEATURE 9:**

Wall ties can be either triangular for non-reinforcement engagement or use of the CTP WT-Tie that captures reinforcement wire.

- **BENEFIT 9:**

Provides designer options.

Description

- **CTP-16 Base Plate**

1" (25 mm) W x 2" (50 mm) H,
16 gauge (1.5 mm)

Carbon Steel ASTM A 1008,

Hot Dip Galvanized per ASTM A153, C1 B2;

Stainless Steel per ASTM A666; ASTM A480

- **CTP WT-Tie: Multifunctional Triangle Wall Tie or Standard CTP V-Tie**

3/16" (4.76 mm) Diameter Wire,

Carbon Steel per ASTM A1064,

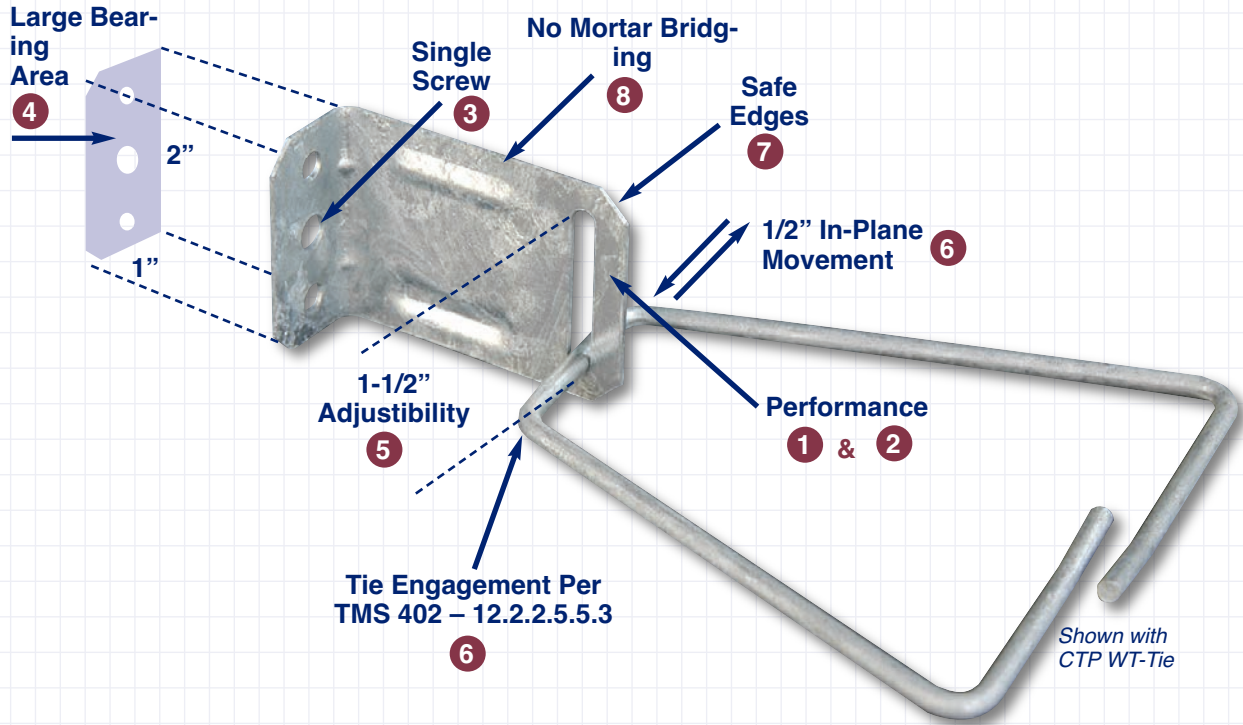
Stainless Steel (S.S.) Type 304 per ASTM A580

Hot Dip Galvanized per ASTM A153, C1 B2;

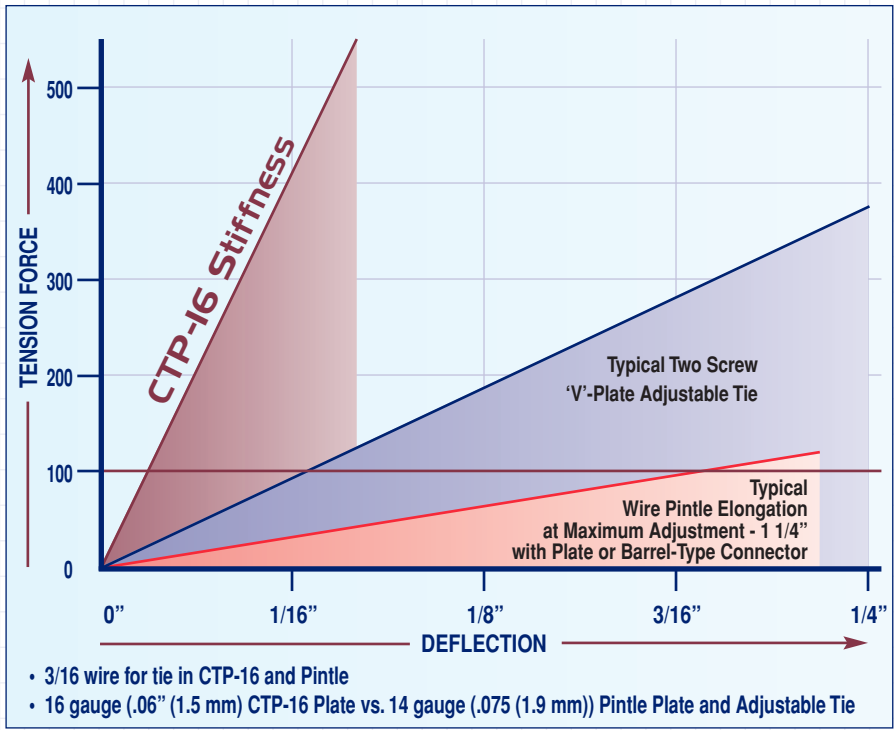
Stainless Steel per ASTM A580; ASTM A276

Use for seismic (WT) and non-seismic (V) conditions.

The CTP-16 Features and Benefits



CTP-16 Performance Comparison to Typical Masonry Ties



CTP-16 Product Information

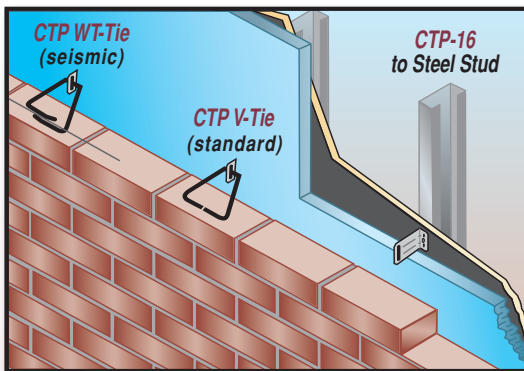
Features

CTP-16 Performance Characteristics		
Criteria	Data	U.S. Standards*
1. Free Play: in. (mm)	0.030 in. [maximum] (0.76 mm)	≤ 0.050 in. (1.25 mm)
2. 100 lbs. (0.45 kN) Deflection: in. (mm.) • Free Play not included • Free Play included	0.010 in. (0.25 mm) 0.040 in. (1.0 mm)	≤ 0.050 in. (1.25 mm) ≤ 0.100 in. (2.5 mm)
3. Anchor Stiffness	6410 lbs. per in. Tension 12000 lbs. per in. Compression	
4. • Ultimate Capacity – Tension • Deflection @ 400 lbs. (1.8 kN) • Deflection at Failure: in. (mm.) (Free Play not included)	717 lbs. (3.2 kN) .030 in. (0.75 mm) .248 in. (6.2 mm)	
5. Ultimate Capacity – Compression	1050 lbs. (4.7 kN)	
6. Maximum Recommended Spacing		≤ 32 in. (800 mm) horizontally ≤ 25 in. (625 mm) vertically Not to exceed one tie per 2.7 sq. ft. (0.25m ²)
7. In-Plane Differential Movement	± 1/2" (12 mm)	

1. The performance values are based on test results utilizing a 16 gauge base plate. The CTP-16 was mounted onto hollow steel section using 1/4" steel bolts, in order to simulate an incompressible backing.

2. Codes and Standards Compliance:
Meets or exceeds relevant veneered masonry construction sections and recommendations of building code requirements and building standards, including:
• TMS 402/ACI 530/ASCE 5 and TMS 602/ACI 530.1/ASCE 6 Building Code Requirements for Masonry Structures
• Western States Clay Products BV/SS Design Guide
• Brick Industry Association Technical Notes 28b, 44b, 21a & b
• International Building Code

Installation for Steel Stud



Fastener Performance		
Steel Stud	A	When using one (1) screw in Metal Stud 16 gauge or thicker use #12 - #14 at Center Hole Location in CTP-16 plate.
	B	When using #10 screws, use two (2) #10 screws at Top and Bottom Hole Locations in CTP-16 plate.
CTP-561022 CTP-541022	Hollow Lightweight Block	900 lbs. (409 kg)
	N.W. Concrete (3500 psi)	2,100 lbs. (963 kg)
	Solid Brick	900 lbs. (409 kg)

Note: Recommended minimum spacing of one CTP-16 tie per 2.67 square feet of wall area, spaced not more than 32" horizontal and 25" vertical.

CTP-516

The CTP-516 is a complete assembly that includes the CTP-16 plate and mechanical CTP WT-Tie, or standard CTP V-Tie, plus a mechanical fastener (CTP-561022: carbon steel; or CTP-541022: stainless steel) capable of being applied to concrete and/or masonry structures.

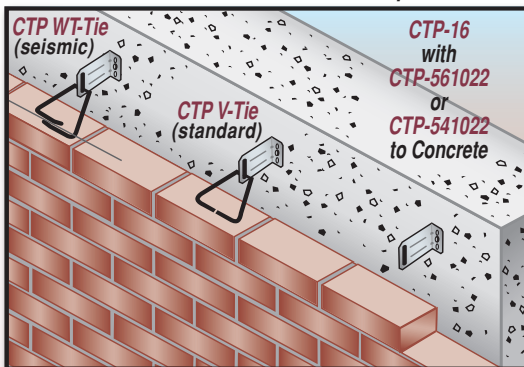
Installation for Masonry and Concrete

Fastener Assembly for Masonry and Concrete, With or Without Insulation. Ideal for Brick Cladding to Any Concrete or Masonry Surface.

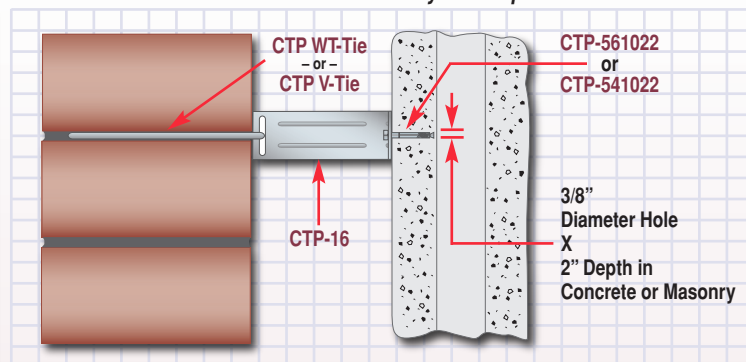
Torque Activated: 50 – 100 in – lb ■ Hex Head Finish – Low Profile ■ Bolt Head Provides Inspection Source

Low Profile Avoids Insulation or Tie Interference ■ Zinc Plated or Stainless Bolt with Brass Expanders ■ Fastener Preload ≥ Four Times Design Load

CTP-516 for Concrete Back-Up



CTP-516 for Masonry Back-Up



Note: Recommended minimum spacing of one tie per 2.67 square feet of wall area, spaced not more than 32" horizontal, and 25" vertical.

Order Planning Guide

Specifications

CTP-16 BASE PLATES

Bearing Area: 1" (25 mm) x 2" (50 mm), 16 gauge (1.5 mm) Carbon Steel ASTM A 1008*, Hot Dip Galvanized (H.D.G.) per ASTM A153, C1 B2; or Stainless Steel (S.S.) AISI Type 304 per ASTM A480; ASTM a267; ASTM A666

CTP Tie	Maximum Cavity
3"	1-3/4"
4"	2-3/4"
5"	3-3/4"

Recommended for '0' Insulation

CTP Tie	Maximum Cavity
3"	2-3/4"
4"	3-3/4"
5"	4-3/4"

CTP Tie	Maximum Cavity
3"	3-3/4"
4"	4-3/4"
5"	5-3/4"

CTP Tie	Maximum Cavity
3"	4-3/4"
4"	5-3/4"
5"	6-3/4"

CTP Tie	Maximum Cavity
3"	5-3/4"
4"	6-3/4"
5"	7-3/4"

Minimum embedment in veneer = 1-1/2"

Recommended: Single fastener typically used.

CTP INSULATION RETAINER PLATE GRIPS CTP-16

CTP WT-Tie used in seismic veneer anchoring applications

CTP V-Tie used here with CTP-516 for standard veneer anchoring applications

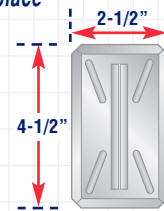
Select either the CTP V-Tie, or CTP WT-Tie for your specific wall application

CTP Base Plate	Minimum Air Space	Insulation	For Stud Back-Up	
	A		B	H.D.G.
CTP-16-0	3/4"	0"	CTP-1602	CTP-1605
CTP-16-1	1 3/4"	0 - 1"	CTP-1612	CTP-1615
CTP-16-2	2 3/4"	0 - 2"	CTP-1622	CTP-1625
CTP-16-3	3 3/4"	0 - 3"	CTP-1632	CTP-1635
CTP-16-4	4 3/4"	0 - 4"	CTP-1642	CTP-1645

CTP INSULATION RETAINER PLATE

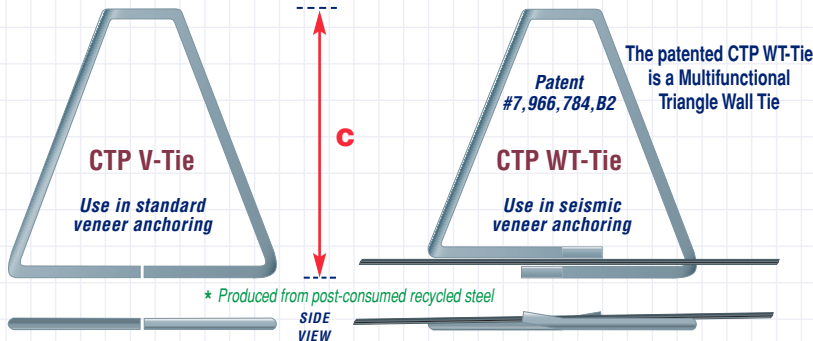
Easily holds insulation boards tightly in place and maintains thermal barrier integrity. (For use with CTP-16 see illustration above.)

Catalog #	Material
CTP IR-20	MILL GALVANIZED PER ASTM A-653, G-60
CTP IR-50	STAINLESS STEEL TYPE 304 PER ASTM A-666



CTP WALL TIES

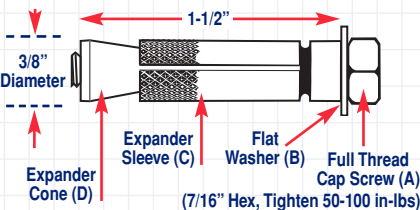
The CTP V-Tie is a triangle wall tie used in Standard Veneer Anchoring Applications. The patented CTP WT-Tie is a triangle wall tie that is used in Seismic Veneer Anchoring Applications. Both are Finished in Hot Dip Galvanized Steel or Stainless Steel



C	H.D.G.	S.S.
3"	CTP VT-32	CTP VT-35
	CTP WT-32	CTP WT-35
4"	CTP VT-42	CTP VT-45
	CTP WT-42	CTP WT-45
5"	CTP VT-52	CTP VT-55
	CTP WT-52	CTP WT-55

- Material:**
- 3/16" (4.76 mm) Diameter Wire,
 - Carbon Steel per ASTM A1064*
 - Stainless Steel (S.S.) Type 304 per ASTM A580
- Finish:**
- Hot Dip Galvanized (H.D.G.) per ASTM A153, C1 B2; 1.50 oz/F² min.
 - Stainless Steel - Clean and Dry

CTP MASONRY FASTENERS



Catalog #	A	B	C	D
CTP-561022 ZINC PLATED HARDWARE	ZINC PLATED, A307 ASME B18.2.1	ZINC PLATED ANSI B18.22.1TYA	ASTM A-360 Brass	ASTM A-360 Brass
CTP-541022 STAINLESS STEEL HARDWARE	300 SERIES STAINLESS STEEL ASME B18.2.1	ANSI B18.22.1TYA	ASTM A-360 Brass	ASTM A-360 Brass

CTP-16 Specification

Section 04 05 19.16

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Masonry anchors

1.2 RELATED SECTIONS

- A. Section 042000 – Unit Masonry
- B. Section 042200 – Concrete Masonry
- C. Section 044200 – Multi-Wythe Masonry
- D. Section 044200 – Exterior Stone Cladding

1.3 REFERENCES

- A. TMS 402/ACI 530/ASCE 5 – Specifications for Masonry Structures .
- B. ASTM A 153/A 153M - Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware.
- C. ASTM A 580/A 580M - Standard Specification for Stainless Steel Wire.
- D. ASTM A 1064 - Standard Specification for Carbon-Steel Wire and Welded Reinforcement, Plain and Deformed, for Concrete.
- E. ASTM A 666 Standard Specification for Annealed or Cold-Worked Austenitic Stainless Steel Sheet, Strip, Plate and Flat Bar.
- F. ASTM A 276 - Standard Specification for Stainless Steel Bars and Shapes

1.4 SUBMITTALS

- A. Submit under provisions of Section 013300.
- B. Product Data: Manufacturer's data on each type of product furnished.

1.5 QUALITY ASSURANCE

- 1. Manufacturer Qualifications: Provide design, engineering and technical assistance for the selection, application, and installation of appropriate anchoring systems for the project.
- 2. Installer Qualifications: Knowledgeable contractor experienced in the proper use and installation of anchoring systems, including coordination with wall assembly components
- 3. Mock-Up: Provide a mock-up for evaluation of application workmanship.
 - 1. Finish areas designated by Architect.
 - 2. Do not proceed with remaining work until workmanship is approved by Architect.
 - 3. Refinish mock-up area as required to produce acceptable work.

1.6 DELIVERY, STORAGE AND HANDLING

- A. Store products in manufacturer's unopened packaging until ready for installation.

PART 2 PRODUCTS

2.1 MANUFACTURER

- A. Acceptable Manufacturer:
Construction Tie Products, Inc. (CTP, Inc.)
3741 Greenway Circle
Lawrence, KS 66046
Phone: (785) 830-7380 Fax: (219) 874-3626
steve.getz@prosoco.com www.CTPanchors.com
- B. Substitutions: Not permitted.
- C. Requests for substitutions will be considered in accordance with provisions of Section 012500.
- D. Masonry Anchors: CTP-16 base plate is a formed steel connector having a vertical slot to accommodate wall tie adjustability having a 0.30" (.75mm) free play; a centered single screw hole for connection through exterior

sheathing to 16 gauge (1.5 mm) metal stud, wood, and masonry applications; and a projected plate design to accommodate insulation.

1. Anchors to Concrete: **CTP-516 with recommended fastener**
2. Anchors to Masonry Backup: **CTP-516 with recommended fastener**
3. Anchors to Metal Stud Backup: **CTP-16**
4. Anchors to Structural Steel: **CTP-16**
5. Anchors to Wood Stud Backup: **CTP-16**
6. Metal: Stainless Steel Sheet, ASTM A 276; A 666; A 480, Type 304, finish 2B.
7. Metal: Cold-Rolled Steel Sheet, ASTM A 1008, hot-dip galvanized after fabrication in accordance with ASTM A 153, Class B
8. Metal Thickness: 16 gage (1.5 mm)
- E. All CTP Wall Ties are 3/16" (4.75mm) diameter triangular ties.
 1. Masonry Veneer Ties: Provide minimum 1-1/2" (38.1 mm) embedment in mortar.
 2. CTP WT-Ties and CTP VT-Ties:
Wire Tie 3/16" (4.75 mm) diameter x by appropriate length.
 3. Material for Ties in Exterior Walls: Stainless steel
 4. Material for Ties in Exterior Walls: Hot-dip galvanized
- F. Fasteners:
 1. Self-drilling self-tapping hex washered head size #12-14 for single screw or 2- #10 for two screws.
 - a. **Metal:** A ductile high strength self drilling, self tapping screw with polymer protective coating
 - b. **Metal:** Type 410 stainless steel self drilling self tapping screw
 - c. All screws to have a bonded sealant washer
 2. **Masonry / Concrete:** 3/8" diameter X 1-1/2" brass expansion shield with Hex cap screw finish
 - a. Stainless hardware: CTP-541022 fastener
 - b. Zinc plated hardware: CTP-561022 fastener

PART 3 EXECUTION

3.1 PREPARATION

- A. Examine project conditions before beginning installation of masonry tie and anchor systems components

3.2 INSTALLATION

3.2.1 Masonry Veneer Anchoring System:

- 3.2.1.1 Install veneer anchors at stud locations; 25 inches (625 mm) OC vertically, 16 inches (406 mm) OC horizontally.
- 3.2.1.2 For masonry or concrete, install veneer anchors at 25 inches (625 mm) OC vertically, 16 inches (406 mm) OC horizontally.
- 3.2.1.3 Screw-attach veneer anchor to stud face through sheathing until full contact of base plate with sheathing per the screw manufacturers installation instructions.
- 3.2.1.4 Tighten masonry fastener 50-100 in-lbs of torque against the masonry or concrete surface
- 3.2.1.5 Install masonry wall tie at each veneer anchor location; install ties as exterior wythe of masonry construction progresses.

Warranty

Seller makes no warranty of any kind, expressed or implied, except that the goods sold under this agreement shall be of the standard quality of the seller, and buyer assumes all risk and liability resulting from the use of the goods, whether used singly or in combination with other goods. Seller neither assumes nor authorizes any person to assume for seller any other liability in conjunction with the sale or use of the goods sold, and there is no oral agreement or warranty collateral to or affecting this transaction.

Warning

The information contained in this publication does not constitute any professional opinion or judgement and should not be used as a substitute for competent professional determinations. Each construction project is unique and the appropriate use of this product is the responsibility of the engineers, architects, and other professionals who are familiar with the specific requirements of the project.

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CONSTRUCTION TIE PRODUCTS

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Engineered Anchoring Solutions Provider

Approval