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 STITCH-TIE®

Quick and easy way to re-anchor existing veneers to back-up structures.

- Existing façades constructed of brick, stone, masonry, pre-cast concrete, etc. that have wall ties missing or corroded, can be re-attached using CTP Stitch-Ties®
- Reconnect veneer to block, concrete, brick and wood structures without exposed hardware
- Useful to repair cracked brick veneers via reinforcing distressed sections by horizontally pointing the CTP Stitch-Tie® in the bed joint

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

CTP is now part of the PROSOCO family
Helical Wall Tie System for Stabilizing Veneers and Structural Repair

The CTP Stitch-Tie® Advantages

CTP Stitch-Tie® Installation Guidelines

CTP Stitch-Tie® Installation

Step 1: Drill a pilot hole using percussion hammer drill (3-jaw chuck type) through the mortar joint...

Step 2: Insert the CTP Stitch-Tie® Wall Tie into the dry set installation tool mounted on the rotary hammer S.D.S. drill.

Step 3: Drive the CTP Stitch-Tie® Wall Tie until the nose of the dry set installation tool is hard against the veneer.

Step 4: The dry set installation tool automatically recesses the CTP Stitch-Tie® Wall Tie into the face of the masonry. Patch hole.

CTP Stitch-Tie® Length Selection

<table>
<thead>
<tr>
<th>Nominal Length</th>
<th>Minimum Drilled Hole Depth</th>
<th>Cavity Range to Back-Up</th>
</tr>
</thead>
<tbody>
<tr>
<td>6”</td>
<td>6-5/8”</td>
<td>1” – 0</td>
</tr>
<tr>
<td>7”</td>
<td>7-5/8”</td>
<td>2” – 0</td>
</tr>
<tr>
<td>8”</td>
<td>8-5/8”</td>
<td>3” – 0</td>
</tr>
<tr>
<td>10”</td>
<td>10-5/8”</td>
<td>5” – 0</td>
</tr>
<tr>
<td>12”</td>
<td>12-5/8”</td>
<td>7” – 0</td>
</tr>
</tbody>
</table>

*Based on nominal 4” outer wythe
Installation Quality Assurance

CTP Stitch-Tie® Product Information

### Typical CTP Stitch-Tie® Performance Characteristics

<table>
<thead>
<tr>
<th>Material</th>
<th>Effective Minimum Embed (inches)</th>
<th>Ultimate Tension/Compression (lbs.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mortar Joint</td>
<td>3&quot;</td>
<td>700 750</td>
</tr>
<tr>
<td>Brick (solid)</td>
<td>3 5/8&quot;</td>
<td>700 700</td>
</tr>
<tr>
<td>Brick (cavity)</td>
<td>3 5/8&quot;</td>
<td>1200 1400</td>
</tr>
<tr>
<td>Hollow Clay Tile</td>
<td>8&quot; - 2 core</td>
<td>400 560</td>
</tr>
<tr>
<td></td>
<td>12&quot; - 3 core</td>
<td>460 550</td>
</tr>
<tr>
<td>CMU (hollow)</td>
<td>4&quot; (light wt)</td>
<td>3/4&quot; 450</td>
</tr>
<tr>
<td></td>
<td>6&quot; (normal wt)</td>
<td>1&quot; 580</td>
</tr>
<tr>
<td></td>
<td>8&quot; (normal wt)</td>
<td>1 1/4&quot; 650</td>
</tr>
<tr>
<td></td>
<td>12&quot; (light wt)</td>
<td>1 1/2&quot; 550</td>
</tr>
<tr>
<td></td>
<td>12&quot; (normal wt)</td>
<td>1 1/2&quot; 700</td>
</tr>
<tr>
<td>CMU (grouted)</td>
<td>2&quot;</td>
<td>550</td>
</tr>
<tr>
<td>(lightweight block)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Concrete</td>
<td>1 1/4&quot;</td>
<td>1200 1300</td>
</tr>
<tr>
<td>Wood Stud</td>
<td>2 x 4</td>
<td>3&quot; 520</td>
</tr>
<tr>
<td></td>
<td>2 x 6</td>
<td>3&quot; 520</td>
</tr>
<tr>
<td>7/16&quot; OSB</td>
<td>7/16&quot;</td>
<td>200 250</td>
</tr>
<tr>
<td>Metal Stud</td>
<td>16 gauge</td>
<td>300</td>
</tr>
<tr>
<td></td>
<td>Granite</td>
<td>1 1/8&quot; 500</td>
</tr>
<tr>
<td></td>
<td>Travertine</td>
<td>7/8&quot; 500</td>
</tr>
<tr>
<td></td>
<td>Limestone</td>
<td>3&quot; 600</td>
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</tbody>
</table>

### CTP Stitch-Tie® Physical Characteristics

<table>
<thead>
<tr>
<th>Material</th>
<th>Outside Tie Diameter</th>
<th>6mm</th>
<th>8mm</th>
<th>10mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mass: lb/ft (kg/m)</td>
<td>0.043 (0.062)</td>
<td>0.051 (0.076)</td>
<td>0.072 (0.12)</td>
<td></td>
</tr>
<tr>
<td>Cross Sectional Area</td>
<td>0.012 (8)</td>
<td>0.016 (10)</td>
<td>0.02 (13)</td>
<td></td>
</tr>
<tr>
<td>Yield Strength: ksi (N/mm²)</td>
<td>108 (745)</td>
<td>108 (745)</td>
<td>93 (640)</td>
<td></td>
</tr>
<tr>
<td>Ultimate Tensile Strength: ksi (N/mm²)</td>
<td>130 (1060)</td>
<td>128 (880)</td>
<td>119 (820)</td>
<td></td>
</tr>
<tr>
<td>Ultimate Shear Load: ksi (pure shear, no bending) lbs (N)</td>
<td>265 (1180)</td>
<td>1169 (5200)</td>
<td>1686 (7500)</td>
<td></td>
</tr>
<tr>
<td>Elastic – Modulus: ksi (GPa)</td>
<td>22.625 (156.3)</td>
<td>21.583.5 (148.8)</td>
<td>21.191 (146.1)</td>
<td></td>
</tr>
<tr>
<td>Helix Angle: (to longitudinal axis)</td>
<td>32.14°</td>
<td>40°</td>
<td>50°</td>
<td></td>
</tr>
<tr>
<td>Pitch Length: in. (mm)</td>
<td>0.59 (15)</td>
<td>0.79 (20)</td>
<td>1.0 (25.4)</td>
<td></td>
</tr>
<tr>
<td>Helical Pitch Length: in./(mm)</td>
<td>1.18 (30)</td>
<td>1.57 (40)</td>
<td>1.97 (50)</td>
<td></td>
</tr>
</tbody>
</table>

### Typical CTP Stitch-Tie® Shaft Properties

#### ULTIMATE SHAFT BUCKLING STRENGTH

<table>
<thead>
<tr>
<th>UNSUPPORTED LENGTH (mm)</th>
<th>CAPACITY (lb)</th>
</tr>
</thead>
<tbody>
<tr>
<td>8 MM</td>
<td>10 MM</td>
</tr>
<tr>
<td>1 inch (25mm)</td>
<td>1620</td>
</tr>
<tr>
<td>2 inch (50mm)</td>
<td>1425</td>
</tr>
<tr>
<td>4 inch (100mm)</td>
<td>1100</td>
</tr>
<tr>
<td>6 inch (150mm)</td>
<td>725</td>
</tr>
<tr>
<td>13 inch (325mm)</td>
<td>110</td>
</tr>
</tbody>
</table>

### Performance

Each construction site 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. The data reflects results of lab, field and in-house tests and are provided as a guideline for the designer. Site testing is encouraged for verification of load carrying capacity.

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On-Site Tests

Site testing is encouraged for verification of load capacity. CTP Stitch-Ties® can be load tested to verify the strength of the connection. Our Construction Tie Products field test appliance is custom designed for this purpose.

A test key, sized for the appropriate diameter of the CTP Stitch-Tie®, is quickly attached to the specimen and a test load applied. The easily read dial indicates the applied load.

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* This data reflects the results of lab, field and in-house results and provided as a guideline for the designer. Site testing is encouraged for verification of load carrying capacity. (N/R = not recommended)
Helical Wall Tie System for Stabilizing Veneers and Structural Repair

**CTP Stitch-Tie® Application Guide**

**Pinning and Re-Anchoring**
The CTP Stitch-Tie® is a Stainless Steel (Type 304) pinning solution for re-anchoring existing veneers to various sub-strates. The process eliminates the need to tear down and replace existing facades, and preserve the beauty and historical integrity of the existing building. CTP Stitch-Tie® pins are installed in pre-drilled holes by use of a dry set tool and a rotary hammer. The percussion action of the drill will create the driving forces necessary for the spiral shaped tie to thread into the building material. Once installed, the helical shape offers an in-plane flexible connector between wythes of material, while maintaining a threaded connection to resist out of plane loading for both tension and compression resistance. The CTP Stitch-Tie® does not draw walls together — therefore tension forces between wythes are not present. They are installed in relatively small holes that are easily patched and concealed. Various diameters and lengths are available for numerous applications. CTP Stitch-Tie® can also be field trimmed using cutters for optimum length requirements.

**Anchor Spacing**
Unless otherwise specified, CTP Stitch-Tie® anchors are typically installed at one anchor per 2 square feet of veneer area to be retrofitted. It is recommended that you refer to your local building codes and standards for spacing condition requirements of wall ties and anchors for appropriate compliance.

**CTP Stitch-Tie® Lintel and Shelf Angle Support**
CTP Stitch-Tie® stainless steel helical wall ties can be used for providing temporary stability for brick veneer walls above openings created for the repair or replacement of lintels or shelf angles.

Data supplied is based on the resulting stiffness of 8mm CTP Stitch-Tie® at various cavities: 1” cavity = 1,264 lb/in • 2” cavity = 316 lb/in • 3” cavity = 140 lb/in

1.) Stabilize veneer above opening using 8mm or 10mm CTP Stitch-Ties®.

2.) Space CTP Stitch-Tie® anchors:

```

<table>
<thead>
<tr>
<th>CAVITY</th>
<th>1&quot;</th>
<th>2&quot;</th>
<th>3&quot;</th>
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<tbody>
<tr>
<td>HORIZONTAL</td>
<td>12</td>
<td>12</td>
<td>12</td>
</tr>
<tr>
<td>VERTICAL</td>
<td>12</td>
<td>6</td>
<td>3</td>
</tr>
</tbody>
</table>
```

3.) First row of CTP Stitch-Ties® to be installed in the lower bed joint of the remaining course above opening, supporting brick above.

4.) Openings 8 feet and larger should have a greater number of CTP Stitch-Ties® populate the center area of veneer above the middle of the opening. To accomplish this, reduce the horizontal placement of two CTP Stitch-Ties® every other course by adding them to the vertical field of brick.

**CTP Concrete Patch-Tie Anchoring**

**Applications**
The CTP Concrete Patch-Tie is a stainless steel helical shaped CTP Stitch-Tie® anchor and is used to provide a non-corrosive mechanical connection between damage concrete and patching material. The anchoring system is typically applied with concrete patch repairs to balconies, curbs, coping, precast, columns, beams flat work, etc. as a means to key the patch material mechanically to the parent structure. The pin can be used to attach patches to limestone.

**Features**
- Spiral shape creates a threaded connection to base material
- Manufactured of 300 Series Stainless Steel
- Positive connection and effective length for most patching applications
- Manufactured shape provides excellent bonding capabilities
- Installs quick and easy

**Description**
The CTP Concrete Patch-Tie is a nominal 8mm diameter helical shaped anchor that is manufactured of type 304 stainless steel. It is available in 3” lengths. The thread pitch is 0.79 threads per inch and cross sectional area is 0.016 sq. in. Typical yield is 108,000 psi and tensile of 128,000 psi. The minimum embedment is 1-3/4” in the concrete sub-strata which provides a 1-1/4” embedment for the patching material. Ultimate tension capacity equals 1200 lbs. in 3,500 psi concrete.

**Installation**
1.) Clean area to be patched and remove any loose material. Treat exposed rebar as required.
2.) Drill a 1/4” hole in the concrete 1-3/4” – 2” deep. Tie should be spaced one per 6” in all directions, and a 2” edge distance is required. A minimum of 2 CTP Concrete Patch-Ties per patch is required.
3.) Using the CTP Concrete Patch-Tie setting tool, install the anchor in the predrilled hole with the aid of a rotary hammer (SDS preferred). Hammer into place until the tool bottoms out.
4.) The exposed tie portion should not extend above the patch height. If so, trim or bend anchor to attain the proper profile.
5.) Apply patching material.
CTP Stitch-Tie® Remedial Crack Stitching System

A two component system consisting of:

Stainless steel CTP Stitch-Tie® Bar and
SureGrout: A high performance, non oxidising, non shrink, thixotropic cement based grout, suitable for injecting by hand.

Applications

- A retro-reinforcement of bed joint masonry
- A method of reconnecting cracked masonry

Benefits

- **CTP Stitch-Tie® Bar** manufactured from 304 austenitic stainless steel, (316 available upon request)
- CTP Stitch-Tie® Bars and SureGrout provide excellent bonding characteristics within the masonry
- CTP Stitch-Tie® Bars have a superb combination of axial strength and flexibility which helps absorb further localized stress
- Minimizes the likelihood of further cracking
- Eliminates the need to rebuild a wall
- Permanent repair
- A fast, cost effective and economical solution
- No special skills required for installation

Required Products for CTP Stitch-Tie® Crack Repair

- **CTP Stitch-Tie® Bar**
  4.5mm x 33ft coil,
  6mm x 40” (1 meter) long or 10ft coil,
  304 grade austenitic stainless steel, helical bar.
  Rolled from wire with a raised fin profile around a central core

- **SureGrout**
  6 Litre, 3 Litre and 1.5 Litre,
  A high performance 8700psi (60 Mpa) for normal strength masonry, non oxidising, non shrink, thixotropic cement based grout. Suitable for injecting by hand.

- **SureGrout S**
  6 Litre, 3 Litre and 1.5 Litre,
  3900psi (27.5 Mpa) for soft masonry.

- **600 ml Crack Stitching Gun and Nozzle.**
- **Mixing Paddle**
- **Tuck Pointing Trowel**

---

**Crack Repair Using CTP Stitch-Tie® Bar**

**Step 1:**
Grind away existing mortar, 20” minimum on each side of crack, 1-1/2”-2” deep. Clean with Water.

**Step 2:**
Apply a bead of SureGrout at the base of the ground joint.

**Step 3:**
Insert CTP Stitch-Tie® Bar into bead of SureGrout.

**Step 4:**
Apply second/third bead of SureGrout over CTP Stitch-Tie® Bar, and compact with appropriate trowel.
**CTP Stitch-Tie® Application Guide**

**CTP Façade-Tie Bracket**

**Mechanical Anchors for Re-Connecting Exterior Veneers**

Concealed connections for your façade from your building’s structural frame.

Façades built of brick, stone, block, precast, etc. can be re-attached from the interior of the structure affordably and without exterior marks. The veneer to bracket connection can be accomplished with the CTP Façade-Tie Bracket and the CTP Stitch-Tie® anchoring system. They are proven masonry anchoring systems that provide installation adjustability, added veneer stiffness, and substantial tension/compression load resistant qualities. The CTP Façade-Tie Bracket is a façade re-anchoring system and economical solution to fortify and stiffen existing veneers from the parent structure. It is easy to install and operates via mechanical connections.

### Benefits
- Concealed connections
- Easy to install
- Corrosive resistant
- Re-connects existing façade from interior wood or steel studs
- Resists veneer out-of-plane forces
- Provides veneer in-plane movement
- No exterior holes to patch
- No exterior scaffolding required
- No brick removal
- No weather delays

### Applications

Use where there is a need to re-connect or add ties to an existing façade from an interior wood or steel stud. The CTP Façade-Tie Bracket system is installed from the interior of the structure. A building or home interior renovation project sometimes requires an exterior wall to be retrofitted from the inside. This can be due to termite, water, fire, mold damage, seismic fortification, or, just part of the building renovation condition. When the wall has an existing masonry veneer, which is to remain, and new studs are part of the retrofit scheme, the two materials need to be anchored together by using the CTP Stitch-Tie® fastener to bridge the distance between the brick wall and the stud, the installed fastener anchors to the brick wall. The CTP Façade-Tie Bracket is then connected with the CTP Stitch-Tie® by engaging the fastener in the slot. The CTP Façade-Tie Bracket and CTP Stitch-Tie® fastener assembly is then attached to the stud. This anchor system restrains the wall from moving outward or inward. Besides providing for an adjustable connection, the slot in the bracket allows for the wall to breath and minimize cracking. This is a very cost effective technique to reanchor the existing veneer. The installation is concealed within the building envelope for years of security and resisting the elements.

Regardless of the veneer anchoring system selected, the CTP Façade-Tie Bracket can be attached before or after the veneer anchor is installed. The 1-1/4” slot accommodates field adjustment as well as the in-plane thermal or possible seismic veneer movement anticipated throughout the brackets design life. The veneer anchors engage the slot for live load transfer to the base material. The CTP Stitch-Tie® veneer anchoring system does not draw, nor is it intended to pull, the veneer material to the base structure.

**ORDER WITH CTP STITCH-TIE® ASSEMBLY**

Use easily with our CTP Stitch-Tie®. Either 8mm or 10mm stainless steel helical wall tie at 16"H x 16"V (24"V max) spacing (assembly stiffness governs spacing). Safe working load = 100 lb. Attaches easily to stud with two stainless steel wood screws (provided) for wood stud or TEK screws (provided) for metal stud.

### Catalog Part Numbers

<table>
<thead>
<tr>
<th>Corrosion Resistant Material</th>
<th>CAT #</th>
</tr>
</thead>
<tbody>
<tr>
<td>Galvanized per ASTM A-653, G-60min</td>
<td>CTP S-1BHD</td>
</tr>
<tr>
<td>Stainless Steel Type 304 per ASTM 167</td>
<td>CTP S-2BHD</td>
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</tbody>
</table>
CTP Stitch-Tie® Application Guide

CTP Stitch-Tie® Asymmetric Wall Tie

Applications
Concrete back-up density and hardness can restrict 8mm or 10mm diameter helical ties entry. A larger pilot hole would usually be required. By concurrently enlarging the veneer pilot hole, a capacity reduction in the veneer portion of the anchorage can occur. When connecting a soft external substrate to harder internal walls use our dual diameter stainless steel helical wall tie, CTP Stitch-Tie® Asymmetric Wall Tie. The CTP Stitch-Tie® Asymmetric Wall Tie incorporates a smaller diameter lead (2" - 3") to embed in the harder back-up material. The balance of the tie length retains the 8mm or 10mm helical outer diameter for engaging with the softer masonry veneer material. The result provides an optimum tension capacity for the connection . CTP recommends that a mock up installation at the site establish the need for CTP Stitch-Tie® Asymmetric Wall Ties. At that time, development of optimum pilot hole size can be established.

Benefits
- Dual diameter.
- Quick and easy to install.
- Self-taps directly into a small pilot hole drilled into the substrate.
- Provides a quick and simple stress-free fixing with minimum disturbance.
- Helical design in 304 grade stainless steel bar material. 316 grade stainless steel available upon request.
- Helical design ensures continuous drip, as well as accommodating normal building movement.
- Unaffected by temperature or weather conditions.
- Color coded lesser diameter section.

Characteristics

<table>
<thead>
<tr>
<th>Size</th>
<th>Pitch</th>
<th>Material</th>
<th>Tensile Strength</th>
<th>Yield Strength</th>
<th>E-Modulus</th>
</tr>
</thead>
<tbody>
<tr>
<td>8/6.5mm Diameter (5/16”/0.255”)</td>
<td>40+/1 mm (1.574+/-.039”) for 8mm diameter</td>
<td>Austenitic Stainless Steel AISI Type 304</td>
<td>6.5mm = 7200 N (1618 lb)</td>
<td>6.5mm = 745 N/mm² (108,053 psi)</td>
<td>6.5mm = 156.269 Gpa (22,665 KIN²)</td>
</tr>
<tr>
<td>10/8.5mm Diameter (.39”/0.334”)</td>
<td>50+/1 mm (1.968+/-.039”) for 10mm diameter</td>
<td>Austenitic Stainless Steel AISI Type 316 (available upon request)</td>
<td>8.5mm = 8800 N (1978 lb)</td>
<td>8.5mm = 640 N/mm² (92,824 psi)</td>
<td>8.5mm = 148.813 Gpa (21,584 KIN²)</td>
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</tbody>
</table>

Typical Installation Using the CTP Stitch-Tie® Asymmetric Wall Tie

Step 1: Drill the pilot holes through both leaves to required depth and diameter
Step 2: Insert the installation tool into an SDS rotary hammer drill, then place the CTP Stitch-Tie® Asymmetric Wall Tie into the installation tool
Step 3: Drive the CTP Stitch-Tie® Asymmetric Wall Tie into the internal leaf to the required depth ensuring the tie is fully recessed to the external leaf below the face of the masonry
Step 4: Make good the CTP Stitch-Tie® Asymmetric Wall Tie at the surface with matching mortar
CTP Stitch-Tie® Installations: Large or Small - We’ll Fix Them All!

Parking Garage Exterior Restoration

Façade Crack Repair with CTP Stitch-Ties®

Re-Anchor Architectural Elements

CTP Stitch-Ties® for Low-Rise Façade Restoration

Fix Cracks Like These in Brick & Limestone

Historic Limestone Repair with CTP Stitch-Ties®

CTP Stitch-Ties® Re-Anchoring Terra Cotta

Re-Anchor Brick and Limestone with CTP Stitch-Ties®

Re-Anchoring to Metal Stud with CTP Stitch-Ties®
Reconnecting Multi Wythes Brick

Distance between connecting wythes

- Stitch through cracked headers
- Pilot hole through joint in outer wythe (preferred)
- Pilot hole through header brick
- Pilot hole through brick (in weak mortar)

NOTE: Pilot hole depth should be greater than anchor length by 1" minimum.

ANCHOR LENGTH = TOTAL EMBEDMENT DEPTH

Brick Veneer to Concrete Backup

FROM FACE OF CONCRETE TO FACE OF VENEER (A)

- Pilot hole in joint (preferred)
- Pilot hole through brick (if mortar quality is questionable)

NOTE: Pilot hole depth should be greater than anchor length by 1" minimum.

Minimum embedment 1-1/4"

MINIMUM ANCHOR LENGTH REQUIRED = A + 1-1/4"
Brick Veneer to Hollow or Solid CMU Backup

DISTANCE BETWEEN CONNECTING WYTHES

- VENEER THICKNESS (A)
- Pilot hole in joint of veneer (preferred)
- NOTE: Pilot hole should be greater than anchor length by 1” minimum.
- Brick Veneer
- Pilot hole through brick (if mortar quality is questionable)

MINIMUM EMBEDMENT EQUALS FACE SHELL THICKNESS (C) PLUS 1”

Total embedment equals face shell plus 1” in backup (C)

OVERALL ANCHOR LENGTH = A + B + C

Brick Veneer to Clay Tile Backup

- Pilot hole through joint (preferred)
- Brick Veneer
- Pilot hole through brick

(B) EFFECTIVE EMBEDMENT BACKUP, EQUAL TWO FACE SHELLS THICKNESSES (MIN) PLUS 1”

Best performance achieved is through two face shells of tiles.

(A) FACE OF BRICK TO FACE OF TILE BACKUP

MINIMUM ANCHOR LENGTH REQUIRED = A + B + 1”
Brick Veneer to Wood

**SECTION VIEW**
- Pilot hole through bed joint and stud (preferred)
- Pilot hole through brick and stud (if mortar quality is questionable)

**PLAN VIEW**
- Pilot hole through brick and stud (if mortar quality is questionable)

**MINIMUM ANCHOR LENGTH REQUIRED**
- From face of brick to face of stud (A)
- Minimum embedment 1-1/2” - 3”

**Brick Veneer to Metal Stud**

**SECTION VIEW**
- Pilot hole in stud
- Pilot hole through brick and stud (if mortar quality is questionable)

**PLAN VIEW**
- Pilot hole through brick and stud (if mortar quality is questionable)

**MINIMUM ANCHOR LENGTH REQUIRED**
- From face of brick to face of stud (A)
- Minimum embedment 1-1/2” - 3”
Travertine or Limestone Panels to Concrete Backup

1" MINIMUM STONE VENEER THICKNESS (A)

Pilot hole through stone and into concrete

MINIMUM EMBEDMENT (C)

SPACE BETWEEN CONNECTING WYTHES (B)

ANCHOR LENGTH REQUIRED = A + B + C

Terra Cotta to Concrete or Masonry Backup

DISTANCE BETWEEN CONNECTING WYTHES (B)

MINIMUM EMBEDMENT IN HOLLOW CMU BACKUP = FACE SHELL THICKNESS PLUS 1” (C)

Pilot hole depth in solid backup should be 1” deeper than anchor is long

OVERALL ANCHOR LENGTH = A + B + C
### CTP Stitch-Tie® Order Guide

<table>
<thead>
<tr>
<th>Catalog Number</th>
<th>Description</th>
<th>Qty / Box</th>
<th>Lbs. / Box</th>
</tr>
</thead>
<tbody>
<tr>
<td>CTP ST-45000COIL</td>
<td>CTP Stitch-Tie® 4.5mm x 10ft Coil (3000mm)</td>
<td>1</td>
<td>4.00</td>
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<td>CTP STBAR-640</td>
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<td>CTP Heavy Duty Spring Assisted Tool - 10mm Tie</td>
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</table>

1) All anchors are Type 304 Stainless, Type 316 SS available upon request.
2) Other lengths available upon request.
## CTP Stitch-Tie® Specification

### PART 1 GENERAL

1.1 SECTION INCLUDES
   A. Masonry repair systems

1.2 RELATED SECTIONS
   A. Section 03930 – Concrete Rehabilitation
   B. Section 04910 – Unit Masonry Restoration
   C. Section 04920 – Stone Restoration

1.3 REFERENCES
   B. ASTM A 167 – Type 304 Stainless Steel.

1.4 SUBMITTALS
   A. Submit under provisions of Section 013300
   B. CTP Stitch-Tie®: Manufacturers data sheets on each product to be used.

1.5 QUALITY ASSURANCE
   1. Manufacturer Qualifications: Provide design, engineering and technical assistance for the selection, application, and installation of appropriate anchoring system 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.

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.

2.2 PRODUCTS
   A. Masonry Repair and Restoration Re-Anchoring Existing Veneers
      (Selection based on application):
         a. CTP Stitch-Tie® Helical Wall Tie Anchor
         a. CTP Stitch-Tie® Helical Wall Tie Anchor
         a. CTP Stitch-Tie® Helical Wall Tie Anchor
      4. Application: Limestone Veneer to Masonry or Concrete, Back-up.
         a. CTP Stitch-Tie® Helical Wall Tie Anchor
   B. Concrete Repair and Patching
      1. Application: Provide mechanical helical tie as anchor for concrete patch.
         a. CTP Concrete Patch-Tie helical anchorage
   C. Masonry Crack Repair
      1. Application: Stitching cracked brick veneers and masonry.
         a. 6mm or 4.5mm SS: CTP Stitch-Tie® helical reinforcement

### PART 3 EXECUTION

3.1 PREPARATION
   A. Locate anchors in the area to be anchored per project drawings and details.

3.2 INSTALLATION
   A. Per Manufactures instructions.

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**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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