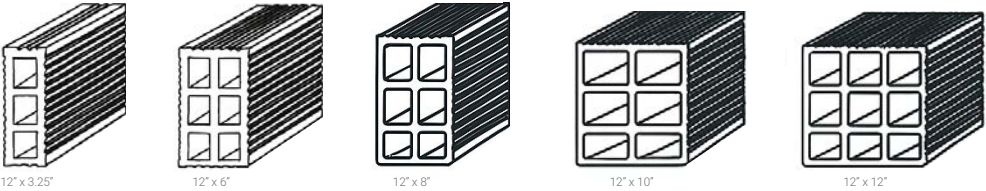


CONNECTIONS TO HOLLOW CLAY TILE (HCT)



PYTHON MT Fasteners



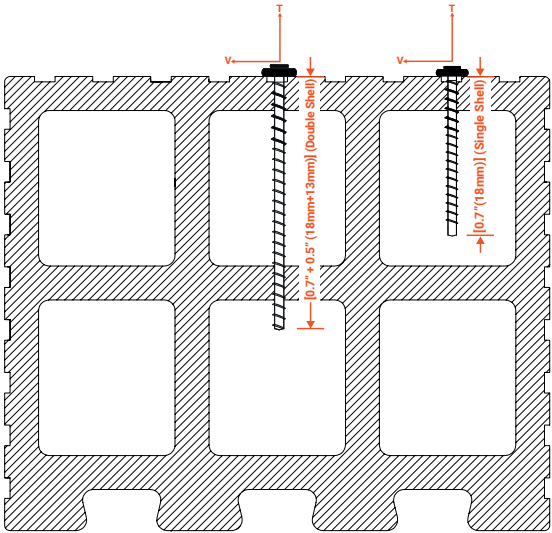
Hollow Clay Tile (HCT) (also referred to as Terracotta) is a common historic construction material valued for its thermal, acoustic, and fire-resistant properties. This material is extruded into shape, cut to length, then kiln fired to achieve a durable molecular structure. While this technique produced ideal qualities for a lightweight, insulating construction material, it has historically been difficult to structurally anchor to.



DESIGN CAPACITY DATA

Fastener	Substrate	Min Embedment, in (mm)	ASTM C1892 Characteristic Capacity ⁴		ICC-ES AC545 Allowable Load ²		ASCE41 Lower Bound Load ⁴	
			Tension, lb (kN)	Shear, lb (kN)	Tension, lb (kN)	Shear, lb (kN)	Tension, lb (kN)	Shear, lb (kN)
PYTHON MT	Terracotta Hollow Clay Tile	1 Shell [0.7 (18)]	700 (3.1)	1415 (6.3)	260 (1.2)	450 (2.0)	1115 (5.0)	1800 (8.0)
		2 Shells [0.7 + 0.5 (18 + 13)]	1035 (4.6)	2250 (10.0)	370 (1.7)	685 (3.0)	1615 (7.2)	2250 (10.0)
	Mortar Bed Joint	2 (50)	380 (1.7)	660 (2.9)	180 (0.8)	345 (1.5)	745 (3.3)	1380 (6.1)
		4.5 (115)	1010 (4.5)	1795 (8.0)	630 (2.8)	750 (3.3)	2520 (11.2)	2250 (10.0)

- 1) PYTHON MT Fasteners are available in 5/16" diameter and 6 3/8" (160mm), 9" (230mm), and 13 1/2" (340mm) standard lengths, and custom lengths up to 45" (1150mm).
2) Minimum mortar bed shear strength of 35psi (0.25MPa). Refer to ESR-5183 for allowable loads in lower mortar bed shear strengths.
3) Refer to ESR-5183 for reduced edge distance capacity data (min 4" (100mm)), QA procedures, and minimum embedment requirements.
4) Characteristic Capacities and ASCE41 Lower Bound Loads have been limited in some cases to reflect best practice and the practical limitations of anchorages in existing masonry.
5) Contact us at info@pythonfasteners.com for additional design data and assistance.



Indicative cross sections depicting embedment scenarios loading directions.



PYTHON® MT WASHER



PYTHON® MT 6 3/8" (160mm)



PYTHON® MT 9" (230mm)



PYTHON® MT 13 1/2" (340mm)

DRILLING IN HOLLOW CLAY TILE

Due to the brittle nature of HCT, it is critical that the installer uses rotary only drilling for all drilling into this material. This prevents to blow out and microcracking occurring in the substrates matrix. Very few drill bits are designed for this. *PYTHON Spear* rotary only drill bits are designed specifically for this purpose, to ensure smooth, fast, and minimally impactful drilling into existing and heritage masonry substrates.



Hammer action drilling resulting in blowout and microcracking.



Rotary-only drilling using PYTHON spear drill bits.



PYTHON Spear rotary only drill bits.

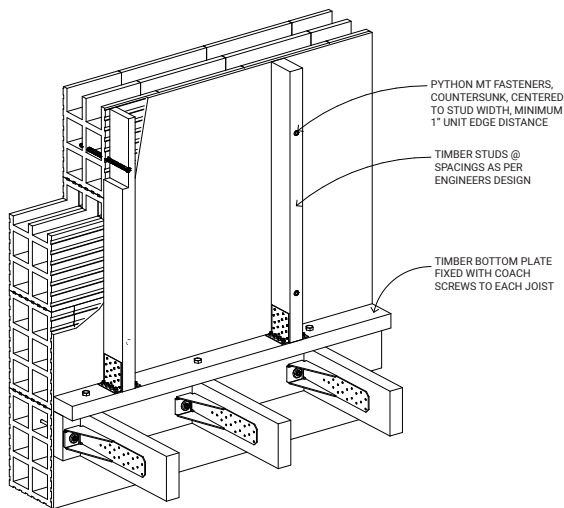


Scan to watch YouTube video

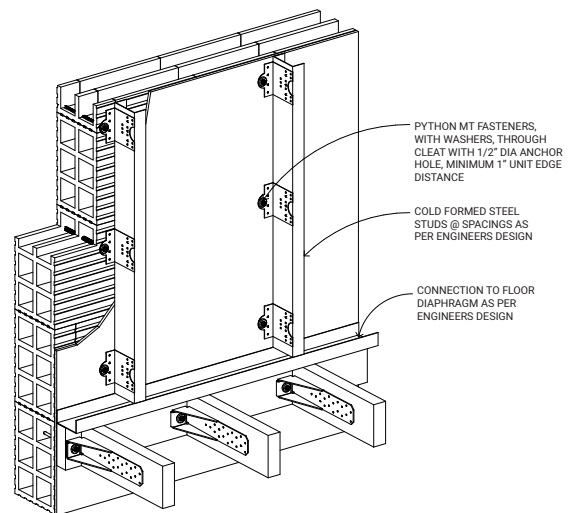
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Last update: October -2025. Supersedes all previous versions.
Visit www.pythonfasteners.com for latest version.
Patent Pending.

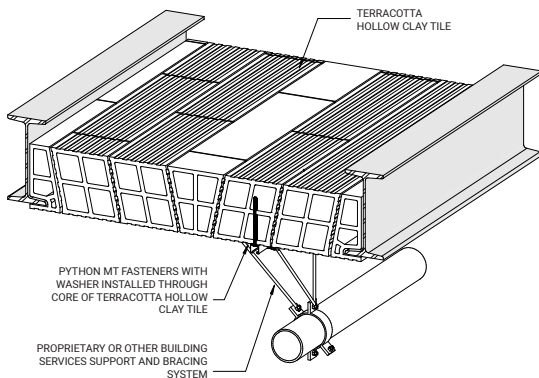
EXAMPLE APPLICATIONS



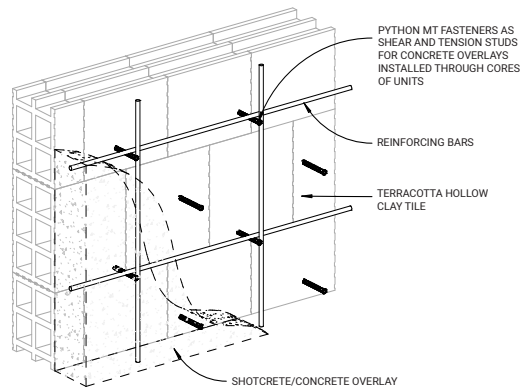
Timber Strongbacks And Wall To Diagram Connections



Cold Forme Steel (CFS) Strongbacks



Overhead Services Connections



Shotcrete/Concrete Overlays

ON-SITE PROOF TESTING

Our published test data is the accumulation of test programs in existing and historic material across the country and follows best practice standards and procedures. However, existing materials are inherently variable and it can often be appropriate to validate these capacities in your site specific material. This is commonly done where the Engineer is uncertain about the quality or properties of the substrate, and/or it is required by the local governing body. On-site proof testing can be conducted by local qualified testing agency or by our own designated team of experts.



Center Block Parliament Building Retrofit.



Typical tension test setup.



Typical tension failure mode in HCT.



Typical shear test setup.



Typical shear failure mode in HCT.