

CERAMIC GLAZED MASONRY INSTITUTE (CGMI)
Advancing Quality Glazed Brick and Tile Construction
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DESIGNER AID

2” Ceramic Glazed Masonry Veneer on a Masonry Substrate Wall

New Construction- Interior

The nominal 2” Structural Glazed Tile (SGT) or Glazed Brick masonry units are to be mortared directly to a backup wall. Following are the recommendations of the Ceramic Glazed Masonry Institute.

SGT/Glazed Brick

Nominal 2” clay masonry units with integral ceramic face(s).

Wall Ties

Install type of wall ties as recommended by wall tie manufacturer or as directed by your local building codes. Space wall ties in the mortar joint, typically every 16” o.c. vertically and every 32” o.c. horizontally.

Bonding Reinforcement (other than running bond)

The addition of horizontal joint reinforcement in the bed joints is required in stack bond masonry. Reinforcement in the bed joint provides additional in-plane arching action between the masonry units. This joint reinforcing is typically 9 gauge (W1.7) wire spaced at a maximum of 18” o.c. vertically.

Mortar

Typically Type N, or if a Type S is being used for the masonry backup wall being constructed at the same time, then it is OK to use that mortar on the SGT/Glazed Brick.

Masonry Standards Joint Committee¹ (MSJC) requires that the shear strength developed between the adhered veneer units and the backing be a minimum of 50psi.

When conditions call for specific mortar surface characteristics such as chemical, scratch or graffiti resistance, the addition of joint filler or a mortar additive may be needed. There are several products and methods to address these needs depending on the environment.

Contact the individual manufacturer of the additives to determine the proper product for your specific application. Follow the manufacturer’s directions carefully in the preparation and application. In general, the most common application is to rake back the newly installed, thumbprint hard mortar joint 1/4” to 3/8”, clean away crumbs. Then add the joint filler using a bag or caulking gun or else apply using the tile setters’ method. Clean the excess filler from the masonry unit face immediately or within the time allowed per the guidelines. Finishing joints as flush or slightly concave will yield the best results.

Height Limitations

According to the Brick Industry Association² and MSJC, the Empirical Design Requirements for anchoring a 2” veneer to a concrete or masonry substrate has no specific height limit regardless of the seismic zone. MSJC limits adhered veneers weight to be a maximum of 15 lbs/sf.

Movement Joints; Expansion and Control Joints

It is not necessary to have expansion joints on an interior SGT/Glazed Brick wall; however, control joints are necessary in a CMU wall. This requires that there be isolation through the SGT/Glazed Brick veneer. A compressible material of the same size as the CMU control joint should be used in this veneer movement joint.

Construction

Butter the edges of the SGT/Glazed Brick with mortar. Allow enough space (max. ½") for the mason's fingers to place the units. Allow the mortar in the head and bed joints to squeeze out of the back of the units, therefore bonding to the surface of the masonry backup. Engage wall ties in the bed joints of the masonry backup and into the bed joint of the 2" SGT/Glazed Brick unit.

Existing Walls; Adding 2" SGT/Glazed Brick Veneer

When adding an SGT/Glazed Brick veneer to existing concrete or masonry walls, its weight may be supported directly on either existing or new concrete foundations. Alternatively, where existing concrete or masonry foundation walls provide sufficient strength, the veneer may be supported by steel angles anchored to the existing foundation walls². The BIA has always put a height limit on veneer supported by an angle. CGMI recommends a height limit of 14'.

As always, all state and local building codes would apply and a structural engineer's review and approval is recommended. It is not possible to address every possible condition from this document. Anyone using this data sheet is ultimately responsible for the application and use of this information.

References and Resources;

- 1) Masonry Codes and Specifications Compilation; [HYPERLINK "http://www.masonrysociety.org"](http://www.masonrysociety.org) www.masonrysociety.org
 - 2) Brick Industry Association, Technical Notes 18 and 28 Series; [HYPERLINK "http://www.bia.org"](http://www.bia.org) www.bia.org
- CGMI, Ceramic Glazed Masonry Institute



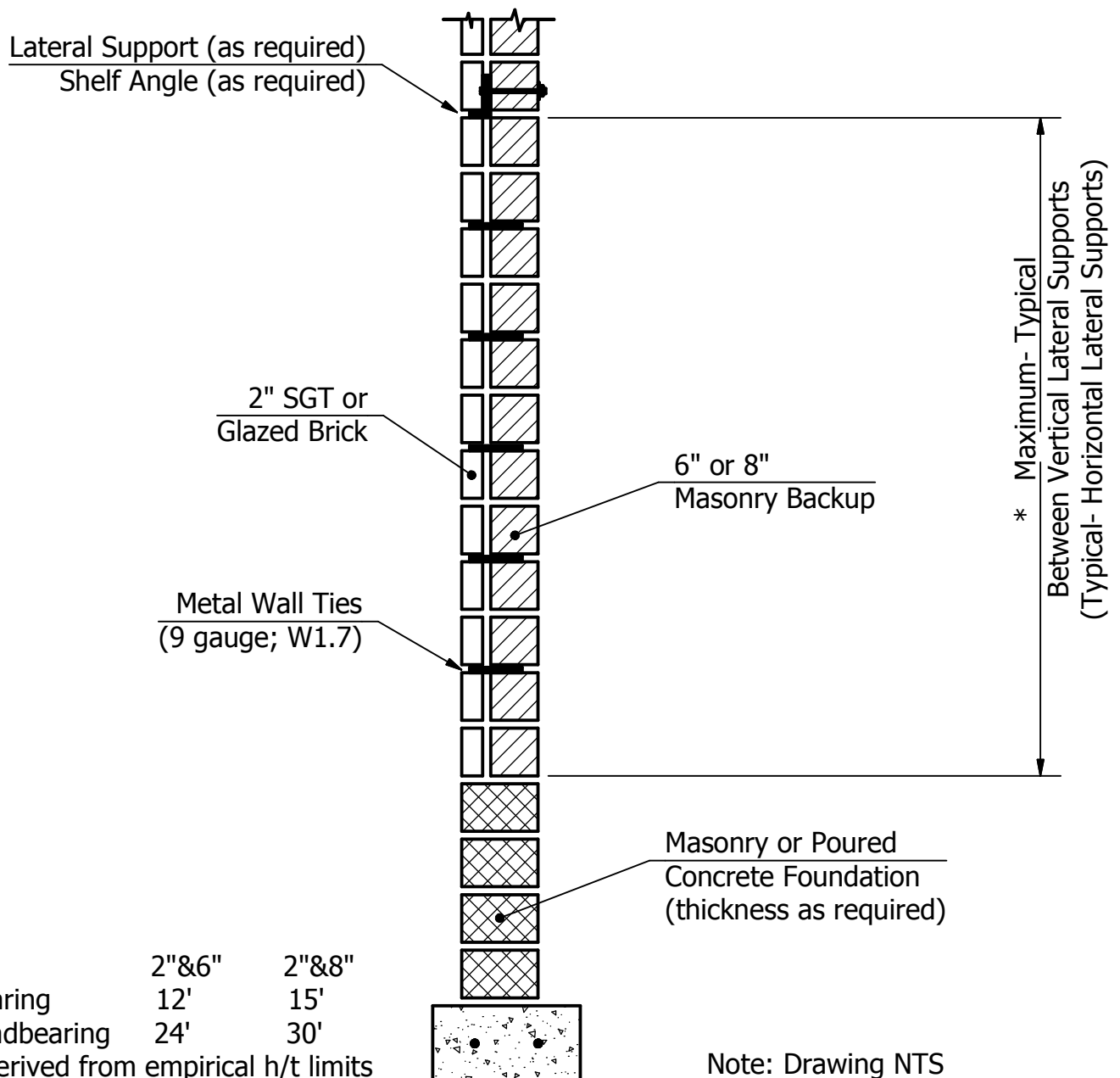
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2" Veneer Structural Glazed Tile (SGT)/ Glazed Brick with Masonry Backup-Interior Application

Figure 1



*	2"&6"	2"&8"
Loadbearing	12'	15'
Non-Loadbearing	24'	30'
Note: Derived from empirical h/t limits and based on the sum of the nominal thicknesses of the wythes		

Note: Drawing NTS
All Dimensions Nominal