BLOK-LOK
A HOHMANN & BARNARD COMPANY

Established in 1961, we are one of North America's leading suppliers of masonry reinforcing and tie systems. Our products have been developed in accordance with accepted building practices and meet or exceed local, regional and national codes and standards. **Blok-Lok** remains committed to setting the standard in the industry. Please call us anytime for technical assistance or recommendations.

Mechanical Repair Anchors for Stabilizing Veneers

TORQ-LOK

The Torq-Lok mechanical anchoring system is an easy to use and cost effective method to re-connect existing veneers to various substrates. The process eliminates the need to tear down an existing veneer by providing a corrosion resistant tie assembly. The components are manufactured of AISI Type 300 series austenitic stainless and ASTM Type 360 brass. The combination provides for long-term durability and structural stability for the design life of the structure.

The 500 and 510 Series system consists of brass expansion elements that are situated in the veneer and backup segments of the wall system being rehabilitated. They are torque activated which provides a method of inspection for both the façade and backup connection. The two independent expanders are connected via a stainless steel shaft and hardware.

The 520 and 530 Series System utilizes the brass expander as a connection means for the outer wythe. The backup has either a lag thread or self-drilling/self-tapping screw on a stainless steel shaft. The installation accuracy can be inspected via torque for both connectors in the two wythes.

Once installed, the anchors resist veneer loading in both compression and tension. The design of the system provides two independently activated expanders that do not create tension between wythes. Basically, the Torq-Lok system replicates a wall tie's performance. That is, live loads on the veneer are transferred to the backup thereby stiffening the veneer and minimizing crack potential. All Torq-Lok anchors are installed at "T" joint or bed joint locations, concealed with a mortar patch or sealant, and have no exposed hardware.

The Torq-Lok anchors are manufactured of applicable ASTM materials. They are available in a variety of lengths, and can be made to special lengths upon request.

Basic Applications

Use where facades have missing or corroded wall ties or anchors. Can be applied at peripheral areas that are bulging or around areas that are to be removed. Use as a replacement tie for broken or cracked headers in composite walls. Use in high stress areas, which require load resistance greater than provided by typical wall ties. Can also be applied or modified to reattach thin clad stone to various backup materials.

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Advantages

- **Quality Control**
  Independent activation provides for methods to inspect immediately upon installation or at a later date by using a torque measuring technique and equipment.
- **No Lateral Tensile Stress**
  Does not pull the two wythes of material together.
- **No Assembly Required**
  Anchors are factory assembled and are installed as a complete unit in the field.
- **Versatile**
  Available in multiple configurations for various backup building materials and cavities.
- **Mechanical Lock**
  Positive connection technique for questionably soft material or dense building material.
- **Simple to Install**
  Designed to be installed with screw guns or by hand using standard sockets or Blok-Lok installation tools.
- **Corrosion Resistant Materials**
  Provides for long-term durability and dependability in most normal corrosion environments.
- **Flexible**
  Provides for in plane ductility while resisting out of plane loads.
- **Performance**
  Capable of supplying ultimate tension and compression capacity 10-20 times typical wall tie performance.

Anchor Spacing

Torq-Lok anchors are typically installed at one anchor per 2 - 5 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.

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 capacity.

Typical Torq-Lok Mechanical Anchor Performance Characteristics

	Anchor Location	Anchor Series	Hole Size (in)	Ultimate Tension (lb)	Ultimate Comp. (lb)
VENEER	Mortar Joint (1500 psi)	500 510 520 530	1/2 1/2 1/2 1/2	900 – 1600	800
BACK-UP	Light Weight CMU	510	3/8	1000	1200
	Normal Weight CMU	510	3/8	1100	1300
	Concrete (3500 psi)	500 510	1/2 3/8	2000 1500	1500 1500
	Solid Brick (9000 psi)	500 510	1/2 3/8	1500 1200	1500 1500
	Clay Tile (Hollow)	510	3/8	700	600
	Wood Kiln Dried Stud, 2x4	530	N/R	840	840
	16 gauge Metal Stud	520 530	N/R 3/16	450 550	450 550
	Steel	510	3/8	2000	2000

Typical Torq-Lok Mechanical Anchor Selection Chart

Note: Anchor selection is based on a typical veneer of 3 5/8" thick

Back-Up Material	TORQ-LOK ANCHOR SERIES			
	500	510	520	530
Hollow CMU		●		
Solid CMU	●	●		
Concrete	●	●		
Brick	●	●		
Clay Tile		●		
Wood				●
Metal Stud			●	●
Steel		●	●	

Typical Torq-Lok Shaft Properties

ULTIMATE SHAFT BUCKLING STRENGTH	
SHAFT LENGTH (in)	CAPACITY (lb)
5 1/2	1620
6 1/2	1425
9 1/2	1100
11 1/2	725

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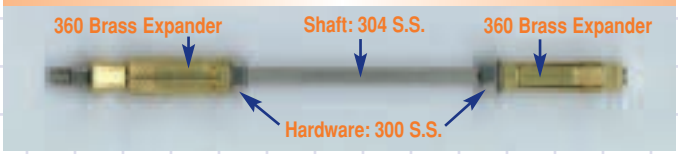
500 Series Anchor
SOLID BACK-UP

Catalog #	Shaft #	Shaft L.	Cavity Range
505054	502054	5.5”	0 – 1”
505064	502064	6.5”	0 – 2”
505074	502074	7.5”	0 – 3”
505084	502084	8.5”	0 – 4”
505094	502094	9.5”	0 – 5”

NOTE

1. Hole in Veneer = 1/2”
2. Hole in Back-Up = 1/2”
3. Installation Torque:
   Veneer = 50 – 100 in-lbs.
   Back-Up = 50 – 100 in-lbs.

510 Series Anchor
HOLLOW BACK-UP



Catalog #	Shaft #	Shaft L.	Cavity Range
505154	502054	5.5”	3/8 – 1 3/8”
505164	502064	6.5”	1 3/8 – 2 3/8”
505174	502074	7.5”	2 3/8 – 3 3/8”
505184	502084	8.5”	3 3/8 – 4 3/8”
505194	502094	9.5”	4 3/8 – 5 3/8”

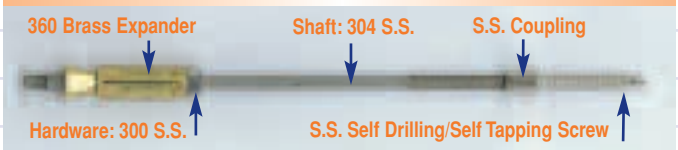
NOTE

1. Hole in Veneer = 1/2”
2. Hole in Back-Up = 3/8”
3. Installation Torque:
   Veneer = 50 – 100 in-lbs.
   Back-Up = 50 – 100 in-lbs.

Installation Procedure and Criteria for Masonry and Concrete

1. Select proper anchor length based on wall make-up.
2. Drill appropriate hole at mortar joint (preferably “T” location) using a rotary hammer or hammer drill. Rotary only in soft material.
3. Drill 1/2” hole through outer wythe of material.
   - For solid back-up, continue 1/2” hole drilling to a 2 – 2 1/2” depth minimum. (or total depth 1/2” deeper than anchor length)
   - For Hollow Back-up, drill a 3/8” diameter hole through the cavity face of the inner wythe material.
4. Blow out excess drill fines.
5. Assemble threaded portion of complete anchor assembly to the setting tool. Hex bolt on the setting tool must be fully seated, thread anchor shaft into setting tool until it stops.
6. Insert entire assembly into drilled hole until it bottoms in the solid back-up. or until the washer contacts inner cavity face of hollow back-up.
7. Rotate tool clockwise and tighten back-up anchor 50 – 100 in-lb, remove setting tool.
8. To remove setting tool, loosen bolt head while holding setting tool firmly, spin off by hand.
9. Slide socket drive tool over hex segment of setting tool on to the hex nut of the anchor and tighten to 50 – 100 in-lb.
10. Remove socket and plug hole.

520 Series Anchor
STUD BACK-UP



Catalog #	Shaft #	Shaft L.	Cavity Range
505244	502044	4.5”	0 – 1”
505254	502054	5.5”	1 – 2”
505264	502064	6.5”	2 – 3”
505274	502074	7.5”	3 – 4”
505284	502084	8.5”	4 – 5”

NOTE

1. Hole in Veneer = 1/2”
2. Stud back-up hole sizes:
   Self Drilled

530 Series Anchor
STUD BACK-UP

Catalog #	Shaft #	Shaft L.	Cavity Range
505344	502344	4.5”	0 – 1”
505354	502354	5.5”	1 – 2”
505364	502364	6.5”	2 – 3”
505374	502374	7.5”	3 – 4”
505384	502384	8.5”	4 – 5”

NOTE

1. Hole in Veneer = 9/16”
2. Stud back-up hole sizes:

Metal Stud	Wood Stud
16 ga = 3/16”	2 x 4 = 3/16” (opt)
18 ga = 5/32”	4 x 4 = 3/16”

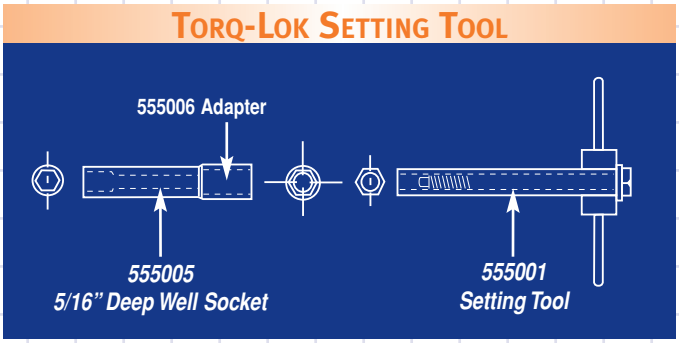
3. Torque to install:
   Veneer = 50-100 in-lb.
   16 ga = 30-60 in-lb.
   18 ga = 20-40 in-lb.
   Wood stud = 30-50 in-lb.

Installation Procedure and Criteria for Metal or Wood Stud

1. Select proper anchor length based on wall make-up.
2. Drill appropriate hole at mortar joint at stud location using a rotary hammer or hammer drill. Rotary only in soft material.
3. Drill 9/16” hole through outer wythe of material
4. Confirm stud location and blow out excess drill fines.
5. Assemble threaded portion of complete anchor assembly to the Screw Gun setting tool. Hex bolt (7/16” hex) on the setting tool must be fully seated, thread anchor shaft into setting tool until it stops.
6. Insert entire assembly into drilled hole until the pointed end of the shaft makes contact with the stud, firmly trigger screw gun until anchor is seated.
7. Remove socket drive and rotate tool counterclockwise to loosen and remove from anchor.
8. To torque check installed anchor in back-up, leave setting tool attached as a means to connect to a torque wrench, metal stud = 25 - 50 in-lb., (50 - 100 in-lb. in 16 ga.) and wood stud = 35 - 100 in-lb., remove setting tool.
9. Using a 5/16” deep well socket, tighten hex nut (with screw gun or by hand) of the anchor to 50 - 100 in-lb.
10. Remove socket and plug hole.

1. Select proper anchor length based on wall make-up.
2. Drill appropriate hole in mortar joint at stud location using a rotary hammer or hammer drill. Rotary only in soft material.
3. Drill 9/16” hole through outer wythe of material.
   - For metal stud, a 5/32” pilot hole is needed for 18, 20 and 22 guage stud, a pilot hole of 3/16” for 16 guage and greater is required.
   - For wood stud back-up, a pilot may not be needed, 3/16” if necessary.
4. Blow out excess drill fines.
5. Assemble threaded portion of complete anchor assembly to the setting tool. Hex bolt on the setting tool must be fully seated, thread anchor shaft into setting tool until it stops.
6. Insert entire assembly into drilled hole until the pointed end of the shaft makes contact with the stud, firmly thread by hand in drilled hole back-up.
7. Rotate tool clockwise and tighten back-up anchor in metal stud 25 - 50 in-lb. (50 - 100 in-lb. in 16 ga.) and wood stud, remove setting tool.
8. To remove setting tool, loosen bolt head while holding setting tool firmly, spin off by hand.
9. Slide socket drive tool over hex segment of setting tool on the hex nut of the anchor and tighten to 50 - 100 in-lb.
10. Remove socket and plug hole.

TORQ-LOK SETTING TOOL



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.

Approval

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