

# DUR-O-WAL, DUR-O-FLEX FRICTION PIN ANCHOR

## GENERAL PRODUCT DESCRIPTION

**DESCRIPTION:**

A suitable anchor for wall tying in applications that typically would use masonry connectors of the light to medium duty variety.

Dur-O-Flex is a non-corrosive masonry anchoring system uniquely designed to withstand axial loading, and provide flexible within-plane wythe movement. The Dur-O-Flex anchor concept can be used in either restoration or new

construction involving masonry anchoring applications. The Dur-O-Flex is attached to a structure via friction using simple installation methods, or bonded with epoxies to create the most flexible wall tie in its class. The Dur-O-Flex anchor rectangular cross section has been engineered into a continuous spiral shape with broad bearing surface edges that distributes forces over a large area.

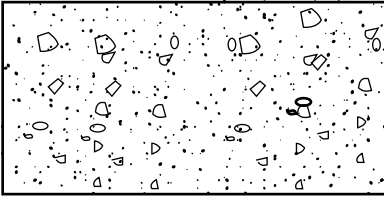
FEATURE	BENEFITS
• One step installation.	• Lower installed cost.
• Manufactured of austenitic steel type 304.	• Provides outstanding corrosion protection for most all aggressive corrosion environments.
• Helical design.	• Creates a threading action during installation that ensures a friction fit for quality performance.
• Broad bearing surface edges.	• Optimized steel contact area with base material which minimizes stress—no sharp edges.
• No axial stiffening rib.	• Provides in-plane ductility which allows for nonconcurrent wythe movement of masonry.
• Flexible.	• Absorbs energy from veneer movement within-plane and lessens the chance of the anchor to “walk” out of the hole.
• Engineered drilled hole sizes.	• Provides the maximum amount of surface contact area in hard or soft anchoring materials.
• One piece anchor.	• No multiple components assembly required.
• Simplified installation equipment.	• Requires little training with easy installation methods.
• Can be field trimmed to length.	• Allows for easy adaptation to common field variations of depth.
• Anchorage performance enhancement possible without sacrificing flexibility.	• Optional epoxy bonded connections obtain great holding power in base materials which are soft or fragile. Flexibility is maintained via the Dur-O-Flex design.
• Optional resin bonded connections can be quality tested independently for the back up anchor and veneer anchor connections.	• Provides a quality assurance method no other epoxy pin connection is capable of this qualification.

# DUR-O-FLEX FRICTION PIN AND ANCHOR

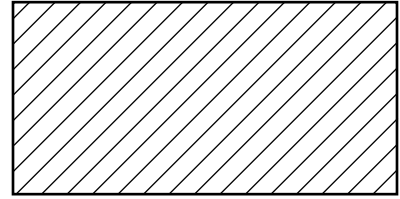
When evaluating the application of a friction pin anchoring system, the following anchoring features should be evaluated:

- A) **Performance Repeatability:** All dry fix or friction pin connectors are subject to base material consistency. Similar to a nails performance in various substrates, the dry fix connection relies on intimate contact with its base material. The connection forces are distributed at the circumferential contact points of its spiral shape. Performance repeatability will then be a function of base material density, hole size, friction coefficients of the base material, uniformity of base material qualities, and base material elasticity.
- B) **Quality Control:** On site quality control testing is possible but limited to veneer, or outermost connections only. Tension testing of the back up, or verifying a back up connection has occurred, is only possible if non-contact veneer anchoring exists. That can be accomplished by drilling an oversize hole (1/2") thru the veneer, then switch to the appropriate back-up hole for the pin installation in the back up. Also, the veneer connection can be disengaged (cored out) to isolate the back up for testing. However, this would only indicate what was available for the subject specimen, and cannot be assumed for all pins installed.
- C) **Live Loads:** As a dry fix, or friction pin connector, performance results are a function of base material quality, thickness and density. Good results in solid materials are typically achieved. Ultimate pullout capacities greater than 250 pounds are possible in most all building material. This satisfies many moderate wind load performance criteria in non-essential structures and low rise buildings.
- D) **Installation Ease:** By far, the friction pin anchoring system is the easiest retrofit system available. Once the pilot hole has been properly drilled, the anchor installs in seconds by using a quality rotary hammer and the S.D.S. adapted setting tool. The setting characteristics of threading and insertion is accomplished by the anchor's spiral design and the hammer driving action of the tool. The chisel pointed end, which is factory produced, provides the leading end a directional path to anchor into the substrate.
- E) **Installed Cost:** The fact that the Dur-O-Flex Friction Pin installation technique is among the quickest reanchoring systems available, contributes significantly to the anchor's installed cost. Also, Dur-O-Flex's effort to develop a durable, low cost, installation tool, combined with a competitively priced anchor, makes this system a cost effective solution for pinning. Total time to install a Dur-O-Flex Friction Pin can be less than 60 seconds.
- F) **In-Plant Ductility:** By virtue of the Dur-O-Flex design, in plane flexibility is greater than most standard masonry wall ties. This is especially important to consider for significant deflection caused by expansion and contraction cycles. Dur-O-Flex's spring like design is an ideal solution for anchoring insulated cavity walls with insufficient ties.
- G) **Facade Aesthetics:** The friction pin anchor requires hole sizes of approximately 1/4". The anchor, once installed, is recessed in the veneer by approximately 1/4-3/8". The installer needs only to plug a small hole with mortar since the joint is a preferred location. Note that thru brick installations are very difficult to maintain in a water tight condition. However, a sealant can be used to match the color.
- H) **Veneer Seismic Retrofit:** Currently, adaptations to the Dur-O-Flex are not available to accommodate 9 gauge wire reinforcement. However, when used in new construction, the wire can be tied to the Dur-O-Flex for engagement purposes, thus meeting code.

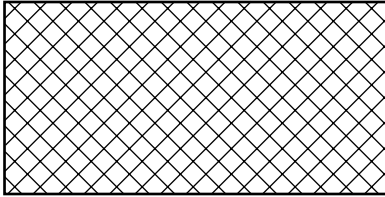
# MATERIALS



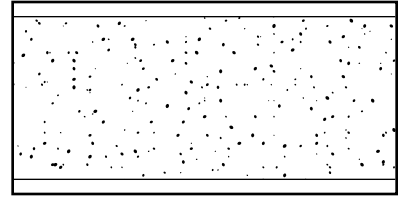
**CONCRETE**



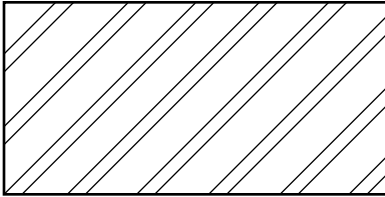
**BRICK & TILE**



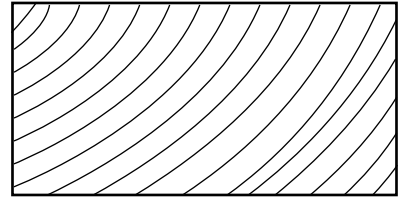
**CONCRETE MASONRY UNIT**



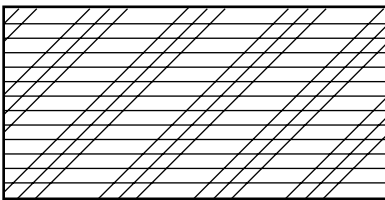
**PLASTER/G.W.B.**



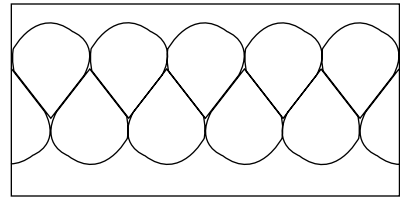
**STEEL/IRON**



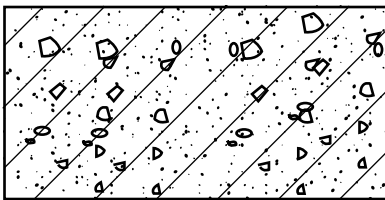
**FINISH WOOD**



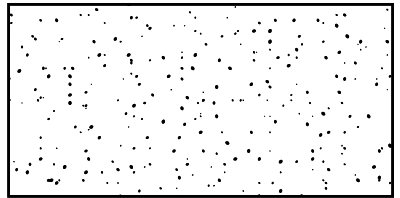
**PLYWOOD (LARGE SCALE)**



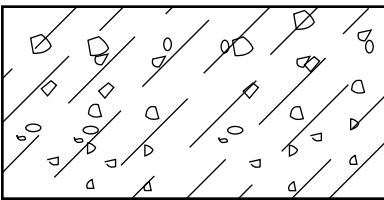
**BATT INSULATION**



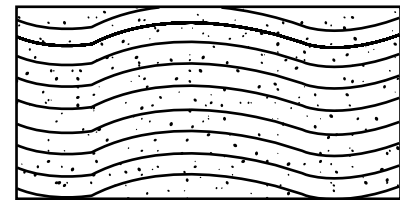
**PRECAST CONCRETE**



**LIMESTONE**

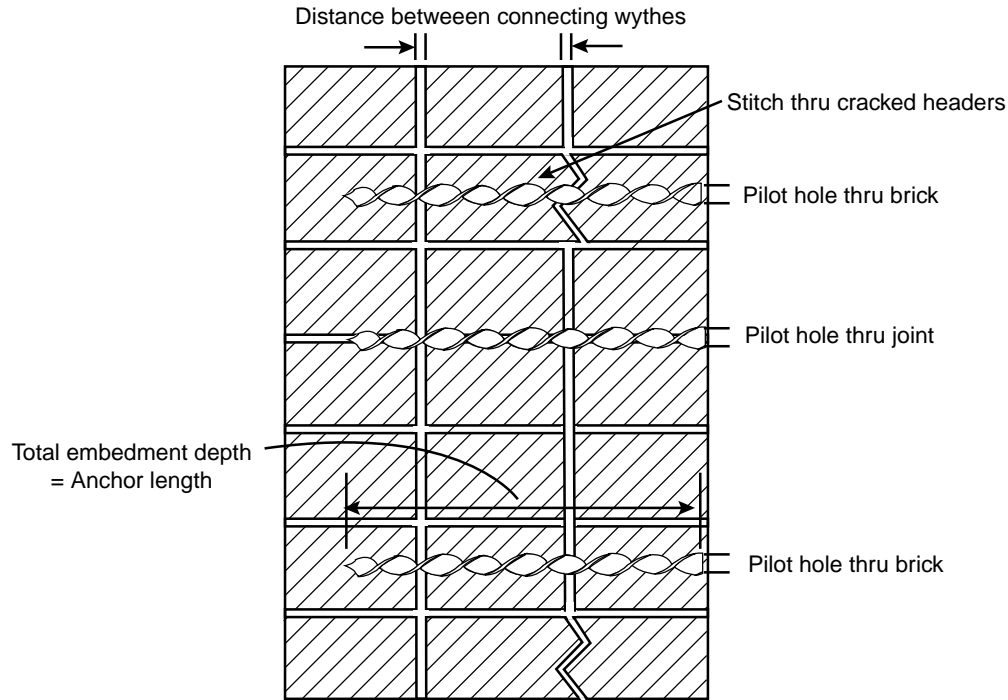


**GRANITE**



**PARTICLE BOARD**

# DUR-O-FLEX FRICTION PIN



## Multi brick wythes

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

<b>DUR-O-WAL VENEER REANCHORING SYSTEM</b>		
SCALE: NTS	DUR-O-WAL, INC. 625 CRANE ST., AURORA, IL 60505 PH: 630-898-1101, FAX: 630-898-8331	DRAWN BY:
DATE:		REVISED:
Project:		
Series Anchor: <b>DUR-O-FLEX FRICTION PIN</b>		

# SERIES ANCHOR: DUR-O-FLEX FRICTION PIN

## APPLICATION

VENEER	BACK-UP
Brick	Brick
Soft Brick	Soft Brick

## ANCHOR SELECTION

ITEM NUMBER	ANCHOR LENGTH	CAVITY RANGE
508 Flex 6	6"	N/A
508 Flex 7	7"	N/A
508 Flex 8	8"	N/A
508 Flex 9	9"	N/A
508 Flex 10	10"	N/A

Dur-O-Flex Friction Pin can be installed thru cracked headers, mortar joints, or the brick of composite walls. The length of anchor is a function of the number or multiple wythes to be anchored and the minimum embedment required. Hole size selection to be field verified. Other lengths available. Install using a Dur-O-Flex Setting Tool and an S.D.S. Rotary Hammer.

		ULTIMATE CAPACITY					
		COMPRESSION (lb)			TENSION (lb)		
		avg.	std. dev.	c.v.%	avg.	std. dev.	c.v.%
VENEER	Brick ①	362	103	28	362	103	28
	Mortar Jt. ②	484	193	40	484	193	40
BACK-UP	Brick ①	362	103	28	362	103	28
	Brick ③	279	97	35	279	97	35
	Mortar Jt. ②	484	193	40	484	193	40
	Mortar Jt. ④	316	86	27	316	86	27
BUCKLING STRENGTH	4" ⑤	534	N/A	N/A			

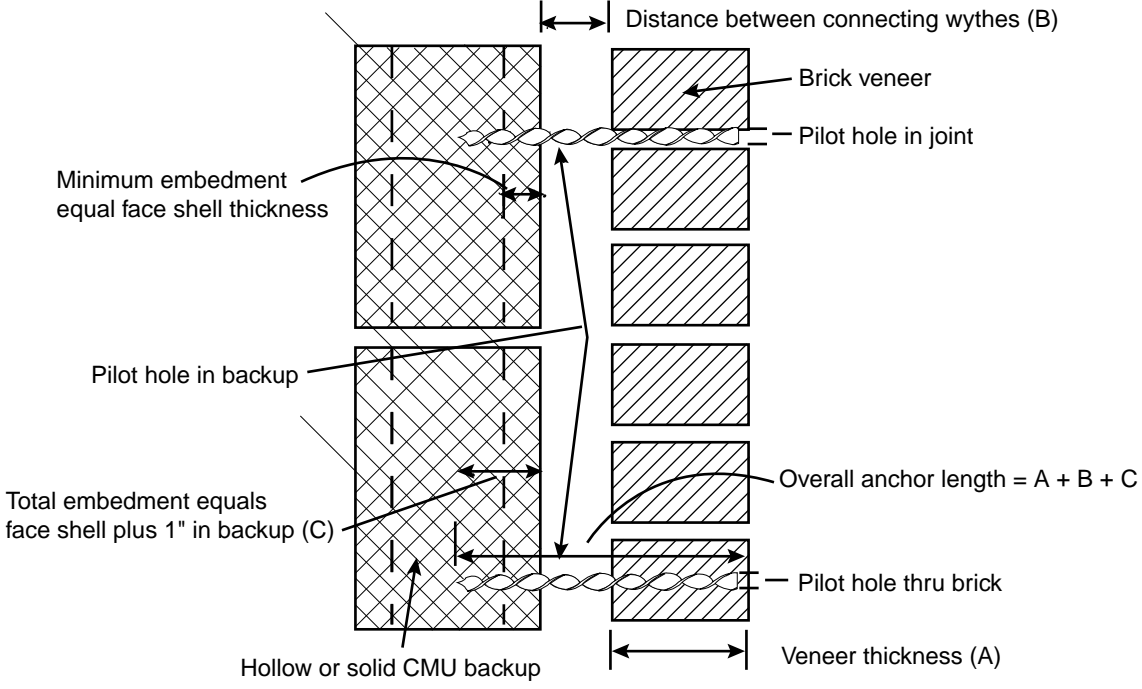
- ① 4" embedment, 2145 psi, per ASTM E477 Prism Test.
- ② Installed in joint, 1720 psi Type N mortar, 4" embedment
- ③ 2" embedment in brick
- ④ 2" embedment in mortar joint
- ⑤ Unsupported length = 4", equal to 4" cavity.

## SPECIFICATION REFERENCE FOR DUR-O-WAL FACADE ANCHOR SERIES: DUR-O-FLEX FRICTION PIN

GENERAL				PRODUCTS			EXECUTION					
Quality Assurance Submittals *Ultimate Anchor performance				Anchors & Fasteners for solid Veneers >=3" to a solid back-up			Components		Hole Size		Anchor Length	Drilling Technique
Backup		Facade		Item	Product	Manufacturer			Backup	Facade		
TEN	COM	TEN	COM	Facade Stabilization Anchor	DUR-O-FLEX	DUR-O-WAL or approved Equal	304 S.S.		Field Verify	Field Verify	Field Verify	

\*Submittals for alternate should meet or exceed ultimate anchor performance. Refer to anchor performance characteristics for performance specifications.

# DUR-O-FLEX FRICTION PIN



<b>DUR-O-WAL VENEER REANCHORING SYSTEM</b>		
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DATE:		REVISED:
Project:		
Series Anchor: <b>DUR-O-FLEX FRICTION PIN</b>		

# SERIES ANCHOR: DUR-O-FLEX FRICTION PIN

## APPLICATION

VENEER	BACK-UP
Brick	CMU Hollow
Soft Brick	CMU Grouted
Concrete	

## ANCHOR SELECTION

ITEM NUMBER	ANCHOR LENGTH	CAVITY RANGE
508 Flex 6	6"	0"-1/2"
508 Flex 7	7"	0"-1"
508 Flex 8	8"	1"-2"
508 Flex 9	9"	2"-3"
508 Flex 10	10"	3"-4"

Dur-O-Flex Friction Pins can be used to restabilize brick, soft brick, and precast concrete veneers to hollow or solid grouted CMU. Installation thru the brick veneer can occur at the joint or thru the brick. Field verify hole sizes. Other lengths available. Install using a Dur-O-Flex Setting Tool and an S.D.S. Rotary Hammer.

		ULTIMATE CAPACITY					
		COMPRESSION (lb)			TENSION (lb)		
		avg.	std. dev.	c.v.%	avg.	std. dev.	c.v.%
VENEER	Brick ①	362	103	28	362	103	28
	Mortar Jt .②	484	193	40	484	193	40
	Concrete ③	611	227	37	611	227	37
BACK-UP	Hollow CMU ④	426	183	43	426	183	43
	Hollow CMU ⑤	259	72	28	259	72	28
BUCKLING STRENGTH	4" ⑥	534	N/A	N/A			

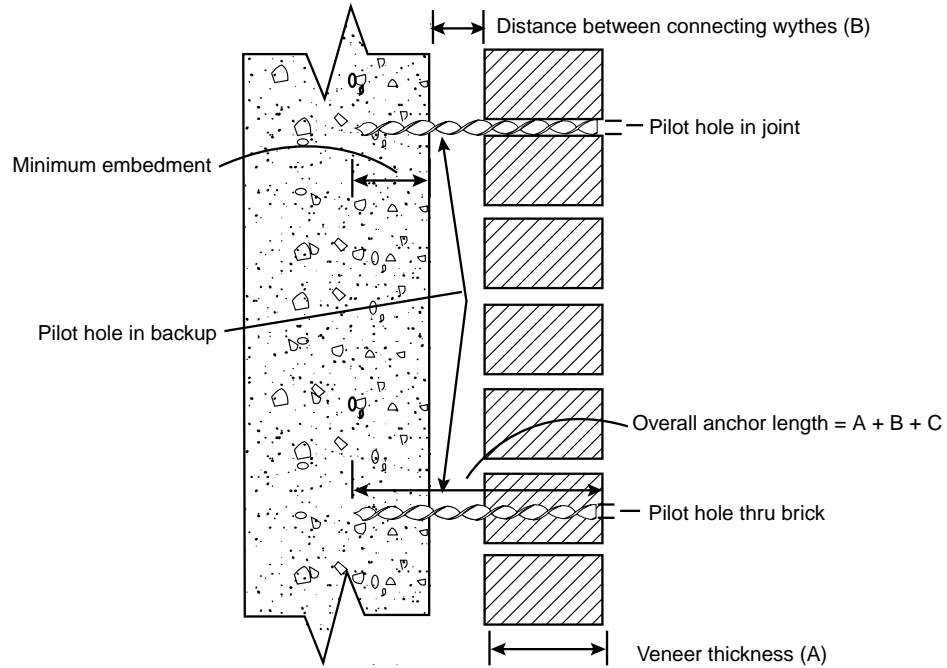
- ① 4" embedment, 2145 psi, per ASTM E477 Prism Test.
- ② Installed in joint, 1720 psi Type N mortar, 4" embedment.
- ③ 2" embedment, 3000 psi.
- ④ 1-1/4" embedment in face shell, light weight CMU
- ⑤ 1-1/4" embedment in face shell, normal weight CMU
- ⑥ Unsupported length = 4", equal to 4" cavity.

## SPECIFICATION REFERENCE FOR DUR-O-WAL FACADE ANCHOR SERIES: DUR-O-FLEX FRICTION PIN

GENERAL				PRODUCTS			EXECUTION					
Quality Assurance Submittals *Ultimate Anchor performance				Anchors & Fasteners for solid Veneers >=3" to a solid back-up			Components		Hole Size		Anchor Length	Drilling Technique
Backup		Facade		Item	Product	Manufacturer		Backup	Facade			
TEN	COM	TEN	COM	Facade Stabilization Anchor	DUR-O-FLEX	DUR-O-WAL or approved Equal	304 S.S.	Field Verify	Field Verify	Field Verify		

\*Submittals for alternate should meet or exceed ultimate anchor performance. Refer to anchor performance characteristics for performance specifications.

## DUR-O-FLEX FRICTION PIN



### Brick to concrete (mortar joint or solid brick)

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

<b>DUR-O-WAL VENEER REANCHORING SYSTEM</b>		
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DATE:		REVISED:
Project:		
Series Anchor: <b>DUR-O-FLEX FRICTION PIN</b>		



# SERIES ANCHOR: DUR-O-FLEX FRICTION PIN

## APPLICATION

VENEER	BACK-UP
Brick	Concrete
Soft Brick	
Concrete	

## ANCHOR SELECTION

ITEM NUMBER	ANCHOR LENGTH	CAVITY RANGE
508 Flex 6	6"	0"-1/2"
508 Flex 7	7"	0"-1"
508 Flex 8	8"	1"-2"
508 Flex 9	9"	2"-3"
508 Flex 10	10"	3"-4"

The Dur-O-Flex Friction Pin can be used to stabilize existing brick, soft brick and precast concrete veneers to concrete. Installation thru the veneer can occur thru the brick, or mortar joint. Field verify hole size. Other lengths available. Install using Dur-O-Flex Setting Tool with S.D.S. Rotary Hammer.

		ULTIMATE CAPACITY					
		COMPRESSION (lb)			TENSION (lb)		
		avg.	std. dev.	c.v.%	avg.	std. dev.	c.v.%
VENEER	Brick ①	362	103	28	362	103	28
	Mortar Jt .②	484	193	40	484	193	40
	Concrete ③	611	227	37	611	227	37
BACK-UP	Concrete ③	611	227	37	611	227	37
BUCKLING STRENGTH	4" ⑥	534	N/A	N/A			

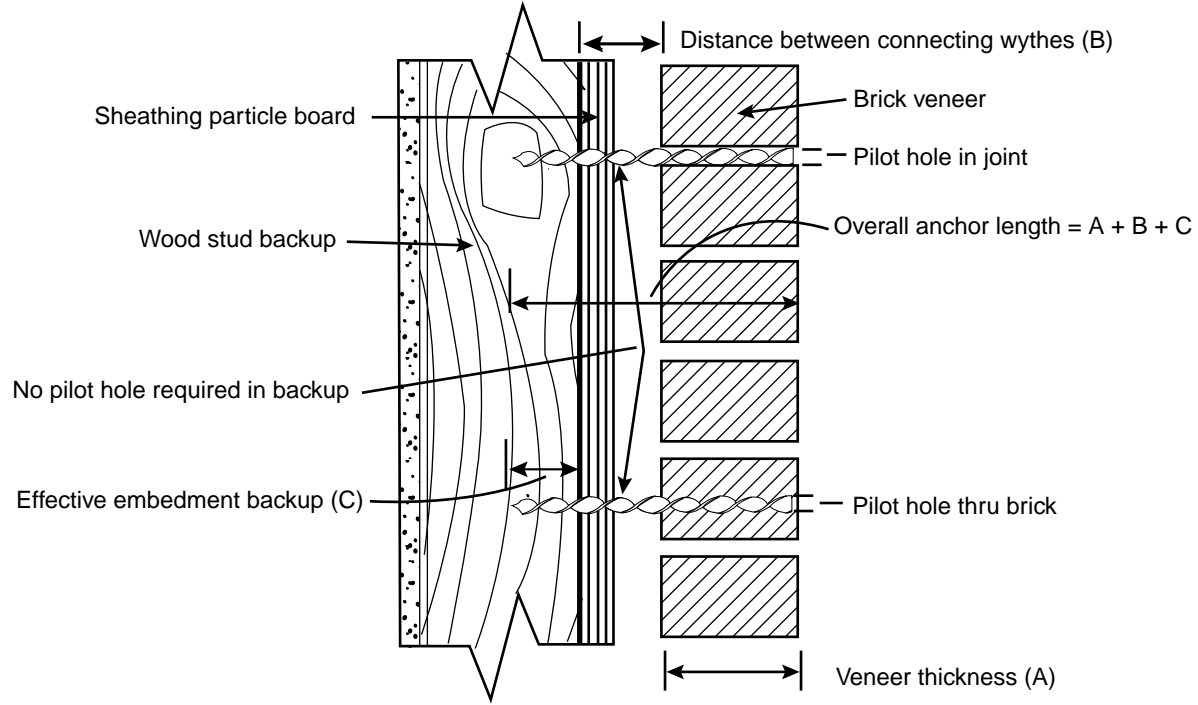
- ① 4" embedment, 2145 psi, per ASTM E477 Prism Test.
- ② Installed in joint, Type N mortar, 1720 psi, 4" embedment.
- ③ 2" embedment, 3000 psi.
- ④ Unsupported length = 4", equal to 4" cavity.

## SPECIFICATION REFERENCE FOR DUR-O-WAL FACADE ANCHOR SERIES: DUR-O-FLEX FRICTION PIN

GENERAL				PRODUCTS			EXECUTION					
Quality Assurance Submittals *Ultimate Anchor performance				Anchors & Fasteners for solid Veneers >=3" to a solid back-up			Components		Hole Size		Anchor Length	Drilling Technique
Backup		Facade		Item	Product	Manufacturer			Backup	Facade		
TEN	COM	TEN	COM	Facade Stabilization Anchor	DUR-O-FLEX	DUR-O-WAL or approved Equal	304 S.S.		Field Verify	Field Verify	Field Verify	

\*Submittals for alternate should meet or exceed ultimate anchor performance. Refer to anchor performance characteristics for performance specifications.

# DUR-O-FLEX FRICTION PIN



**Brick to wood stud (mortar joint or solid brick)**

<b>DUR-O-WAL VENEER REANCHORING SYSTEM</b>		
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DATE:		REVISED:
Project:		
Series Anchor: <b>DUR-O-FLEX FRICTION PIN</b>		

# SERIES ANCHOR: DUR-O-FLEX FRICTION PIN

## APPLICATION

VENEER	BACK-UP
Brick	Wood
Soft Brick	Wood Sheathing

## ANCHOR SELECTION

ITEM NUMBER	ANCHOR LENGTH	CAVITY RANGE
508 Flex 6	6"	0"-3/4"
508 Flex 7	7"	1"-2"
508 Flex 8	8"	2"-3"
508 Flex 9	9"	3"-4"
508 Flex 10	10"	4"-5"

Dur-O-Flex can be installed either thru the brick or mortar joint. The selection of hole size is dependent on hardness of either joint or brick. Field verification of hole size required for optimum results. Other lengths available. Install using a Dur-O-Flex Setting Tool and S.D.S. Rotary Hammer.

		ULTIMATE CAPACITY					
		COMPRESSION (lb)			TENSION (lb)		
		avg.	std. dev.	c.v.%	avg.	std. dev.	c.v.%
VENEER	Brick ①	362	103	28	362	103	28
	Mortar Jt .②	484	193	40	484	193	40
BACK-UP	Wood @ 1-1/4"③	241	31	13	241	31	13
	Wood @ 2"	329	68	21	329	68	21
BUCKLING STRENGTH	4" ④	534	N/A	N/A			

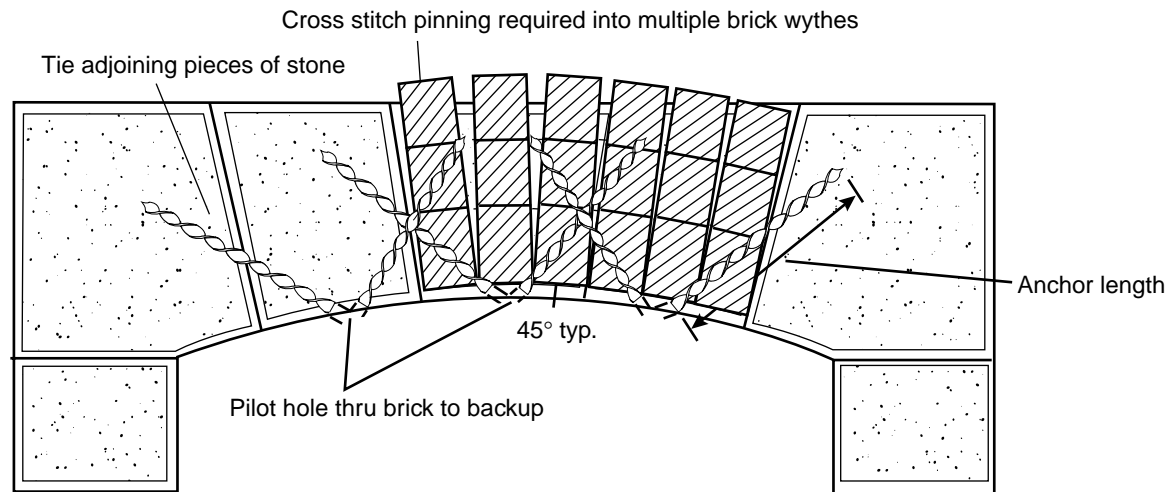
- ① 4" embedment, 2145 psi, per ASTM E477 Prism Test.
- ② Installed in joint, Type N mortar, 1720 psi, 4" embedment.
- ③ 2 x 4 kiln dried fir, in 2" face.
- ④ 4" unsupported distance = 4" cavity.

## SPECIFICATION REFERENCE FOR DUR-O-WAL FACADE ANCHOR SERIES: DUR-O-FLEX FRICTION PIN

GENERAL				PRODUCTS			EXECUTION					
Quality Assurance Submittals *Ultimate Anchor performance				Anchors & Fasteners for solid Veneers >=3" to a solid back-up			Components		Hole Size		Anchor Length	Drilling Technique
Backup		Facade		Item	Product	Manufacturer			Backup	Facade		
TEN	COM	TEN	COM	Facade Stabilization Anchor	DUR-O-FLEX	DUR-O-WAL or approved Equal	304 S.S.		Field Verify	Field Verify	Field Verify	

\*Submittals for alternate should meet or exceed ultimate anchor performance. Refer to anchor performance characteristics for performance specifications.

# DUR-O-FLEX FRICTION PIN



Repairing limestone or brick arches

<b>DUR-O-WAL VENEER REANCHORING SYSTEM</b>		
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DATE:		REVISED:
Project:		
Series Anchor: <b>DUR-O-FLEX FRICTION PIN</b>		

# SERIES ANCHOR: DUR-O-FLEX FRICTION PIN

## APPLICATION

VENEER	BACK-UP
Stone	Brick
Brick	Concrete
	Mortar
	Wood

## ANCHOR SELECTION

ITEM NUMBER	ANCHOR LENGTH	CAVITY RANGE
508 Flex 6	6"	N/A
508 Flex 7	7"	N/A
508 Flex 8	8"	N/A
508 Flex 9	9"	N/A
508 Flex 10	10"	N/A

The Dur-O-Flex Friction Pin can be used to reanchor existing archways that exhibit settlement. The pin should be installed in pairs in a cross stitch style for stability. Hole size should be field verified. Install using the Dur-O-Flex Setting Tool and S.D.S. Rotary Hammer. Other lengths available.

		ULTIMATE CAPACITY					
		COMPRESSION (lb)			TENSION (lb)		
		avg.	std. dev.	c.v.%	avg.	std. dev.	c.v.%
VENEER	Brick ①	362	103	28	362	103	28
	Stone	FIELD VERIFY			FIELD VERIFY		
BACK-UP	Brick ①	362	103	28	362	103	28
	Brick ②	279	97	35	279	97	35
	Mortar Jt. ③	316	86	27	316	86	27
	Mortar Jt. ④	484	193	40	484	193	40
	Concrete ⑤	611	227	37	611	227	37
	Wood ⑥	241	31	13	241	31	13
	Wood ⑦	329	68	21	329	68	21
BUCKLING STRENGTH	4" ⑧	534	N/A	N/A			

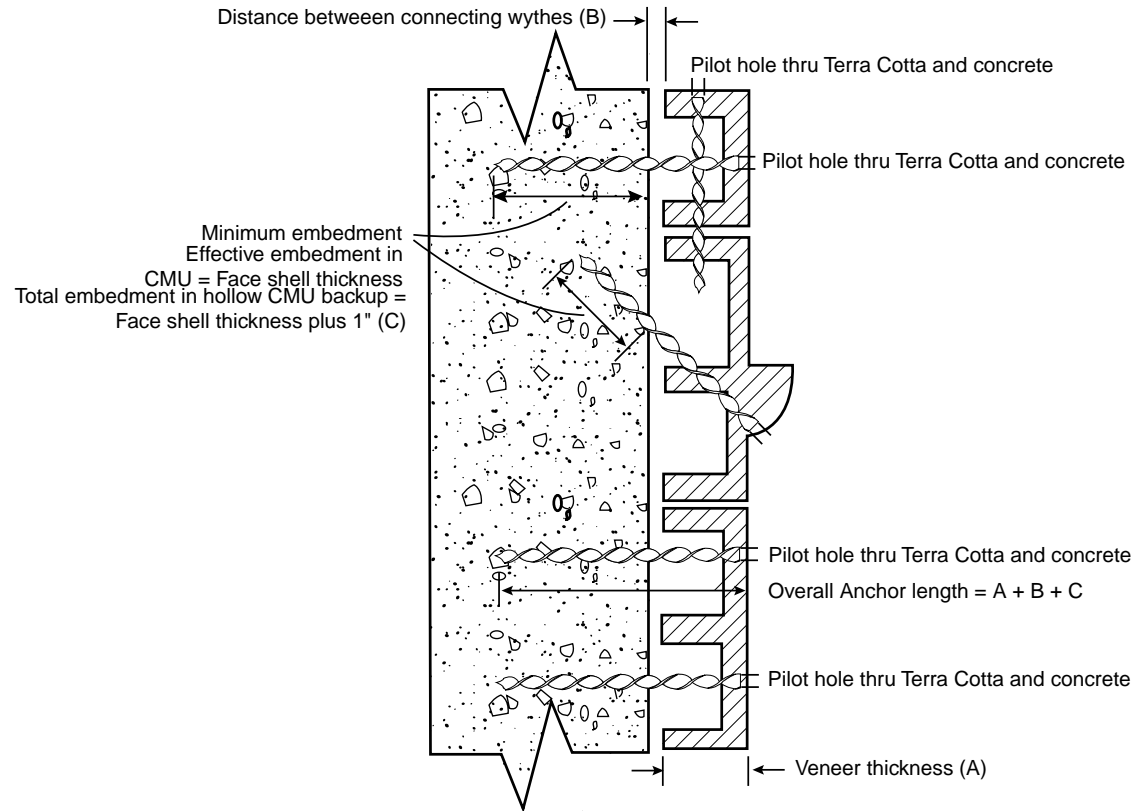
- ① 4" embedment, 2145 psi, per ASTM E477 Prism Test.
- ② 2" embedment in brick.
- ③ In mortar joint, 2" embedment, 1720 psi, Type N mortar.
- ④ In mortar joint, 4" embedment.
- ⑤ 2" embedment, 3000 psi.
- ⑥ 2" x 4" stud lumber @ 1-1/4" embedment.
- ⑦ 2" x 4" stud lumber @ 2" embedment.
- ⑧ Unsupported length = 4", equal to 4" cavity.

## SPECIFICATION REFERENCE FOR DUR-O-WAL FACADE ANCHOR SERIES: DUR-O-FLEX FRICTION PIN

GENERAL				PRODUCTS			EXECUTION					
Quality Assurance Submittals *Ultimate Anchor performance				Anchors & Fasteners for solid Veneers >=3" to a solid back-up			Components		Hole Size		Anchor Length	Drilling Technique
Backup		Facade		Item	Product	Manufacturer			Backup	Facade		
TEN	COM	TEN	COM	Facade Stabilization Anchor	DUR-O-FLEX	DUR-O-WAL or approved Equal	304 S.S.		Field Verify	Field Verify	Field Verify	

\*Submittals for alternate should meet or exceed ultimate anchor performance. Refer to anchor performance characteristics for performance specifications.

# DUR-O-FLEX FRICTION PIN



## Terra Cotta to concrete or masonry

For pilot hole depth in solid backup - should be 1" deeper than anchor is long

### DUR-O-WAL VENEER REANCHORING SYSTEM

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DATE:		REVISED:
Project:		
Series Anchor: <b>DUR-O-FLEX FRICTION PIN</b>		

# SERIES ANCHOR: DUR-O-FLEX FRICTION PIN

## APPLICATION

VENEER	BACK-UP
Terra Cotta	Concrete
	Brick
	Block

## ANCHOR SELECTION

ITEM NUMBER	ANCHOR LENGTH	CAVITY RANGE
508 Flex 6	6"	N/A
508 Flex 7	7"	N/A
508 Flex 8	8"	N/A
508 Flex 9	9"	N/A
508 Flex 10	10"	N/A

Dur-O-Flex Friction Pins are a good method to stitch or anchor terra cotta to various backup materials. Care must be exercised when drilling so as not to shatter the terra cotta. Field verify hole sizes. Install using the Dur-O-Flex Setting Tool with S.D.S. Rotary Hammer. Other lengths available. Can be installed thru terra cotta or mortar joint.

		ULTIMATE CAPACITY					
		COMPRESSION (lb)			TENSION (lb)		
		avg.	std. dev.	c.v.%	avg.	std. dev.	c.v.%
VENEER	Terra Cotta	FIELD VERIFY			FIELD VERIFY		
	Mortar Jt. ①	484	193	40	484	193	40
BACK-UP	Concrete ②	611	227	37	611	227	37
	Brick ③	279	97	35	279	97	35
	Brick ④	362	103	28	362	103	28
	Mortar ⑤	316	86	27	316	86	27
	Mortar ①	484	193	40	484	193	40
	Block ⑥	426	183	43	426	183	43
	Block ⑦	259	72	28	259	72	28
BUCKLING STRENGTH							
	4" ⑧	534	N/A	N/A			

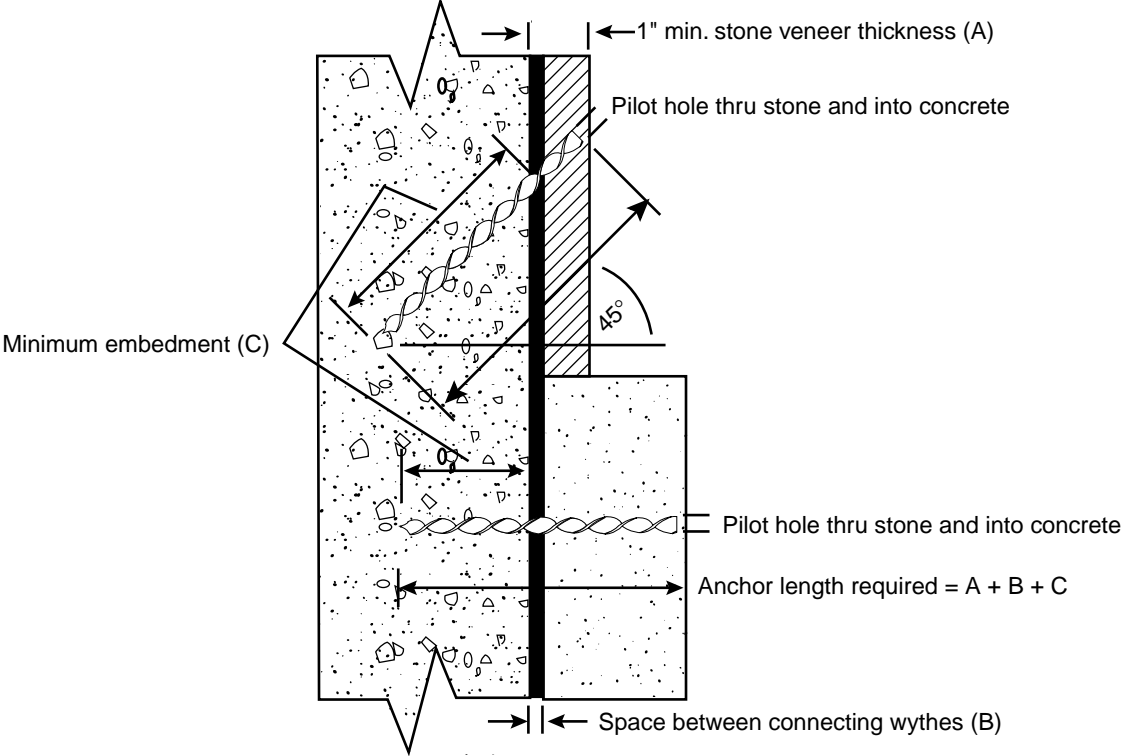
- ① Installed in joint, Type N mortar, 1720 psi, 4" embedment.
- ② 2" embedment, 3000 psi.
- ③ 2" embedment in brick, 2140 psi per ASTM E477 Prism Test.
- ④ 4" embedment in brick.
- ⑤ In mortar joint 2" embedment, 1720 psi, Type N mortar.
- ⑥ 1-1/4" embedment in face shell, light weight CMU.
- ⑦ 1-1/4" embedment in face shell, normal weight CMU.
- ⑧ Unsupported length = 4", equal to 4" cavity.

## SPECIFICATION REFERENCE FOR DUR-O-WAL FACADE ANCHOR SERIES: DUR-O-FLEX FRICTION PIN

GENERAL				PRODUCTS			EXECUTION					
Quality Assurance Submittals *Ultimate Anchor performance				Anchors & Fasteners for solid Veneers >=3" to a solid back-up			Components		Hole Size		Anchor Length	Drilling Technique
Backup		Facade		Item	Product	Manufacturer			Backup	Facade		
TEN	COM	TEN	COM	Facade Stabilization Anchor	DUR-O-FLEX	DUR-O-WAL or approved Equal	304 S.S.		Field Verify	Field Verify	Field Verify	

\*Submittals for alternate should meet or exceed ultimate anchor performance. Refer to anchor performance characteristics for performance specifications.

# DUR-O-FLEX FRICTION PIN



Marble or limestone panels to concrete

<b>DUR-O-WAL VENEER REANCHORING SYSTEM</b>		
SCALE: NTS	DUR-O-WAL, INC. 625 CRANE ST., AURORA, IL 60505 PH: 630-898-1101, FAX: 630-898-8331	DRAWN BY:
DATE:		REVISED:
Project:		
Series Anchor: <b>DUR-O-FLEX FRICTION PIN</b>		



# SERIES ANCHOR: DUR-O-FLEX FRICTION PIN

## APPLICATION

VENEER	BACK-UP
Marble	Concrete
Limestone	Brick
Travertine	Block
Sandstone	Wood
Precast	

## ANCHOR SELECTION

ITEM NUMBER	ANCHOR LENGTH	CAVITY RANGE
508 Flex 6	6"	N/A
508 Flex 7	7"	N/A
508 Flex 8	8"	N/A
508 Flex 9	9"	N/A
508 Flex 10	10"	N/A

Dur-O-Flex can be used to stabilize most stone veneers. Stone density will limit the application (not recommended for granite). Field verification of performance and hole size is required due to the varying qualities of stones. Install using the Dur-O-Flex Setting Tool with S.D.S. Rotary Hammer. Other lengths available.

		ULTIMATE CAPACITY					
		COMPRESSION (lb)			TENSION (lb)		
		avg.	std. dev.	c.v.%	avg.	std. dev.	c.v.%
VENEER	Concrete ①	611	227	37	611	227	37Ter
	Marble	FIELD VERIFY			FIELD VERIFY		
	Limestone	FIELD VERIFY			FIELD VERIFY		
	Travertine	FIELD VERIFY			FIELD VERIFY		
	Sandstone	FIELD VERIFY			FIELD VERIFY		
BACK-UP	Concrete ①	611	227	37	611	227	37
	Brick ②	279	97	35	279	97	35
	Brick ③	362	103	28	362	103	28
	Mortar ④	316	86	27	316	86	27
	Mortar ⑤	484	193	40	484	193	40
	Block ⑥	426	183	43	426	183	43
	Block ⑦	259	72	28	259	72	28
	Wood ⑧	241	31	13	241	31	13
	Wood ⑨	329	68	21	329	68	21
BUCKLING STRENGTH	4" ⑩	534	N/A	N/A			

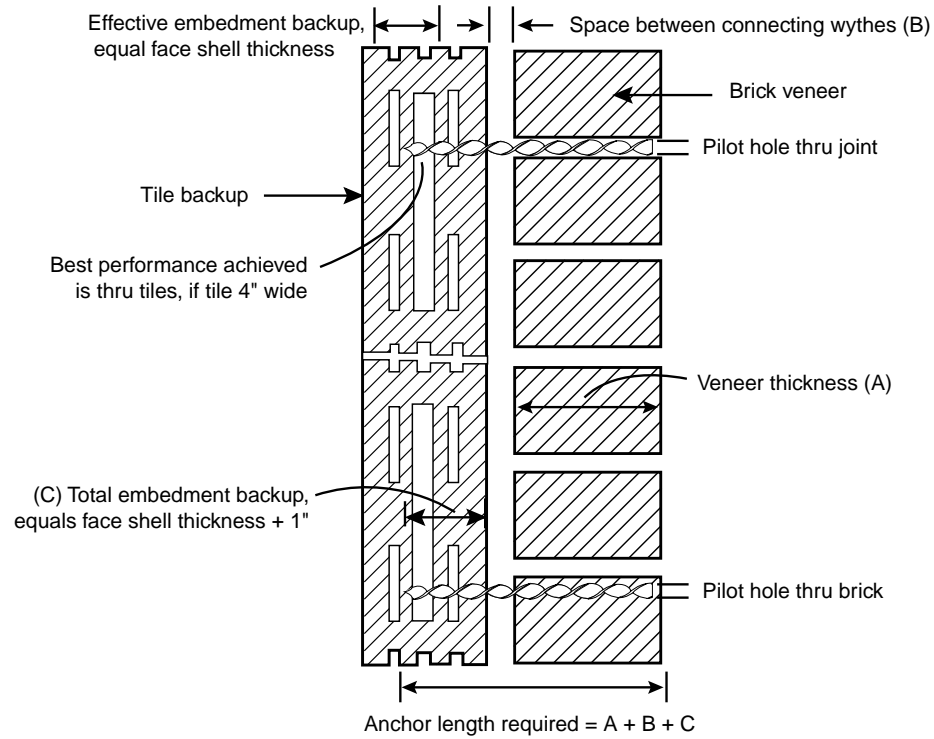
- ① 2" embedment, 3000 psi.
- ② 2" embedment in brick, 2145 psi per ASTM E477 Prism Test.
- ③ 4" embedment in brick.
- ④ Installed in mortar joint 2" embedment, 1720 psi, Type N mortar.
- ⑤ Installed in mortar joint, 4" embedment.
- ⑥ 1-1/4" embedment in face shell, light weight CMU.
- ⑦ 1-1/4" embedment in face shell, normal weight CMU.
- ⑧ 2" x 4" kiln dried fir, installed in 2" face, 1-1/4" embedment.
- ⑨ 2" x 4" kiln dried fir, installed in 2" face, 2" embedment.
- ⑩ Unsupported length = 4", equal to 4" cavity.

## SPECIFICATION REFERENCE FOR DUR-O-WAL FACADE ANCHOR SERIES: DUR-O-FLEX FRICTION PIN

GENERAL				PRODUCTS			EXECUTION					
Quality Assurance Submittals *Ultimate Anchor performance				Anchors & Fasteners for solid Veneers >=3" to a solid back-up			Components		Hole Size		Anchor Length	Drilling Technique
Backup		Facade		Item	Product	Manufacturer			Backup	Facade		
TEN	COM	TEN	COM	Facade Stabilization Anchor	DUR-O-FLEX	DUR-O-WAL or approved Equal	304 S.S.		Field Verify	Field Verify	Field Verify	

\*Submittals for alternate should meet or exceed ultimate anchor performance. Refer to anchor performance characteristics for performance specifications.

# DUR-O-FLEX FRICTION PIN



**Brick to clay tile**

## DUR-O-WAL VENEER REANCHORING SYSTEM

SCALE: NTS	DUR-O-WAL, INC. 625 CRANE ST., AURORA, IL 60505 PH: 630-898-1101, FAX: 630-898-8331	DRAWN BY:
DATE:		REVISED:
Project:		
Series Anchor: <b>DURO-FLEX FRICTION PIN</b>		

# SERIES ANCHOR: DUR-O-FLEX FRICTION PIN

## APPLICATION

VENEER	BACK-UP
Brick	Tile

## ANCHOR SELECTION

ITEM NUMBER	ANCHOR LENGTH	CAVITY RANGE
508 Flex 6	6"	N/A
508 Flex 7	7"	N/A
508 Flex 8	8"	N/A
508 Flex 9	9"	N/A
508 Flex 10	10"	N/A

The Dur-O-Flex Friction Pin can be used to stabilize brick veneers to a tile backup. Care must be exercised when drilling in tile, preferably rotation only, or a very light impacting hammer drill is recommended. Install Dur-O-Flex using the Dur-O-Flex Setting Tool and an S.D.S. Rotary Hammer. Verify the hole size in the field. Other lengths available. Installation thru the mortar joint or brick is possible.

		ULTIMATE CAPACITY					
		COMPRESSION (lb)			TENSION (lb)		
		avg.	std. dev.	c.v.%	avg.	std. dev.	c.v.%
VENEER	Brick ①	362	103	28	362	103	28
	Mortar Jt. ②	484	193	40	484	193	40
BACK-UP	Tile	FIELD VERIFY			FIELD VERIFY		

① 4" embedment, 2145 psi per ASTM E477 Prism Test.

② 4" embedment in mortar joint, 1720 psi, Type N mortar.

## SPECIFICATION REFERENCE FOR DUR-O-WAL FACADE ANCHOR SERIES: DUR-O-FLEX FRICTION PIN

GENERAL				PRODUCTS			EXECUTION					
Quality Assurance Submittals *Ultimate Anchor performance				Anchors & Fasteners for solid Veneers >=3" to a solid back-up			Components		Hole Size		Anchor Length	Drilling Technique
Backup		Facade		Item	Product	Manufacturer			Backup	Facade		
TEN	COM	TEN	COM	Facade Stabilization Anchor	DUR-O-FLEX	DUR-O-WAL or approved Equal	304 S.S.		Field Verify	Field Verify	Field Verify	

\*Submittals for alternate should meet or exceed ultimate anchor performance. Refer to anchor performance characteristics for performance specifications.