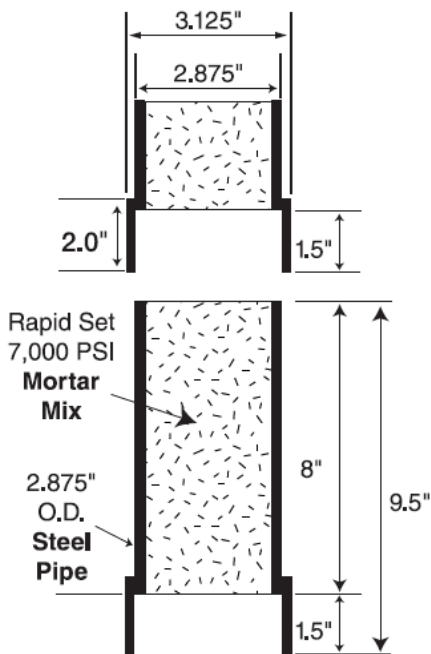
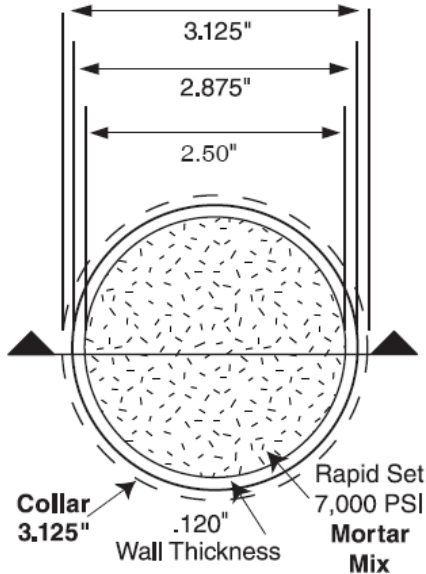


(Figure A)



(Figure B)

1. PRODUCT DESCRIPTION

The Perfect Pier is an innovative high strength piling system that incorporates compact interlocking segments that are comprised of high strength mortar, pre-cast inside of steel sleeves. The unique design features and materials combine to create a system that is engineered to outperform other typical systems by increasing ultimate in-place strength. Additional benefits include lower cost installation equipment, lower installation time and less labor. (see Figure A).

2. PRODUCT APPLICATIONS

The Perfect Pier is designed and engineered to be installed for the purpose of stabilization and/or to lift residential and light commercial structures. This system can be used for structures with basements or various slab on grade applications.

3. PRODUCT FEATURES

The Perfect Pier segment design includes a steel cylinder encasing a unique high strength mortar that is water resistant, alkali resistant, and sulfate resistant. This unique concrete bonds to the steel cylinder on a microscopic level to create a monolithic segment. Each segment interlocks together by means of a male and female connection (see Figure B). The length of each segment is designed to be installed directly under the footing of the structure with minimal excavation. This increases the strength of the system by supporting the structure directly under the load.

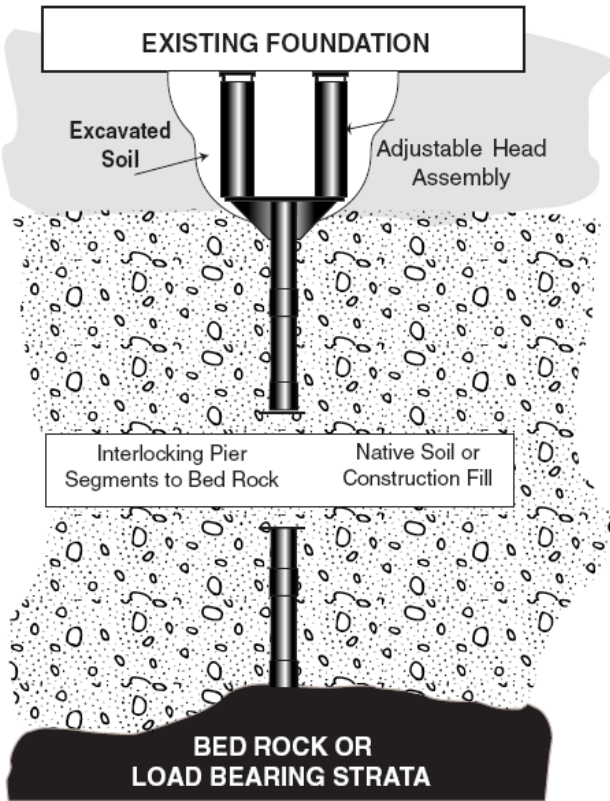
4. PRODUCT BENEFITS

- Eliminates most problems with steel and helical and concrete piercing systems
- Strength of system provided by waterproof, chemical resistant mortar
- Provides the deepest installations in the industry
- Simple to Install
- Less intrusive than most systems
- Does not require expensive installation equipment
- Installed directly beneath the footing
- Can be installed outside or inside of the home

5. PHYSICAL PROPERTIES

STEEL SEGMENT SPECIFICATIONS:

- ASTM A53, 35 ksi standard steel pipe
- 2.875" Outside Diameter
- 0.120" Wall Thickness



(Figure C)

MORTAR SPECIFICATIONS:

- High Strength Concrete Mortar ASTM C109
- 2,500 psi 1-hour compressive strength
- 4,000 psi 3-hour compressive strength
- 5,000 psi 7-day compressive strength
- 7,000 psi 28-day compressive strength
- 1,000 psi 1-day slant shear strength
- 2,200 psi 28-day slant shear strength

SYSTEM PERFORMANCE:

- Ultimate Compression Strength = 70,000 lbs (12,800 psi)
- Safe Maximum Load = 56,000 lbs

Laboratory Test Results:

Load (pounds)	Deflection (in)	
	Segment 1	Segment 2
10,000	0.042	0.039
20,000	0.058	0.053
30,000	0.066	0.065
40,000	0.078	0.077
50,000	0.090	0.087
60,000	0.105	0.102
70,000	0.133	0.138
80,000	0.269	0.268
90,000	0.509	0.554
100,000	0.710	0.896
110,000	0.975	1.150
115,000	1.121	1.287
120,000	1.267	1.414

6. INSTALLATION PROCEDURES

The system is installed by excavating soils at each piercing location at a depth approximately 2 feet below the footing. The excavation needs to be large enough for one worker to enter and have access below the footing. Using the weight of the structure, a hydraulic press with at least a 8" piston stroke, is placed below the footing to drive the segments directly into the soil – no pre drilling is required. A segment is placed collar (or female) side down towards the soil and pressed hydraulically down into the soil directly under the center of the foundation wall using the footing for leverage. After one segment is driven into the soil, another segment is placed collar (or female) side down over the male end of the first segment. The hydraulic press is then used to press the segments into the soil exactly as the first segment was installed. This process is repeated until the system cannot be driven into the soil any deeper (refusal). At that point, the structure can be lifted using a hydraulic Bottle Jack or Manifold System pushing off of the installed pier system and the shimmed to the desired elevation. A specially designed adjustable head assembly and steel shims are required to lift and stabilize the structure. (see Figure C).



7. TYPICAL SOIL BEARING DATA

Soil Category	Approximate Bearing Strength*
Dense Gravel	10,000 psf
Medium Dense Gravel	8,000 psf
Loose Gravel	<4,000 psf
Compacted Sand	6,000 psf
Medium Dense Sand	4,000 psf
Loose Sand	<2,000 psf
Very Stiff Clay	6,000 psf
Stiff Clay	3,000 psf
Firm Clay	1,500 psf
Soft Clay and Silts	<1,500 psf
Very Soft Clay	Not Suitable

*These values are approximate and should be used as a guideline only. Soil characteristics are site specific. Geological testing should be used to determine specific and precise soil strengths.

8. AVERAGE RESIDENTIAL FOOTING DATA

Average Residential Footing Loads			
	per 1 foot	per 6 feet	per 8 feet
Conventional Light Frame			
1-story	1000	6000	8000
2-story	1500	9000	12000
3-story	2000	12000	16000
Conventional Frame w/ 4" Brick			
1-story	1500	9000	12000
2-story	2300	13800	18400
3-story	3200	19200	25600
8" Hollow Block Construction			
1-story	1500	9000	12000
2-story	2300	13800	18400
3-story	3200	19200	25600
8" Solid Block or Grouted Block			
1-story	2000	12000	16000
2-story	3400	20400	27200
3-story	4800	28800	38400



9. TECHNICAL SERVICE

Advanced Segment Systems provides technical support to assist in product selection and appropriate installation procedures and methods.

10. AVAILABILITY

Advanced Segment Systems products are available for direct factory purchase to authorized dealers, and for installation by factory trained and authorized installers. Consult factory for the names and locations of the nearest representatives or dealers for ordering information.

ITEM #	DESCRIPTION
CP-3241	SEGMENT
CP-3271	TOP SEGMENT
AH-W	ADJUSTABLE HEAD W/SLIDERS
AH-WO	ADJUSTABLE HEAD WO/SLIDERS
SA-5663	SLIDE ADJUSTER
SB-2210	1" SHIM BLOCK
SHM-1422	1/4 x2x2 SHIM
SHM-3822	3/8 x3x3 SHIM

Net Pricing: Available to authorized dealers only.



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