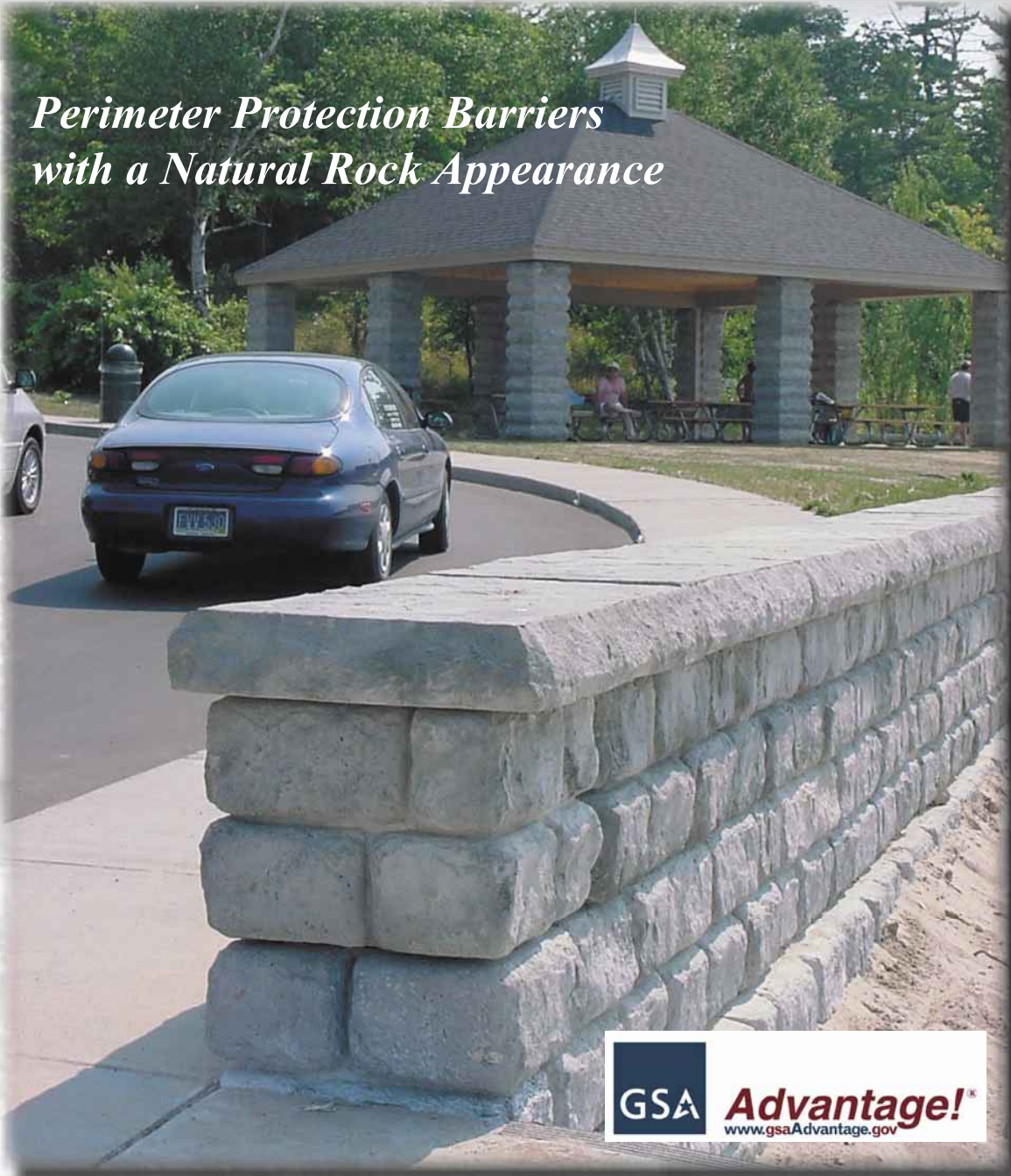


*THE ESSENCE
OF NATURAL ROCK*

FORCE PROTECTION



*Perimeter Protection Barriers
with a Natural Rock Appearance*

C
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866-222-8400

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The Essence of Natural Rock

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PERIMETER PROTECTION THAT MAKES SENSE: REDI-ROCK!

Perimeter Security Walls



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Redi-Rock International's Force Protection System is the most innovative perimeter protection product on the market, with an appearance that reflects the "Essence of Natural Rock."

Designer Rock Faces available in different styles and colors.

Post-Tension Cable and J-Bolt System to link together massive blocks weighing 1,400 lbs each.

Modular Precast Concrete Blocks. If you ever need to move the wall, it can easily be disassembled and reassembled in a new location.*

Manufactured locally to save in shipping costs.

**CALL NOW FOR YOUR FREE
DESIGN CD!**

866-222-8400



Contract Holder
FSS Contract GS-07F-0463N

Redi-Rock received a Federal Supply Schedule contract on April 17th, 2003, allowing government contractors to purchase **Redi-Rock's Force Protection System** at pre-approved prices. If you are a government contractor you may find out more about this special service by calling Redi-Rock or by visiting *GSA Advantage!*® at www.gsaadvantage.gov.

* Redi-Rock's barrier wall does not require a footing in most applications eliminating otherwise expensive construction costs. It installs easily using only minor construction.

PERIMETER PROTECTION THAT LOOKS GREAT: REDI-ROCK!

BLOCK STYLES AND COLOR



Block Styles—your perimeter doesn't have to look ugly. Freeway barriers, manhole planters, and steel fencing can be replaced with the look of natural rock.

Redi-Rock is available in two natural rock styles.

From an old English rock look to rough-hewn granite, to traditional limestone, Redi-Rock fits beautifully into the landscape.



Block Color—Color may be applied to your blocks pre- or post-installation. A spray on color is available for post-installation coloring. An integral color is also available and varies depending on region. Coloring blocks is inexpensive and simple to perform. To find out what integral colors are available to you, please contact Redi-Rock International with your location.

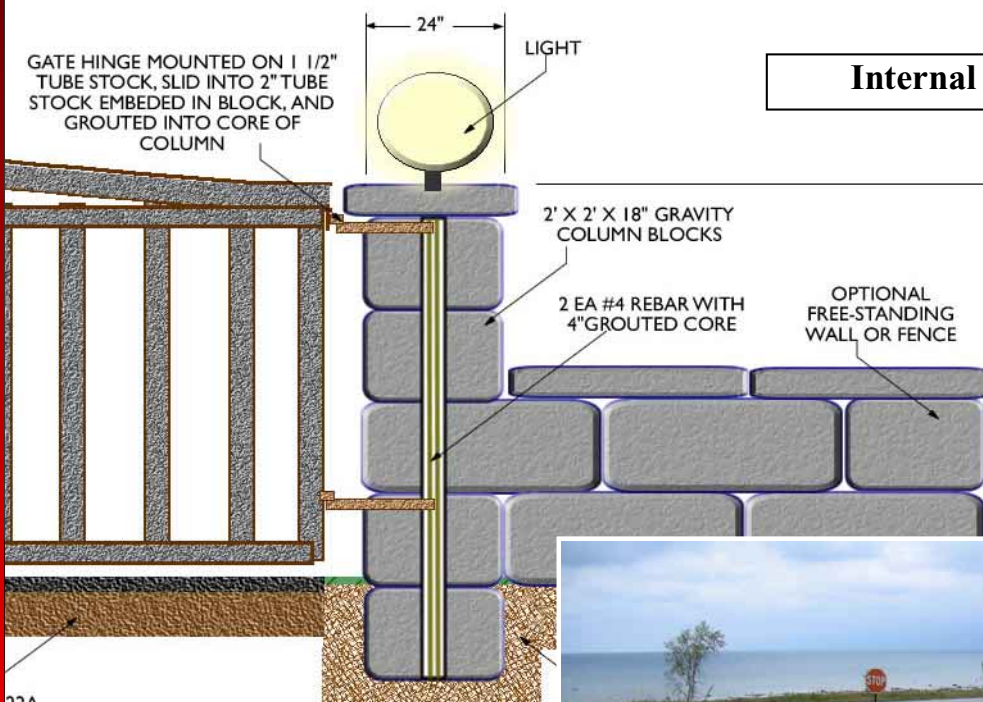


BOLLARDS

Bollards—Redi-Rock bollards have a natural rock, column appearance.

These bollards can be retrofitted over existing bollards to add extra strength and a pleasant look.

Precast concrete units can accept fencing, gate attachments, light fixtures, etc.



Internal Security Detail



Entry Points



Concrete Fencing

TESTING— There are several recommended standards available for static force protection barriers.

Redi-Rock is committed to being the leading static force protection barrier for performance. Redi-Rock's force protection system has been virtually engineered and tested and is currently pursuing further testing with the Department of Defense, Department of State, ATF, and the Army Corps of Engineers.

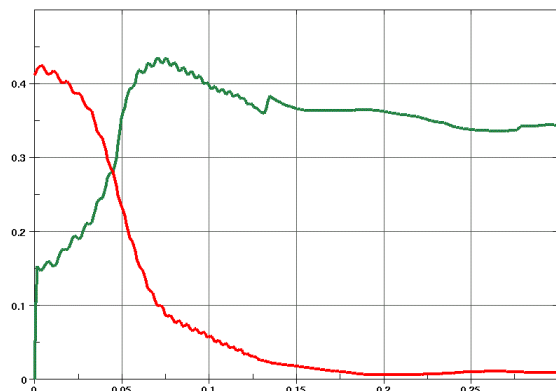
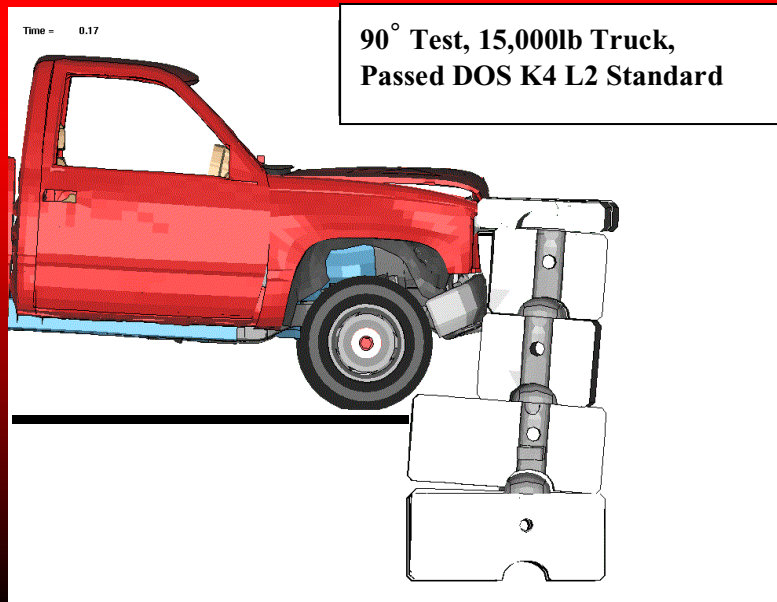
If you are considering using a Redi-Rock wall and have a testing standard in mind, please call Redi-Rock to discuss available testing. Redi-Rock welcomes client participation on any specialized testing required.

In addition, Redi-Rock offers design assistance for perimeter barriers to achieve the demands of the facility. Please contact Redi-Rock if you would like more information on how we can help design your security needs.

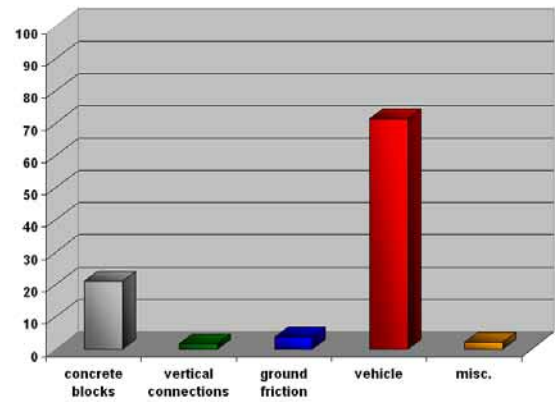
To receive a copy of current testing reports, call now.



MDG SOLUTIONS, INC.

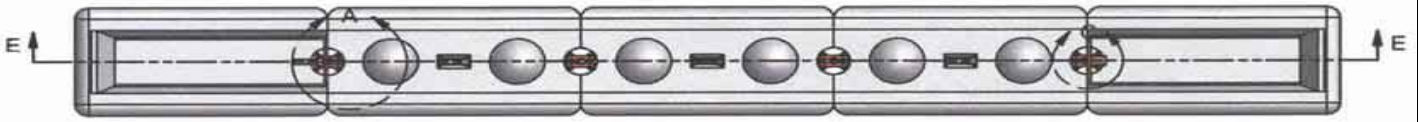


Energy Transformation



Energy Absorption

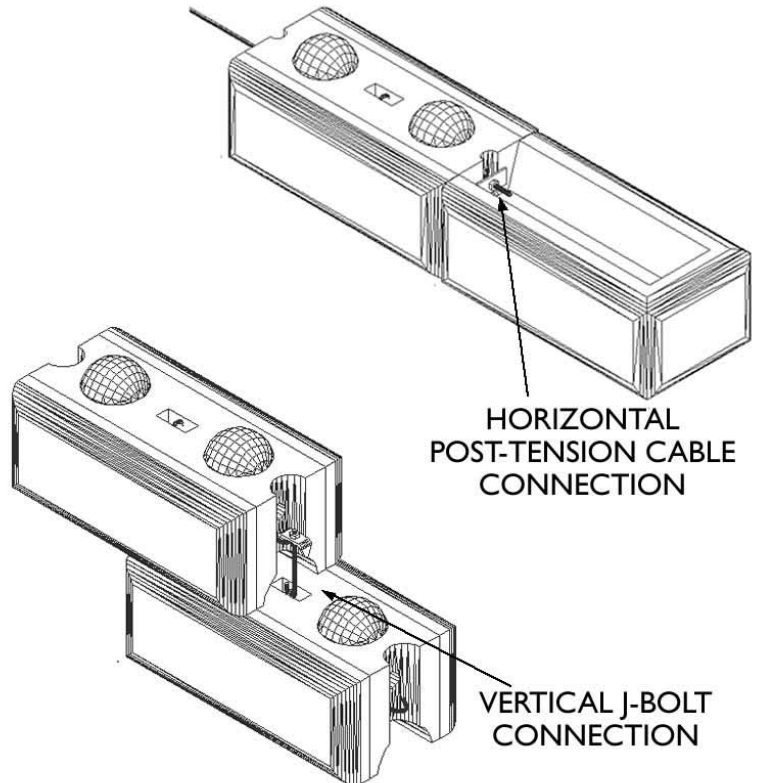
POST-TENSION CABLE SYSTEM



Redi-Rock's perimeter security walls have the ability to secure airports, military bases, or other important buildings by using a cleverly designed post tension and j-bolt system to link together massive blocks weighing 1,400 lbs each. The system acts as a unit when being impacted to deliver the maximum protection possible!

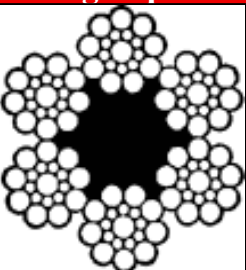
For a look at detailed specifications and design criteria, see Redi-Rock's **FORCE PROTECTION DESIGN GUIDE**.

FREE-STANDING WALL FORCE-PROTECTION OPTIONS



POST-TENSION CABLE

Post-tension cables allow the wall to flex when being impacted. This flexibility gives the wall massive stopping power as friction absorbs the kinetic energy of the impacting vehicle.

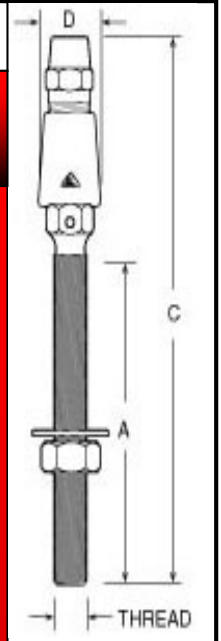


Cable Sizes and Strengths

6 x 19 USA Diameter (in.)	Nominal Strength* (tons) EIP IWRC	Approx. Wt./Ft. (lbs)
5/8	20.60	0.720
3/4	29.40	1.040
7/8	39.80	1.420
1	51.70	1.850
1 1/8	65.00	2.340
1 1/4	79.90	2.890

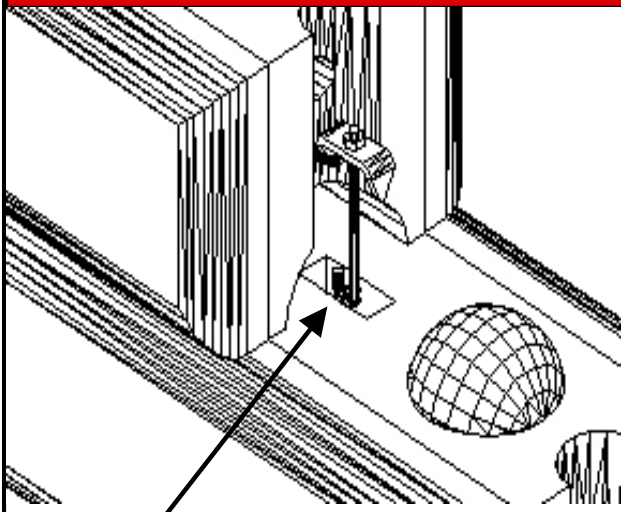
THREADED TERMINATION END

A Threaded Termination End allows the cables to be post-tensioned.



WEDGE AND FERRULE

A Wedge and Ferrule termination end is easy to install in the field.



J-BOLTS

J-Bolts are used as vertical mechanical connections between blocks. This prevents the rows of blocks from coming apart when impacted.

FOOTINGS & REINFORCEMENTS

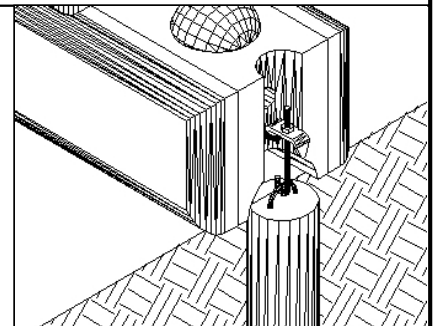
Ground Anchors

Type used to be determined by project and anchor systems locally available.

Holding capacity will vary depending upon soil properties.

Pre-construction field testing is highly recommended.

Cost each will depend on quantity and site/soil conditions.

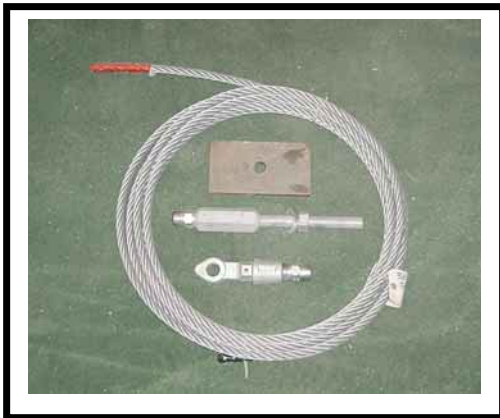


Many different poured-in-place reinforcements are available to add strength to Redi-Rock's Force Protection System. Please contact Redi-Rock to discuss your particular project needs.

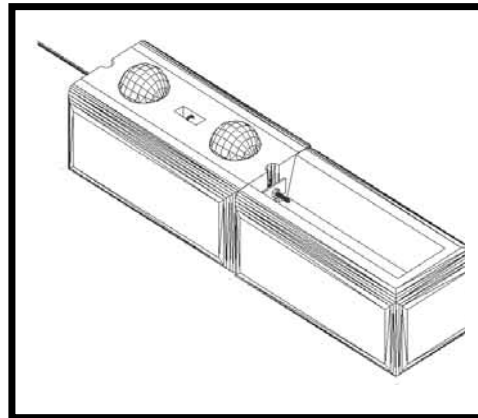


FORCE PROTECTION DESIGN STRENGTH GUIDE

Post Tension Cable and Connections			Nominal Strength (lb)	NCHRP-350 Test	
Size	Classification	Meets		Exceeds	
<u>Galvanized Wire Rope (USA)</u>					
3/4"	6 x 19 IWRC	58,800	X		
1"	6 x 19 IWRC	103,400		X	
<u>Wire Rope Terminations for 3/4" cable</u>					
Coarse thread stud socket fitting (galvanized)		58,800		X	
Eye Socket Fitting (galvanized)		58,800		X	
Wedge and Ferrule		47,040		X	
Drum Socket (zinc plated)		58,800		X	
3/4" End Kit (items in bold included in End Kit)					
<u>Wire Rope Terminations for 1" cable</u>					
Coarse thread stud socket fitting (galvanized)		103,400		X	
Eye Socket Fitting (galvanized)		103,400		X	
Wedge and Ferrule		82,720		X	
Drum Socket (zinc plated)		103,400		X	
1" End Kit (items in bold included in End Kit)					
			Size		
Steel Termination Plates (2)			5/8" x 6" x 9"		



Galvanized Cable with Termination Ends and Steel Termination Plate

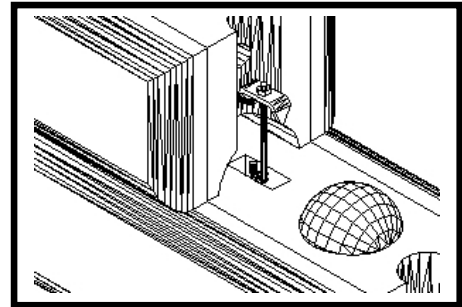


Post-Tension Cable and Termination End Installed in Blocks

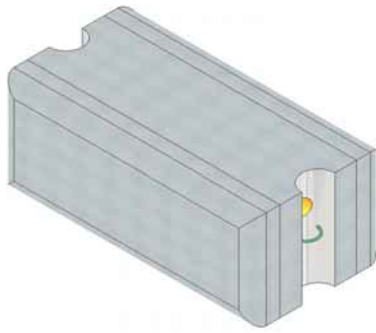


FORCE PROTECTION DESIGN STRENGTH GUIDE

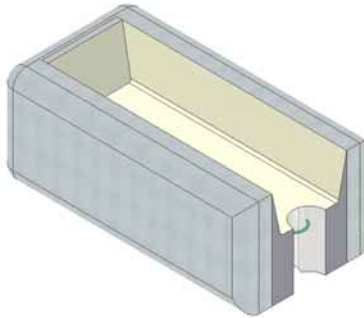
J-Bolt / J-Clip Connection				Allowable	Allowable Tensile Load (lb)	NCHRP-350 Test	
Plain Steel	Size Dia. (in.)	Cross Sectional area (in. ²)	Tensile Stress F _t (Ksi)	Meets		Exceeds	
ASTM A325 Heavy Duty Bolt/ Clip (galvanized)	³ / ₄ "	0.750	0.4418	44.0	19,400		X
NOTE: J-Bolt & J-Clip may be ordered through Redi-Rock International							



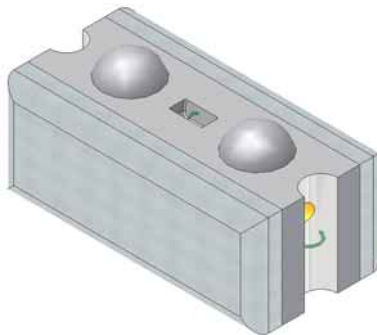
REDI-ROCK BLOCKS



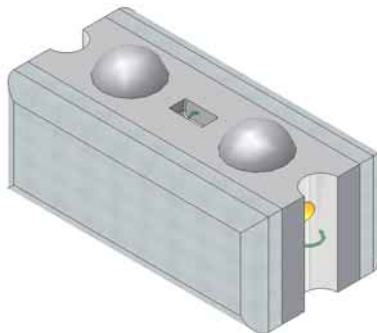
TOP BLOCK—Top blocks are designed for the top row of the wall. Can be textured or smooth to accept capstones. Blocks are finished on two sides. Has bottom groove for 10” knobs. Standard blocks have vertical and horizontal columns for post-tension cables and j-bolt connections.



GARDEN BLOCK—Garden blocks are designed for the top row of the wall. Can accept capstones, plants, and force protection termination ends. Also, can be poured full with concrete and steel for added reinforcement. Blocks are finished on two or three sides. Has bottom groove for 10” knobs.



MIDDLE BLOCK—Middle blocks have 10” knobs for linking upper row of blocks together and a groove on the bottom for fitting lower rows of blocks with 10” knobs. Standard blocks have vertical and horizontal columns for post tension cables and j-bolt connections. Blocks are finished on two sides.

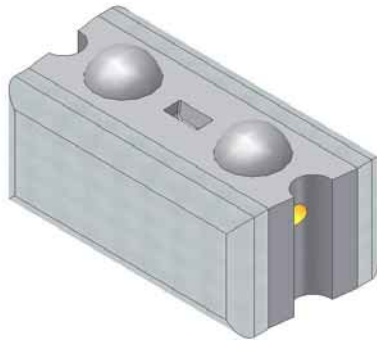


BOTTOM BLOCK—Bottom blocks have 10” knobs for linking upper row of blocks together and a flat bottom for leveling the wall. Standard blocks have vertical and horizontal columns for post-tension cables and j-bolt connections. Blocks are finished on two sides.

BLOCK SPECIFICATIONS

All blocks Minimum 4,000 psi with Frost Free Aggregate.
All blocks approximately 1,400 lbs each unless otherwise noted.
Prices include delivery up to 400 miles from manufacturing location.

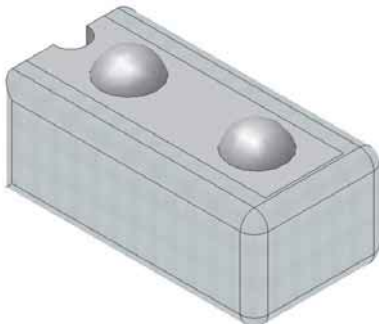
REDI-ROCK BLOCKS



CURVE BLOCKS—Can be TOP, MIDDLE or BOTTOM blocks. Curve blocks are used to create sweeping curved walls. 14' 6" minimum radius.



HALF CORNER BLOCKS—Half blocks are used to make custom finishes to your wall, particularly the ends of your walls. Standard half blocks are finished on three sides. Can be TOP, MIDDLE or BOTTOM blocks. Approximately 700 lbs. each.



FULL CORNER BLOCKS—Corner blocks are used to give a finished look to the end of your wall. Corner blocks are finished on three sides. Can be TOP, MIDDLE or BOTTOM blocks.



CAP STONES and STEPS—Cap stones and steps are accessories to enhance the appearance of a wall and can be used for seating. Caps are standard 6" and are tied to the wall by concrete adhesives. Caps and steps are not considered force protection products. Approximately 750 pounds each.

BLOCK SPECIFICATIONS

All blocks Minimum 4,000 psi with Frost Free Aggregate.
All blocks approximately 1,400 lbs each unless otherwise noted.
Prices include delivery up to 400 miles from manufacturing location.

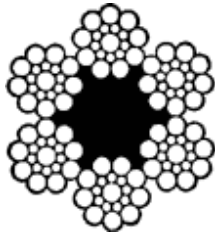
POST-TENSION CABLES AND J-BOLTS

Redi-Rock International recommends using the following cabling and J-bolts for typical force protection walls. For detailed specifications and strengths and other options, see Redi-Rock's **Force Protection Design Guide**.



POST-TENSION CABLE

6X19 Right Regular Lay IWRC-EIP



- 6 x 19 class ropes - 6 strands with 16 to 26 wires per strand, no more than 12 of which are outside wires.
- 6 x 19 class rope designs emphasize abrasion resistance.
- Regular Lay - more crush resistant and less likely to kink and unravel.
- IWRC - Independent Wire Rope Core - stronger, more crush resistant, more heat resistant and more stretch resistant than fiber core wire ropes.
- EIP - Extra Improved Plow Steel - approximately 15% stronger than IPS.

J-BOLTS & CLIPS

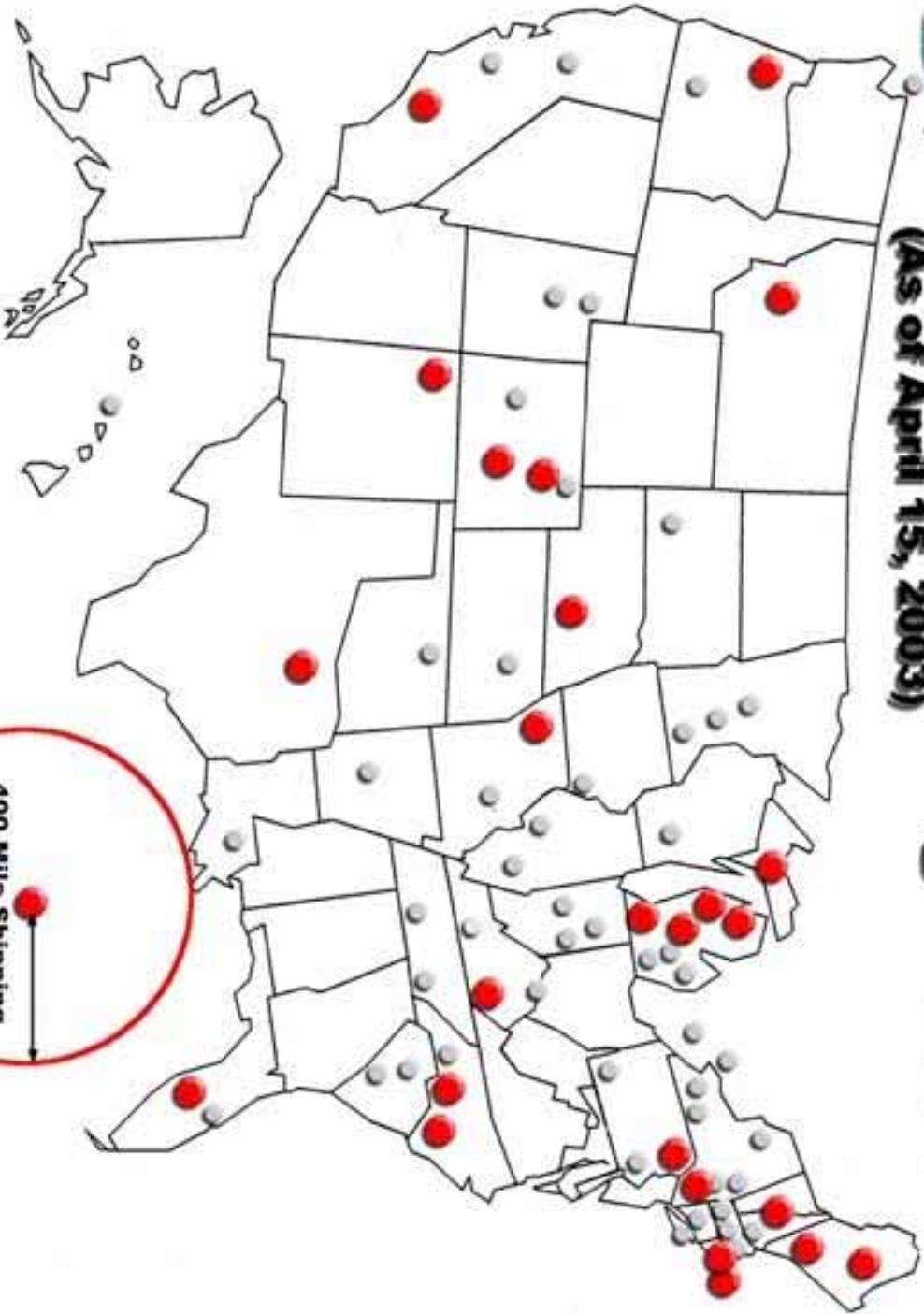


- Hot galvanized steel.
- Manufactured to ASTM A307 & ASTM A325 standards.
- J-Clips to be manufactured of same material and thickness as bolt diameter.

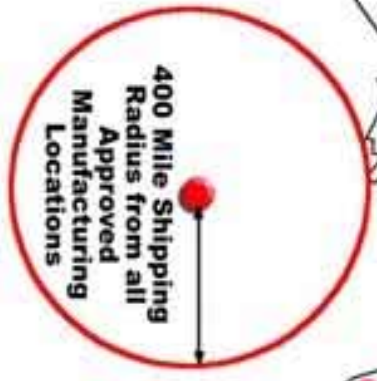


Force Protection Manufacturing Locations

(As of April 15, 2003)



- Redi-Rock Approved Force Protection Manufacturers
- Redi-Rock Future Force Protection Manufacturers



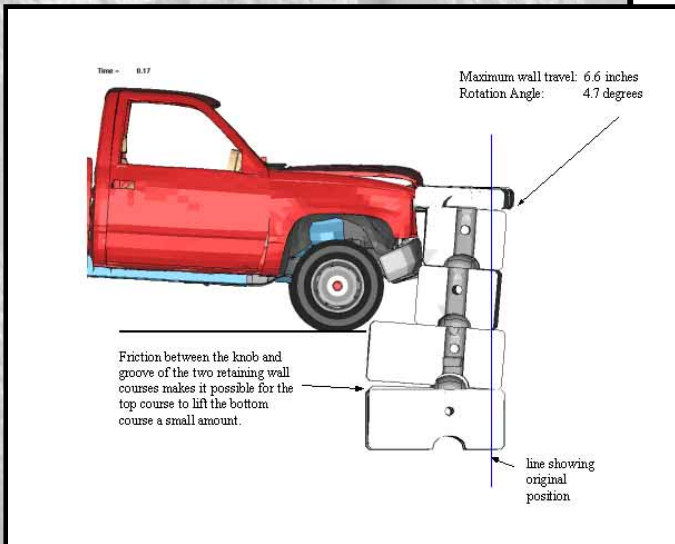
PERIMETER WALL INFORMATION:

- DESIGN/ENGINEERING MANUAL
- **DESIGN CD**
- CRASH TEST INFO
- WALL DETAILS
- WALL INSTALLATION MANUAL

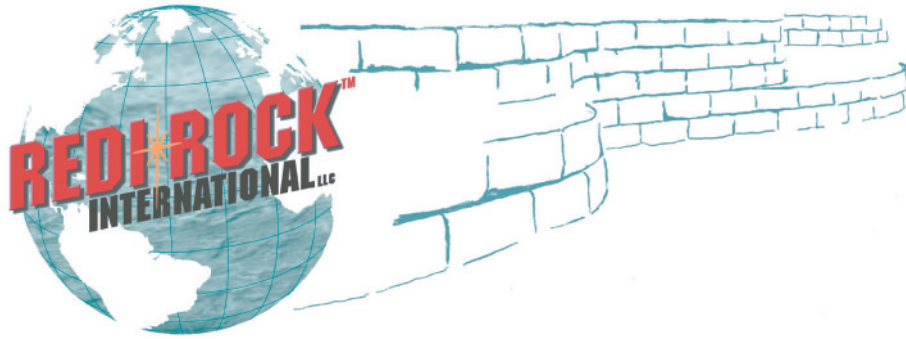


ACCESSORY INFORMATION

- COLUMNS
- PAVERS
- RETAINING WALLS
- PRODUCT BROCHURES



Look us up on the web at www.redi-rock.com or call today for a free **Design Resource CD** and a Redi-Rock dealer near you.



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