

AMICO®



SECURA FENCE SYSTEM®

The **Secura Fence System** is available in several gauges of steel and various mesh sizes and can be used on new construction or to add much needed security to existing fence barriers. The panels are made from a sheet of steel that is simultaneously slit and stretched into a rigid, open mesh design making one continuous sheet that cannot unravel at the strands. A near impenetrable and unclimbable barrier can be created offering rigidity, durability, strength, visibility, and free passage of light. When used in conjunction with an electronic sensing device the **Secura Fence System** provides ample response and reaction time. It is versatile, functional, and readily available in carbon steel, stainless steel, and aluminum.

SPECIFICATIONS & STANDARDS

Components and parts as recommended in this brochure meet or exceed current standards and specifications as designated by the following organizations: American Society for Testing and Materials (ASTM), United States Federal Government (Fed'I), United States Military (MIL). The following guide is intended to facilitate easy reference to applicable specifications. Due to constant update and changing of standards and specifications it is advisable to check intended specifications to be sure they are applicable and current.

Fabric:

Fabric for the **Secura Fence System** is manufactured in conformance with the following industry standard specification:

- Carbon Steel - ASTM A569/ A569M-85 Military Specification MIL-M-17194C.
- Stainless Steel 304 - ASTM A-240-90.
- Military Specification MIL-S-46044A.

Framework:

- Galvanized Standard Weight Pipe (Schedule 40) - complying with ASTM F 669; Group IA-Steel Pipe; ASTM F 1083; ASTM F 1234 TYPE A

EXTERIOR & TYPE A INTERIOR; Fed Spec. RR-F-191/3D, Class 1, Grade A Steel Pipe or High Strength Pipe complying with ASTM F 669, Group IC-Steel Pipe; ASTM F 1234 TYPE B EXTERIOR & TYPE B INTERIOR; Fed Spec. RR-F-191/3D, Class 1, Grade B Steel Pipe.

Fittings:

- Gray Iron Castings - ASTM F 626-90-1 Fed'I RR-F-191/4D.
- Malleable Iron Castings - ASTM F 626-90; Fed'I RR-F-191/4D.
- Steel Formed Fittings - ASTM F 626-90; Fed'I RR-F-191/4D.
- Aluminum Cast Fittings - ASTM F 626-90; Fed'I RR-F-191/4D.

Accessories:

- Galvanized Steel Barbwire - ASTM A 121; Fed'I RR-F-191/4D.
- Aluminized Steel Barbwire - ASTM A 585; Fed'I RR-F-191/4D.
- Barbed Tape-24" INSTABARRIER® or 30" INSTABARRIER® as manufactured by AMERICAN SECURITY FENCE CORP, Phoenix, Arizona.

SELECTION

Selection of the appropriate **Secura Fence System** is keyed primarily to the end use for which it is intended. This brochure is designed to aid your decision on appropriate size, gauge and style to best meet your requirements, specifications can be altered accordingly. The following definitions will help determine whether the Retrofit, Maximum or Medium **Secura Fence System** is required.

SECURA FENCE SYSTEM® RETROFIT

A perimeter security system expressly designed to add protection, strength and durability to an existing chain link fence, ensuring performance geared to the expectations for which the fence was originally installed. Retrofitting an existing fence with **Secura Mesh** severely limits the cutting of unwanted holes and passageways, stops intrusion by climb overs and eliminates costly and untimely fence repairs. Visibility is not severely obstructed or limited. The barrier will not bend, is virtually uncuttable, unclimbable and extremely difficult to penetrate. Special "no access"

fittings cannot be removed from outside the barrier. This system is designed to be installed directly to the existing fence utilizing the chain link fabric and framework already in place. It is not necessary to remove or take down the old fence leaving valuable property and sensitive security areas open or unprotected. All gates can be retrofitted with **Secura Mesh**.

SECURA FENCE SYSTEM MAXIMUM

Designed for use where maximum protection, strength, and durability is required. Provides utmost protection for inside and outside projects. This installation is highly recommended as a perimeter barrier for penal institutions, hazardous waste storage sites and nuclear facilities. Used also as perimeter fencing for industrial plants, unprotected remote utility locations and various transportation loading areas. Ideal for inside use in ultra high security areas for storage of drugs, tools and high cost inventory items.

SECURA FENCE SYSTEM" MEDIUM

Designed for use both inside and outside where above average security and limited access is desired. Best for industrial and commercial applications such as, bonded storage facilities, parking lots, truck terminals, schools and auto dealerships. It can be used inside as security partitions for tool cribs, calibration equipment and small goods inventory protection.



Fabric Selection:

Selection of the appropriate fabric for use with the desired **Secura Fence System** requires a brief explanation of the descriptive nomenclature.

A. SECURA MESH A finished product as it comes from the press after having been die cut. The strands and bonds form a sharp angle to the original plane of the solid sheet.

B. SQUARENESS - Sheets are square within manufacturing tolerances. Should squareness be critical, sheets can be square sheared. The maximum tolerance will be 1/16" per ft. of width after all four sides of a sheet have been sheared.

C. BOND - The point where adjacent strands intersect. The bond is always twice the width of the strand.

D. CAMBER - A slight bow which can occur during manufacturing and results in an out-of-square condition.

E. GAUGE or STYLE - The thickness of metal from which the sheet is made. Usually, but not always, this conforms to manufacturer's standard gauges and is expressed by a number.

F. LWD or LWO - Long way of diamond or long way of opening is the dimension measured across the sheet in a direction parallel to the largest dimension of the diamond.

G. MESH - This is the nominal distance from the mid-point of one bond to the mid-point of the next bond measured across the SWD. Mesh is expressed in inches and normally is diamond shaped.

H. PITCH - The measurement from a point on one diamond to the same point on an adjacent diamond.

I. SWD or SWO - Short way of diamond or short way of opening is the dimension measured across the sheet in a direction parallel to the smallest dimension of the diamond.

J. STRAND - The single metal strip which forms the border of the diamond, or opening. Strand width is the amount of materials advanced for expanding as differentiated from strand thickness which is the thickness of metal from which the **Secura Mesh** is produced.

**Framework Selection
Galvanized Post and Rail:**

The **Secura Fence System**, for maximum and medium security, is erected on galvanized exterior and interior framework designed specifically with enough strength for the designated system and fabric in use. Standard weight pipe (Sch 40) is available with 1.8 oz. zinc coating for installations per ASTM F 1234 TYPE A EXTERIOR & TYPE A INTERIOR or HIGH STRENGTH PIPE (50,000 psi yield strength) is available with 1.8 oz. zinc coating per square foot of sheet

per ASTM A 525, G-210 and also following specification ASTM F 1234 TYPE B EXTERIOR & TYPE B INTERIOR. For adequate performance at a lower cost, lighter weight all galvanized post and rail not in conformance with ASTM or Federal Specifications is available for Minimum Security System.

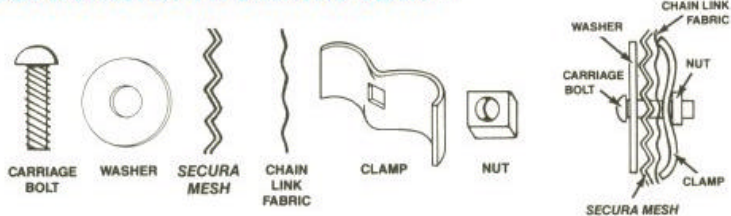
Fittings and Components:

Galvanized accessories are available for all systems. Heavy gauge pressed steel or malleable iron fittings providing necessary strength are used.

FITTINGS



SECURA RETRO-FIT DIAMOND CLAMP™



STOCK FABRIC SIZES

Mesh Size	Gauge	Std. Width of Sheet SWD	Std. Height of Sheet LWD	Size Opening in Inches		Weight Per Sq. Ft.	
				Wide	Long	Black	Galvanized
1/2"	13	4', 5', 6', 7', 8'	8', 10'	.313	.938	1.47	1.73
1/2"	13 Modified	4', 5', 6', 7'	6', 8', 10'	.250	.800	2.82	3.10
1"	9	4', 5', 6', 7', 8', 10'	8', 10', 12'	.743	1.869	1.51	1.62
1 1/4"	9	4', 5', 6', 7', 8', 10'	8', 10', 12'	1.125	2.375	1.20	1.31
1 1/2"	6	4', 5', 6', 7', 8', 10'	8', 10', 12'	1.000	2.313	2.50	2.73

*Other sizes available as special order

SECURA FENCE SYSTEM®

FABRIC

Hot dip galvanized, vinyl, or powder coated metal fence fabric conforming to respective ASTM or Federal Specification of designated base material. Use any of the available gauges or mesh sizes as contained in the chart on page 3 depending on needed security and desired visibility.

Fabric Installation - Connections

Any or all of the following steps must be followed as needed prior to the installation of **Secura Mesh** to the existing chain link fence. Straighten and realign the fence posts and chain link fabric. Replace any bent posts. Replace any bent top rail. Remove any weeds, bushes, or trees growing in the chain link fabric to guarantee a tight fit between the two fabrics. Clean any dirt, grass, or debris from beneath the chain link fabric to ensure a level finish at top selvage. Retie chain link fabric to framework. Tighten existing barbwire if applicable or needed. After preliminary steps are completed attach **Secura Mesh** fabric to starting terminal post with galvanized Secura Bands. If the starting terminal post is a corner post, place and align needed bands for both directions on the corner post prior to installing fabric. **Secura Mesh** must be installed flush up to the terminal post or lapped over one-half the width of the post allowing no open space between the post and fabric. **Secura Mesh** at gate posts can be cut only enough to allow for industrial gate hinge or latch installation. A band will be installed immediately on top and bottom of any needed cut. Fasten fabric to the intermediate line posts, top rail and bottom rail with the corresponding size Secura Clamps. Fabric should be 12" higher than the existing fence height and extended 14" above the top rail providing no leverage to assist in climbing over the barrier. this system if not already in place.

RETROFIT

Selvage along the top of this 14" portion shall be random sheared. The fabric can be connected between line posts by lapping each panel over the adjoining panel a minimum of three (3) diamonds and using Secura Back Straps spaced at 18" maximum intervals. The **Secura Mesh** fabric will be connected to the chain link fabric by use of the diamond clamps spaced at intervals needed to ensure both fabrics fitting tightly. Barbwire, barbed tape or a combination of both can be added to this system if not already in place.

Framework Selection:

Existing chain link fence framework is to be used. Determination must be made as to whether existing framework will support the added weight of **Secura Mesh**. Addition of a bottom rail or tension wire is recommended but may be deemed unnecessary depending on specified gauge and mesh size of fabric. Bottom rail is to be hot dip galvanized 1.6 . 60" O. D. pipe or equal of sufficient weight and wall thickness to provide security at the bottom of the fence. Bottom rail is to be cut between and securely fastened to the posts using Line Rail Clamps.

Fittings and Components:

The following fittings in various sizes are needed to retrofit an existing chain link fence: Secura Bands, Secura Clamps, Secura Back Straps, diamond clamps, tension bands, panel clamps, offset rail end cups, Line Rail Clamps and carriage bolts.

Gates:

Any new or existing gate will be covered with **Secura Mesh** without removing chain link fabric from the gate. Fabric will fit flush on all sides of gate frame allowing no open space between fabric and gate frame. Secura Bands spaced 14" maximum will be used to secure fabric to the gate frame. The fabric with random sheared selvage can be extended 12" above top of the gate frame in lieu of barbwire. Due to added weight the gate may require additional bracing or support.



Before Retrofit



After Retrofit

SECURA FENCE SYSTEM®

FABRIC

Fabric Specification

Hot dip galvanized, vinyl or powder coated regular style metal fence fabric conforming to respective ASTM or Federal Specification of designated base material. Depending on needed or desired visibility, specify either 7 gauge strand with a 1/4" or 1" mesh or 6 gauge strand with a maximum 1" or 1 1/2" mesh. A security cap sheet available in 13 gauge with 1/2 mesh must be used with the **Secura Fence System-Maximum**. Using either 6 or 7 gauge strand, and a cap sheet will provide a barrier that severely restricts climbing while causing extreme cutting difficulty.

Fabric Installation and Connections:

Fabric shall be attached to terminal posts (end, corner and gate) with 4" galvanized steel bands spaced at a maximum of 18" intervals. Fabric can be installed flush up to each terminal or lapped over one-half the width of the post thus preventing any open space between the post and fabric. Fabric at gate posts can be cut only enough to allow for industrial gate hinge or latch installation. A band will be installed immediately on top and bottom of any needed cut. Fabric will be attached to all intermediate line posts using 4" clamps spaced at 18" intervals. Fastening fabric to top, middle and bottom rails shall be with 11/8" galvanized Secura Clamps spaced at a maximum of 18" intervals. Fabric at bottom of fence to be installed using either of two methods. The most secure method is to embed the fabric a minimum of 6" in a 12" x 12" concrete curb. Curb to be 6" below ground surface and 6" above ground. The other method is the installation of a bottom rail. Specify which installation method fits your security needs.

Fabric Cap Sheet Installation:

The fabric cap sheet will be 13 gauge strand x 1 12" mesh and is pre-formed prior to installation. The cap is formed with 8" of mesh vertical to the posts, 8" at a 45' angle and 14" vertical gain. The vertical 8" overlap fits in front of the bottom fence panel and is secured with the same top Secura Clamps

MAXIMUM

used on the upright fence. A malleable iron 45' angle iron fitting is placed on each post and secured by a 3/8" set screw. This special angle fitting fits inside a 4" O.D. Standard Weight Pipe post or a 4" O.D. High-Strength Pipe post. If so specified, this special angle fitting fits over the outside of a 2.875" O.D. Standard Weight Pipe post or a 2.875" O.D. High-Strength Pipe post. A 1.900" O.D. Standard Weight or High-Strength Pipe post x 38" is used for the overhang. A malleable iron dome cap is used on the end of the post to exclude moisture, and is also secured by a 3/8" set screw. The 38" x 45' portion of the fabric cap is attached to the overhang using 3, 2" clamps per overhang post. The vertical 14" portion of the fabric cap is not attached to the overhang top rail providing no leverage to assist any attempt at climbing over the barrier. Selvage along the top of the 14" portion is to be random sheared. Barbed tape can be applied in back of the 14" vertical portion and on top of the fabric cap by the use of 9 gauge hog rings spaced per barbed tape manufacturers specification.

FRAMEWORK

Post Specification:

- All posts to be hot-dip galvanized on the exterior and interior and fitted with a malleable angle fitting which excludes moisture.
- Line (intermediate) Post: Terminal (End or Corner) Post: 41" O. D. x 9.11 lbs. per ft. Standard Weight (Schedule 40) Pipe or High Strength Steel Pipe 6.56 lbs. per ft.
- Gate Posts: Standard Weight (Schedule 40) Pipe or High-Strength Pipe conforming to the specifications listed in Table C, on page 8.

Intermediate Line Post Spacing:

Line posts shall be evenly spaced 7'9" or less on centers and plumbed vertical. Sharp variations in terrain, either incline or decline, will necessitate additional line posts spaced at a lesser distance to

compensate for terrain variation.

Post Setting:

All posts shall be set in holes of diameter and depth as indicated in table A, on page 8 regardless whether bottom rail or curb is specified. Posts are to be set in the middle of the 12" curb. After post is set and plumbed, the hole and curb will be filled in its entirety with concrete mixed in accordance with concrete specification. When a bottom rail is used the exposed surface of the concrete will be slanted outward from the post to shed water. See Table B on page 8.

Top, Middle and Bottom Rail:

All rail to be hot dip galvanized on the exterior and interior 1.660" O.D. Standard Weight Pipe 2.27 lbs./ft. or High-Strength Pipe 1.660" x 1.82 lbs./ft. All rails to be cut between and securely fastened to the posts using 4" x 1 5/8" Line Rail Clamps.

Fittings:

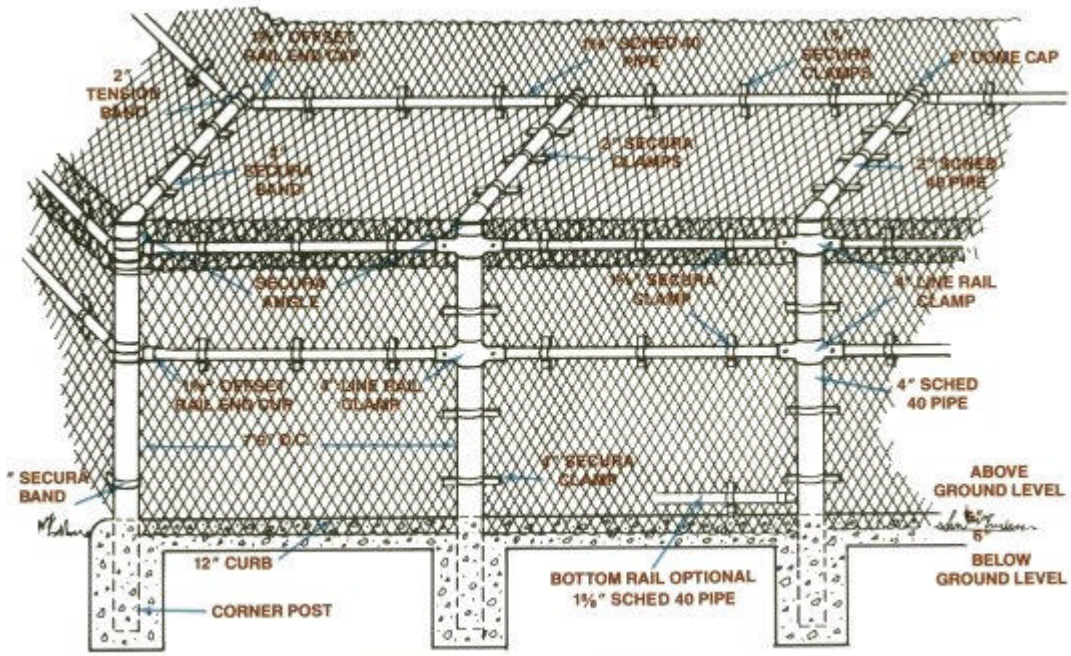
All fittings used other than the Secura Fittings shall be heavy pressed steel (1" x 1/8") construction.

Gates:

Industrial Swing Gates will be made of hot-dip galvanized on the exterior and interior 1.900" O.D. Standard Weight or High-Strength Pipe. Each gate panel to be covered with **Secura Mesh** fabric. Fabric to fit flush with all 4 sides of gate frame allowing no open space between fabric and gate frame. Bands spaced 18" maximum shall be used to secure fabric to gate frame. The fabric with random sheared selvage can be extended 12" above the top of gate frame in lieu of barbwire. Gate hinges and locking devices shall be of malleable iron.

Cantilever Gates will be made of hot dip galvanized on the exterior and interior 2.375" O.D. Standard Weight (Schedule 40) Pipe. **Secura Mesh** fabric to be installed on gate frame the same as on the Industrial Swing Gate. Malleable cantilever gate roller assemblies and locking devices are required on cantilever gates.

SECURA FENCE SYSTEM® Maximum



Note: All accessories to be uniform in application as shown in drawing above.

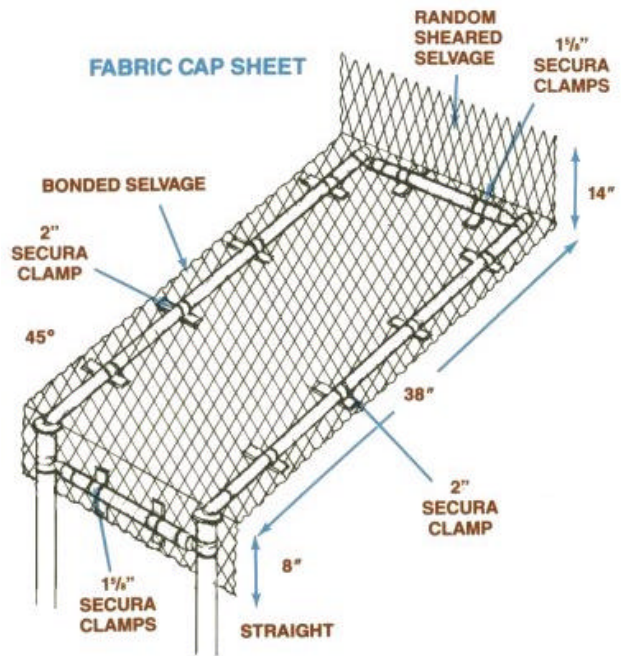




TABLE A - Maximum

Post Setting				
Type Post	Fabric Height	Hole Diameter at Top	Hole Depth	Post Embedment
Line	6'-7'	8"	30"	27"
Line	8'-12'	9"	38"	36"
Terminal	6'-7'	10"	32"	30"
Terminal	8'-12'	12"	38"	36"

TABLE B Maximum – Medium

Industrial Swing Gate Posts

Individual Gate Panel Width	Pipe O.D.	Sch. 40 Pipe Lbs./Ft.	High-Strength Pipe Lbs./Ft.
Up to 5'	2.875"	5.79	4.64
6'-8'	4.000"	9.11	6.56
9'-14'	6.625"	18.97	-

Cantilever Gate Post

Individual Gate Panel Width	Pipe O.D.	Sch. 40 Pipe Lbs./Ft.	High-Strength Pipe Lbs./Ft.
12' & Below	2.875"	5.79	4.64
13' & Above	4.000"	9.11	6.56

Note: Secura Fence System® & Secura Mesh® are trademarks of Alabama Metal Industries Corp. (AMICO). Other Security Products: Secura Lath® and Security Mesh.



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