



ARCHITECTURAL FENCE GUIDE

CONSTRUCTION SPECIFICATION 32 31 00



ORNAMENTAL STEEL FENCES & GATES | ORNAMENTAL ALUMINUM FENCES & GATES
HIGH SECURITY FENCES & GATES | ENGINEERED CANTILEVER, ROLL & ESTATE ENTRY GATES



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IMPASSE II®
High Security Palisade Steel Fencepgs 34-35

STALWART®
Post & Rail Anti-Ram Crash Barrierpgs 36-39

STALWART IS®
Anti-Ram Barrier + Security Fencepg 38

STALWART II®
Anti-Ram Barrier + Ornamental Fencepg 39

STALWART PLUS®
Anti-Ram Barrier + Architectural Meshpg 38

WIREWORKS ANTI-CLIMB®
High Security Welded Wire Fencepg 41

MONTAGE II®
Industrial Ornamental Steel Fencepgs 8-9

AEGIS II®
Industrial Ornamental Steel Fencepgs 18-19

TRANSPORT IS®
Ornamental Aluminum Cantilever Gatespgs 42-43

PASSPORT IS®
Ornamental Steel Industrial Roll Gatespgs 42-43



INDUSTRIAL

PARKS & RECREATION | STADIUMS | MANUFACTURING | PUBLIC HOUSING | WATER DISTRICTS | SCHOOLS

MONTAGE II®
Industrial Ornamental Steel Fencepgs 8-9

AEGIS II®
Industrial Ornamental Steel Fencepgs 18-19

ECHELON II®
Industrial Ornamental Aluminum Fencepgs 26-27

TRANSPORT II®
Ornamental Aluminum Cantilever Gatespgs 42-43

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Ornamental Steel Industrial Roll Gatespgs 42-43



COMMERCIAL

APARTMENTS | ASSISTED LIVING | SELF-STORAGE | RETAIL OUTLETS | MUNICIPAL | INSTITUTIONS

MONTAGE COMMERCIAL®
Commercial Ornamental Steel Fencepgs 10-11

MONTAGE PLUS®
Ornamental Steel Fencepgs 12-13

AEGIS PLUS®
Commercial Ornamental Steel Fencepgs 20-21

ECHELON PLUS®
Ornamental Aluminum Fencepgs 30-31

WIREWORKS PLUS®
Welded Wire Steel Fencepg 40

TRANSPORT ESTATE®
Ornamental Aluminum Cantilever Gatespgs 42-43

TRANSPORT LINK®
Aluminum Chain-Link Cantilever Gatespgs 42-43

PASSPORT COMMERCIAL®
Ornamental Steel Commercial Roll Gatespgs 42-43

ESTATE ENTRY GATES®
Ornamental Aluminum Entry Gatespgs 42-43



ARCHITECTURAL SUPPORT & SOLUTION SPECIALISTS

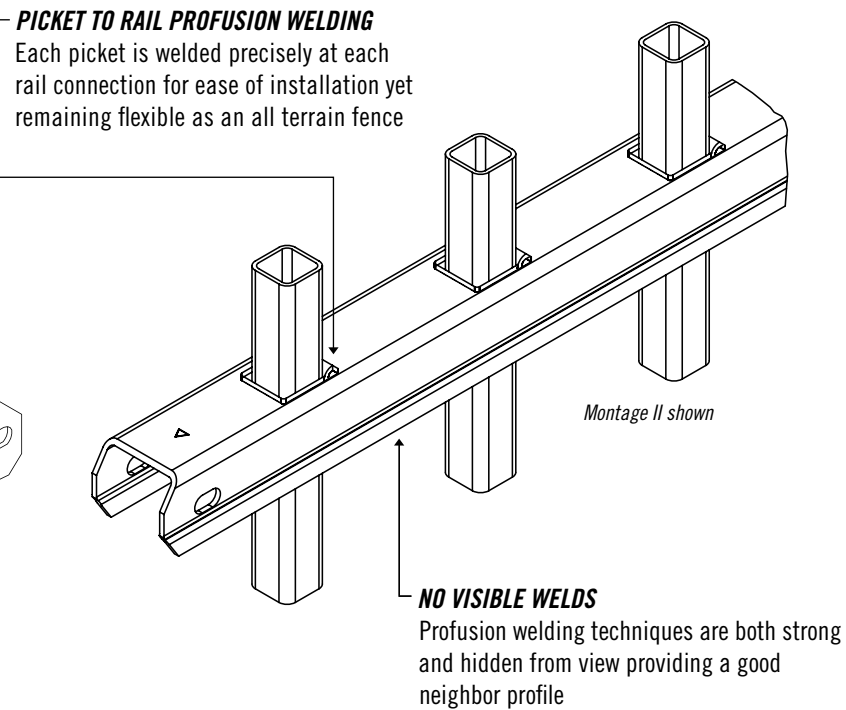
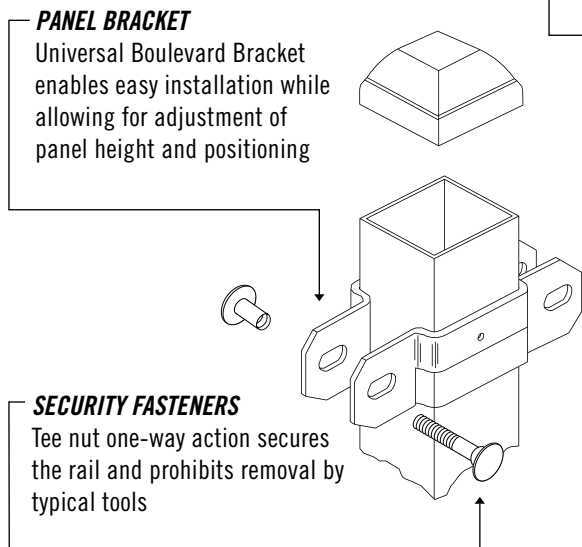


Ameristar's *Project Solution Specialists* are *experienced in every facet of perimeter security design*. Our goal is to assist the architectural community in finding the *best perimeter & entry solutions* for their projects. Ameristar's extensive library of project photos, CAD drawings, architectural specifications & project budget quotes are just a few of the services *our team offers to complete your project design*.

MONTAGE PRODUCTS

PROFUSION WELDED ORNAMENTAL STEEL FENCE

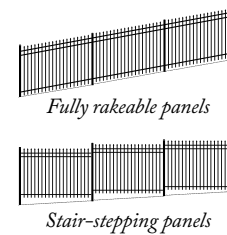
- **MONTAGE II®** | INDUSTRIAL ORNAMENTAL STEEL FENCE
- **MONTAGE COMMERCIAL®** | COMMERCIAL ORNAMENTAL STEEL FENCE
- **MONTAGE PLUS®** | ORNAMENTAL STEEL FENCE



PROFUSION WELDING



Montage fence panels are fabricated through a **WELDING TECHNIQUE** that combines laser and fusion technology to create a virtually **INVISIBLE STRUCTURAL CONNECTION** at every picket to rail intersection. Montage welded steel construction is unmatched in strength and durability.



RAKEABLE VS STAIR-STEP

The ProFusion welded picket to rail connection is the method used to construct Montage panels, which allows a minimum biasability of **25%**, eliminating unsightly stair stepping of panels.



Ameristar's Montage fence systems are coated inside & out for maintenance free security



Ameristar's Montage fence systems are backed by over 30 years of excellence in the fencing industry



Ameristar products are manufactured domestically in Tulsa, Oklahoma



Manufactured from up to 96% recycled domestic steel, Montage products earn project LEED points



E-COAT™

Major corrosion problems start from the inside. That's why all products in the Montage® family are **COATED INSIDE & OUT**. Our **GALVANIZED STEEL FRAMEWORK** is subjected to a **MULTI-STAGE PRE-TREATMENT/WASH** (with zinc phosphate), followed by a **DUPLEX CATHODIC ELECTROCOAT SYSTEM** consisting of an **EPOXY PRIMER**, which significantly increases corrosion protection, and an **ACRYLIC TOPCOAT**, which provides the protection necessary to **WITHSTAND ADVERSE WEATHERING EFFECTS**.



PRE-TREATMENT

ALKALINE SPRAY WASH
1

ALKALINE IMMERSION
2

WATER IMMERSION
3

SPRAY CONDITIONER
4

ZINC PHOSPHATE IMMERSION
5

WATER IMMERSION
6

NON-CHROMATE SPRAY SEAL
7

REVERSE OSMOSIS IMMERSION
8

REVERSE OSMOSIS HALO RINSE
9

Immersion processes coat & cleanse the inside of the fence components as thoroughly as the outside. This prevents corrosion giving Montage products the ability to withstand the elements & be maintenance free.

EPOXYPROCESS

ELECTRO COAT EPOXY PRIMER
10

PERMEATE SPRAY RINSE
11

PERMEATE IMMERSION
12

PERMEATE SPRAY RINSE
13

REVERSE OSMOSIS HALO RINSE
14

FINISH CURING OVEN
15

COOLING TUNNEL
16



LAYERED PROTECTION

Protection against corrosion starts with a proven process, which is why Ameristar emulated its PermaCoat method to develop a superior E-Coat process that protects the product with complete coverage **INSIDE & OUT**

ACRYLICFINISH

ELECTRO COAT ACRYLIC PRIMER
17

PERMEATE SPRAY RINSE
18

PERMEATE IMMERSION
19

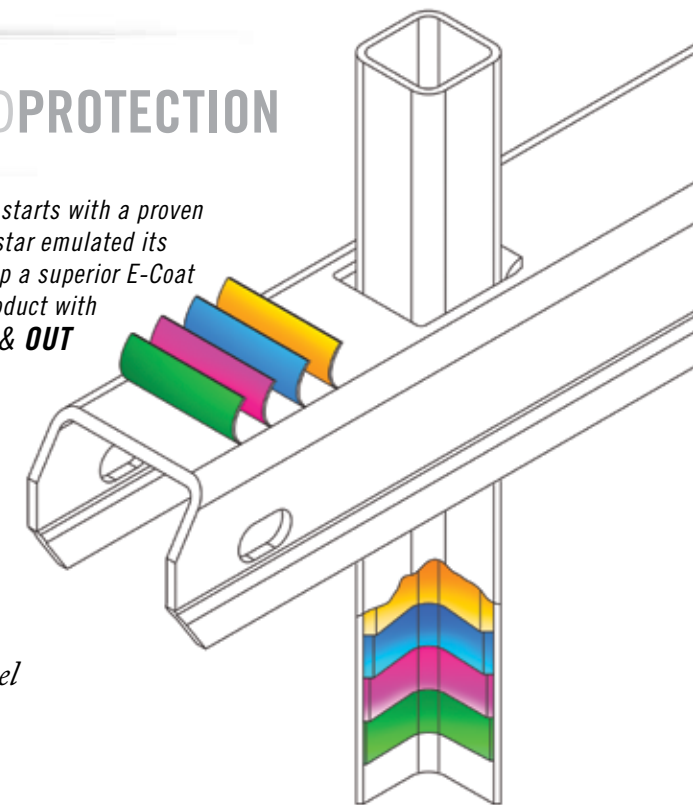
PERMEATE SPRAY RINSE
20

REVERSE OSMOSIS HALO RINSE
21

FINISH CURING OVEN
22

COOLING TUNNEL
23

- Acrylic Topcoat
- Epoxy Primer
- Zinc Phosphate
- Galvanized Steel



MONTAGE II®

INDUSTRIAL ORNAMENTAL STEEL FENCE

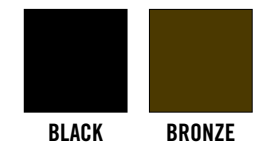
1"sq x 14ga PICKETS | 1.75" x 1.75" x 12ga RAILS | 2.5"sq x 12ga & 3"sq x 12ga POSTS
 AVAILABLE HEIGHTS: 3', 3½', 4', 4½', 5', 6', 7' & 8'



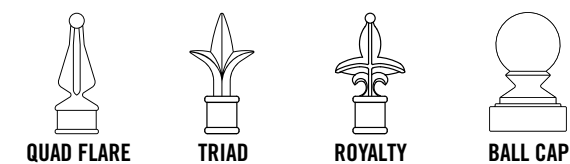
STYLE OPTIONS



COLOR OPTIONS



ADORNMENTS



Built for strength yet a penchant for beauty, Montage II is an industrial grade steel fence that delivers on both levels. Superior welding techniques create a profile that lends itself to landscaping design while maintaining a level of perimeter security that is unmatched.

PRIMARY APPLICATIONS

- ▶ State Facilities
- ▶ Government Facilities
- ▶ Airports
- ▶ Water Treatment & Storage
- ▶ Public Housing Authorities
- ▶ Parks & Recreation
- ▶ Stadiums & Event Centers
- ▶ Universities
- ▶ Hospitals
- ▶ K-12 Schools



Montage II gate options vary from *swing gates* for pedestrian or vehicle access to *sliding gates* for high functioning points of entry. Each of these gate systems are *individually constructed* to provide project specific performance.

MONTAGE COMMERCIAL[®]

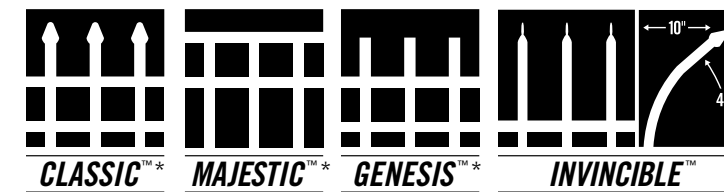
COMMERCIAL ORNAMENTAL STEEL FENCE

.75"sq x 14ga PICKETS | 1.4375" x 1.5" x 14ga RAILS | 2.5"sq x 14ga POSTS
AVAILABLE HEIGHTS: 7' & 8'

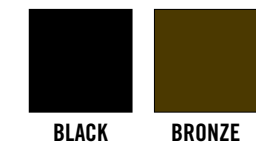


STYLE OPTIONS

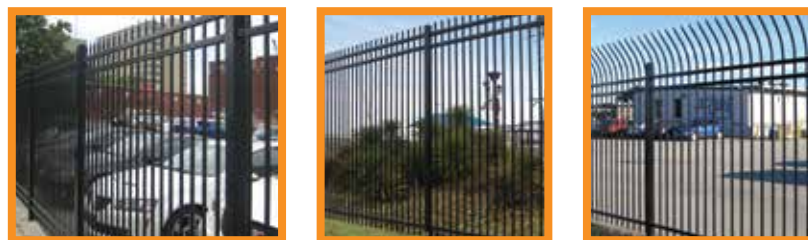
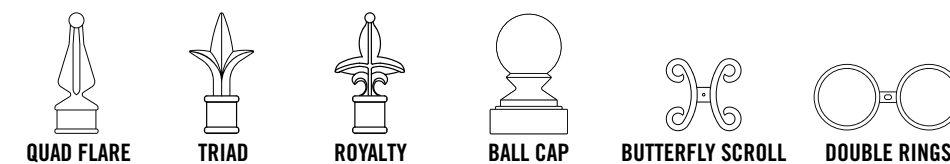
Also available in Pool, Pet & Play (3" air spacing)*



COLOR OPTIONS



ADORNMENTS



Montage Commercial steel fences have *redefined the commercial fence industry* with strength that matches the *level of security demanded*. In the past commercial fencing was defined as a chain link fence with three strands of barbwire, today Montage Commercial ornamental fences are the *standard for security fencing*.

PRIMARY APPLICATIONS

- Commercial Developments
- Municipal Facilities
- Self Storage
- Parking Facilities
- Parks & Recreation
- Universities
- K-12 Schools



Montage Commercial gate options vary from *swing gates* for pedestrian or vehicle access to *sliding gates* for high functioning points of entry. Each of these gate systems are *individually constructed* to provide project specific performance.

MONTAGE PLUS®

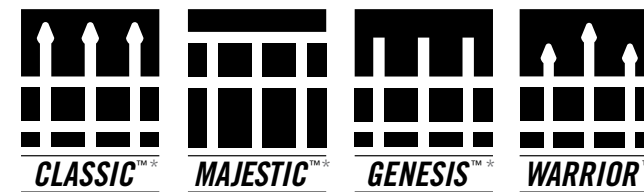
ORNAMENTAL STEEL FENCE

.75"sq x 18ga PICKETS | 1.4375" x 1.5" x 14ga RAILS | 2.5"sq x 16ga POSTS
 AVAILABLE HEIGHTS: 3', 3½', 4', 4½', 5' & 6'

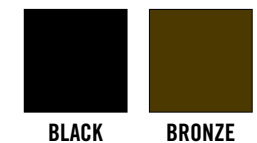


STYLE OPTIONS

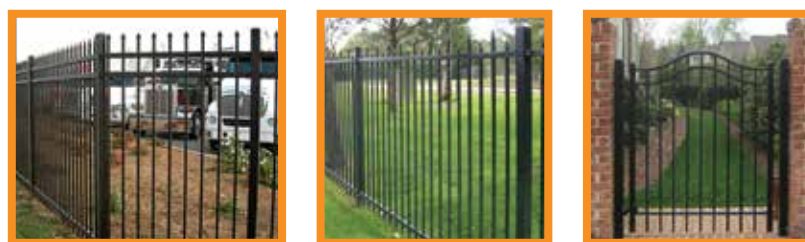
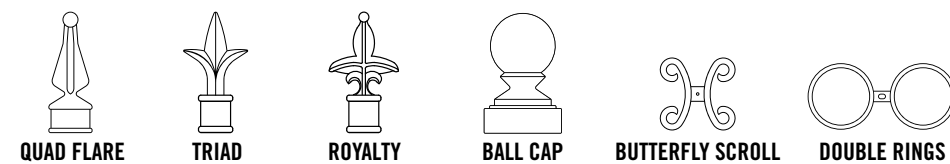
Also available in Pool, Pet & Play (3" air spacing)*



COLOR OPTIONS



ADORNMENTS



PRIMARY APPLICATIONS

- Commercial Developments
- Self Storage
- Apartments (Multi-Family)
- Parks & Recreation
- Schools & Universities
- Childcare Facilities

Montage Plus ornamental steel fence has the *versatility to fit many different project applications*. With its ability to *traverse varying grades*, variety of *distinct product styles* and unmatched coating performance, Montage Plus is the *preferred choice for ornamental fence*.

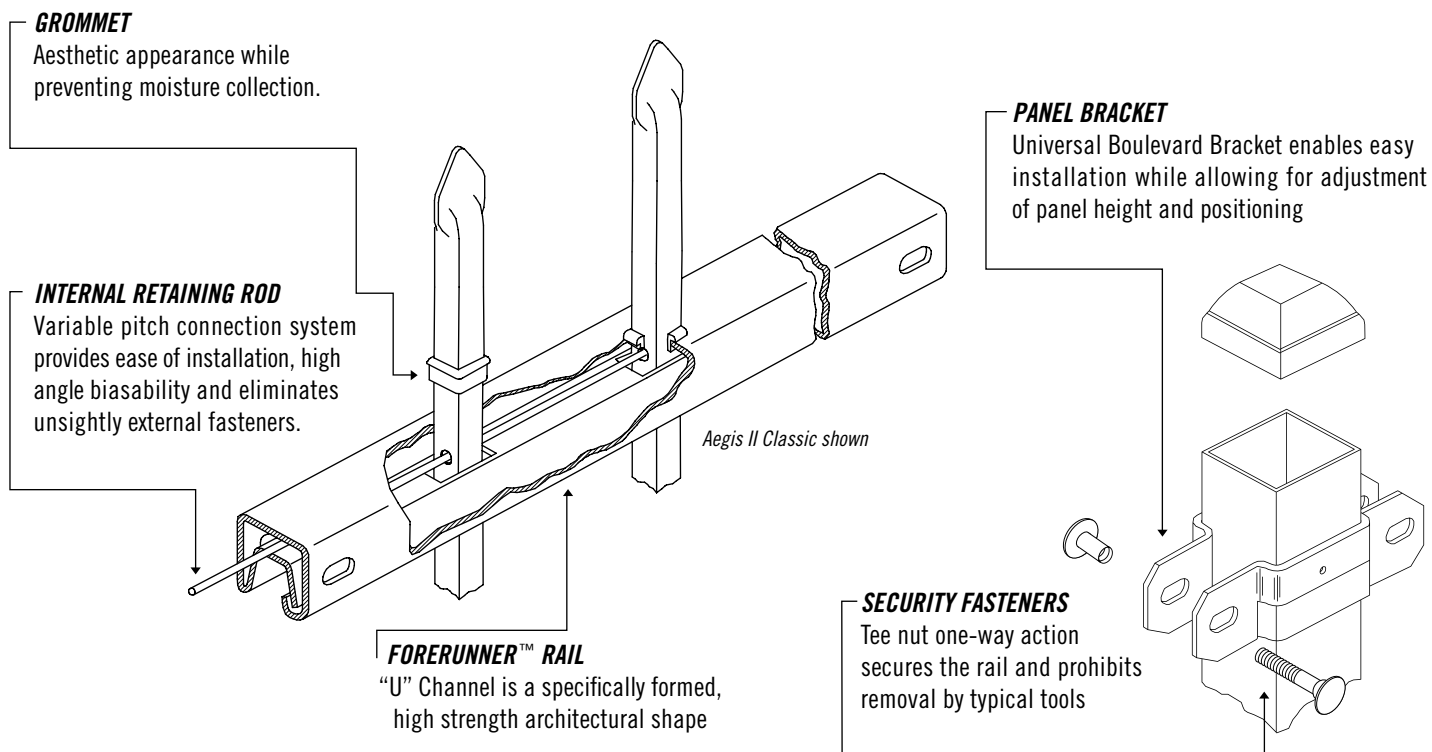


Montage Plus gate options vary from *swing gates* for pedestrian or vehicle access to *sliding gates* for high functioning points of entry. Each of these gate systems are *individually constructed* to provide project specific performance.

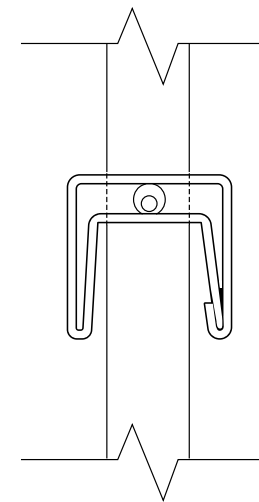
AEGIS PRODUCTS

INTERNALLY SECURED ORNAMENTAL STEEL FENCE

- **AEGIS II®** | INDUSTRIAL ORNAMENTAL STEEL FENCE
- **AEGIS PLUS®** | COMMERCIAL ORNAMENTAL STEEL FENCE



FORERUNNER® LOCKING SYSTEM

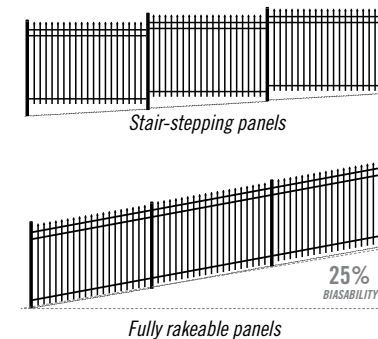


INCREASED SECURITY

The ForeRunner Rail with internal retaining rod prevents the attachment from being compromised. Fasteners are not exposed.

AESTHETIC DETAILS

"Good Neighbor Design" rod follows ForeRunner centerline providing a clean and uninterrupted look void of visible screws or rivets.



RAKEABLE VS STAIR-STEP

Having a unique picket to rail connection allows Aegis products a minimum biasability of **25%**, eliminating unsightly stair stepping of panels.



Ameristar's Aegis fence systems are protected to endure the elements and are maintenance free



Ameristar's Aegis fence systems are backed by over 30 years of excellence in the fencing industry



Ameristar products are manufactured domestically in Tulsa, Oklahoma



Manufactured from up to 96% recycled domestic steel, Aegis products earn project LEED points

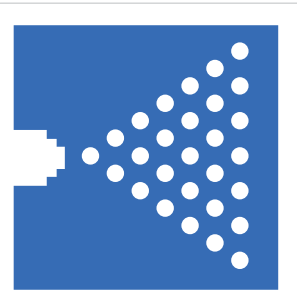


PERMACOAT™

The majority of Ameristar products are protected by the unique PermaCoat process. Our **PRE-GALVANIZED STEEL BASE MATERIAL** is subjected to an **11-STAGE PROCESS** to cleanse & prepare the steel for a **DUAL TOP-COAT FINISH**. PermaCoat's corrosion resistant abilities far surpass those of painted surfaces and have a "no-mar" polyester powder top coat. This dual coating not only provides **RESISTANCE FROM WEATHERING** but also reduces scratch & burnishing marks typically encountered during shipping.



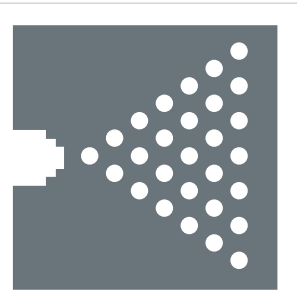
PRE-TREATMENT



ALKALINE WASH

Cleans metal for proper adhesion of zinc phosphate

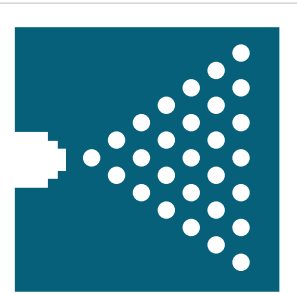
1



FIXIDINE RINSE

Rinses excess alkaline prior to zinc phosphate application

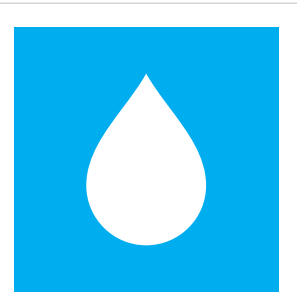
2



ZINC PHOSPHATE

Corrosion resistant layer that assists in bonding powder coating

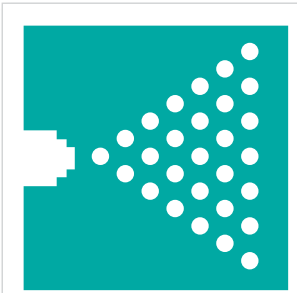
3



CLEAR WATER RINSE

A bit of clean H2O to prep for the next phase

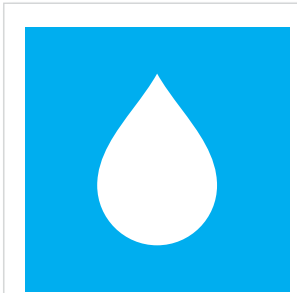
4



NON-CHROMATE SEAL

Barrier to prevent moisture from reaching base metal

5



CLEAR WATER RINSE

Final wash in H2O to remove any excess debris or particles

6



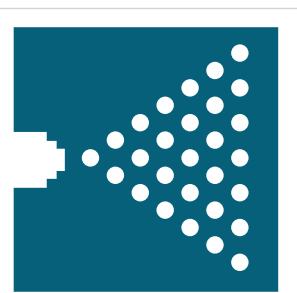
DRYING OVEN

Eliminates all moisture prior to double coating

7

ONCE COMPLETED, THESE 7-STAGES WILL HAVE **REMOVED EVERYTHING** FROM THE SURFACE OF THE STEEL THAT **MIGHT INHIBIT** THE FINISH FROM **PROPERLY ADHERING** DURING THE **NEXT 4-STAGES** OF THE COATING PROCESS.

DOUBLECOATING



EPOXY POWDER COAT

Epoxy powder is electrostatically applied

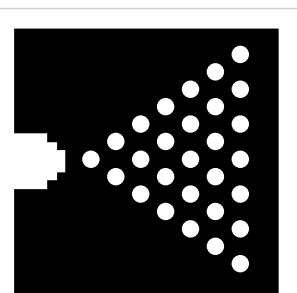
8



EPOXY GEL OVEN

Powder is gelled & cured to finish coat

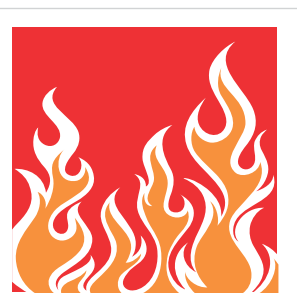
9



POLYESTER POWDER

TGIC powder is electro-statically applied

10



FINISH CURING OVEN

Seals finish for years of maintenance free use

11

CORROSIONTESTING

Corrosion occurs more easily without the proper preparation & protection, which is why Ameristar has put our fence products to the test based on ASTM B117 standards. *The results speak for themselves.*



PAINTED STEEL



PRIMED & PAINTED STEEL



SINGLE COAT PROCESS
Iron Phosphate +
Polyester Powder Coat



SINGLE COAT PROCESS
Zinc Phosphate +
Polyester Powder Coat



PERMACOAT PROCESS
Zinc Phosphate +
Epoxy Powder Coat +
Polyester Powder Coat

AEGIS II[®]

INDUSTRIAL ORNAMENTAL STEEL FENCE

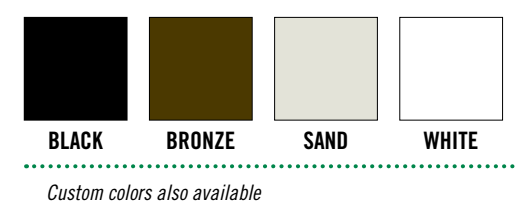
1"sq x 14ga PICKETS | 1.75" x 1.75" x 14ga ForeRunner™ RAILS | 2.5"sq x 12ga & 3"sq x 12ga POSTS
 AVAILABLE HEIGHTS: 3', 3½', 4', 5', 6', 7', 8', 9' & 10' (custom heights also available)



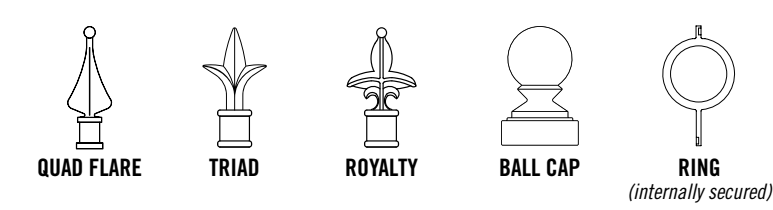
STYLE OPTIONS



COLOR OPTIONS



ADORNMENTS



The strength of Aegis II is rivaled only by the elegance of its profile. Manufactured as an *industrial grade fence system*, it is *designed for strength and durability*. Balanced by the beauty of its design features, Aegis II matches the level of *security demanded by any application*.

PRIMARY APPLICATIONS

- Stadiums & Event Centers
- Universities
- Airports
- Water Treatment & Storage
- Public Housing Authorities
- State Facilities
- Municipal Facilities
- Parks & Recreation
- Hospitals
- K-12 Schools

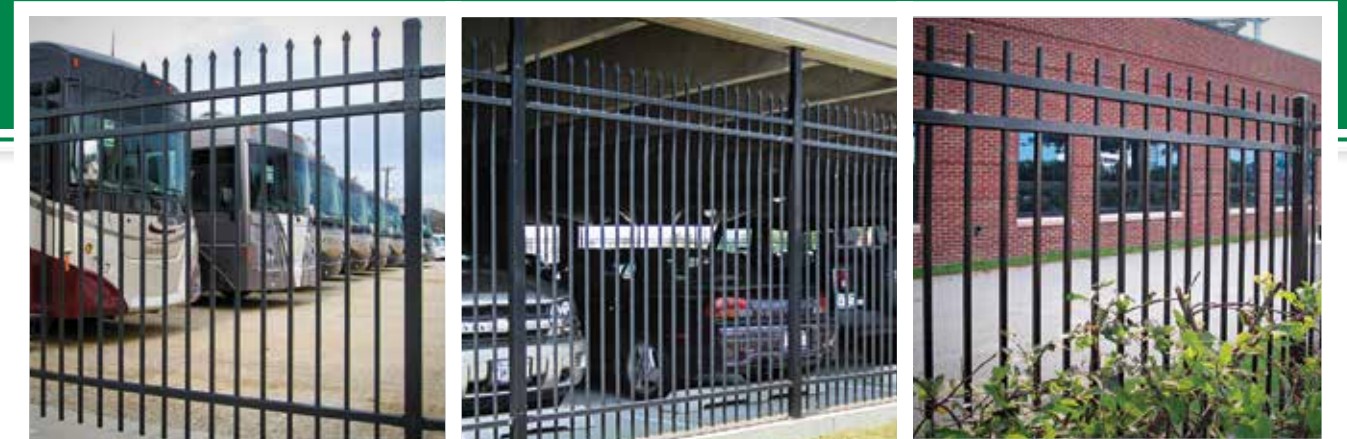
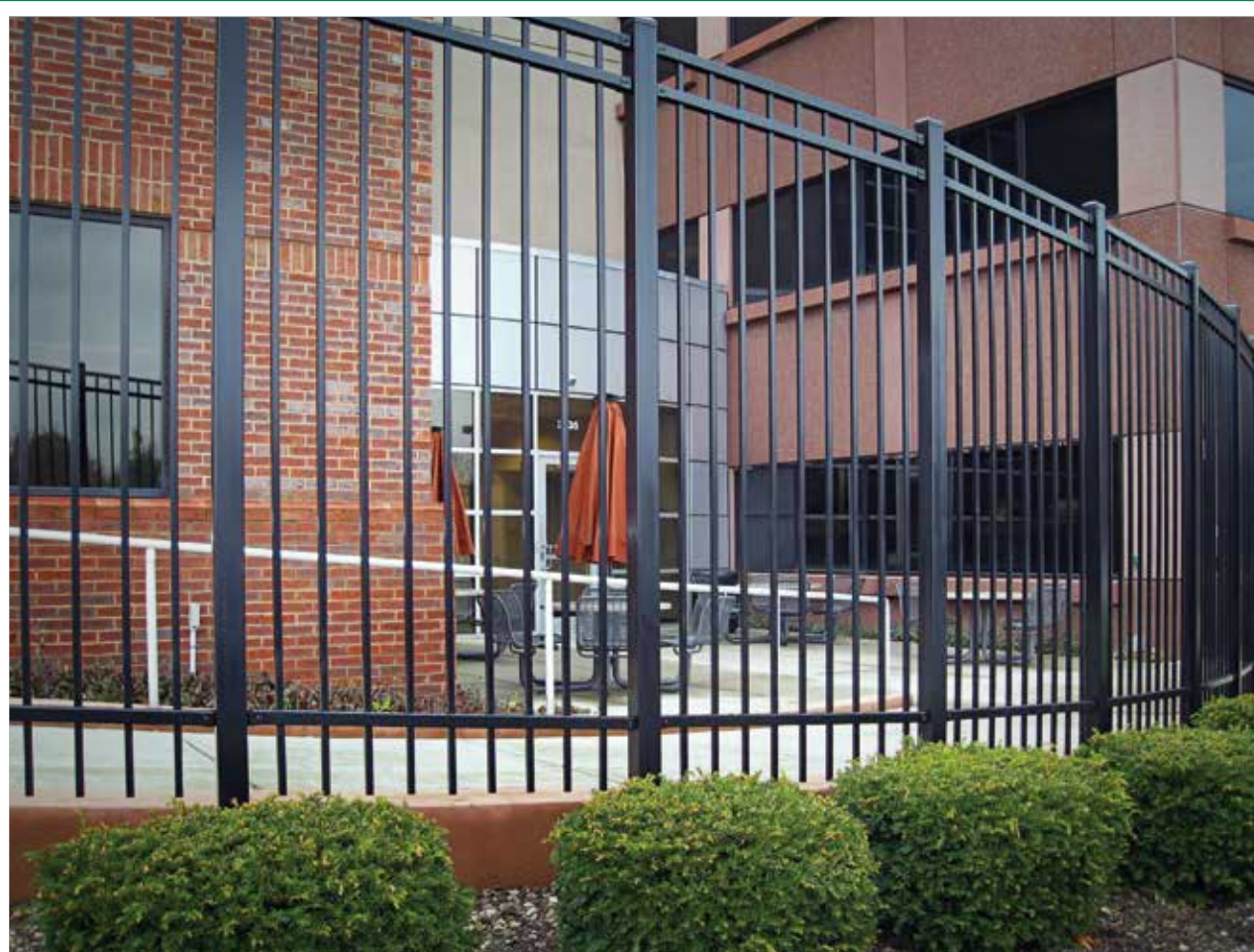


Aegis II gate options vary from *swing gates* for pedestrian or vehicle access to *sliding gates* for high functioning points of entry. Each of these gate systems are *individually constructed* to provide project specific performance.

AEGIS PLUS®

COMMERCIAL ORNAMENTAL STEEL FENCE

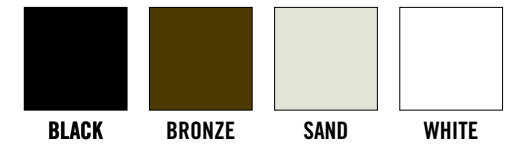
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 AVAILABLE HEIGHTS: 3', 3½', 4', 5', 6', 7' & 8' (custom heights also available)



STYLE OPTIONS

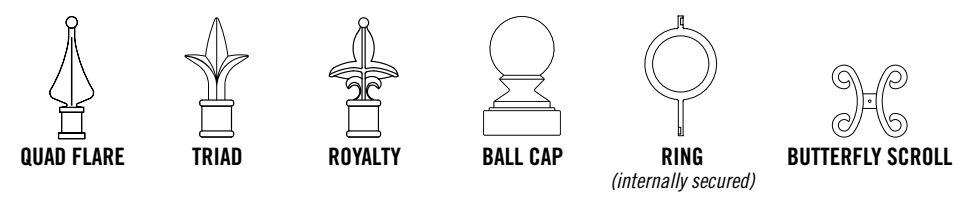


COLOR OPTIONS



Custom colors also available

ADORNMENTS



Aegis Plus combines *strength greater than most commercial steel fences* with a surface finish that is essentially maintenance-free. The size of Aegis Plus works well for numerous applications where users are seeking greater strength and a *more substantial look without the high cost of industrial fencing.*

PRIMARY APPLICATIONS

- *Municipal Facilities*
- *Self Storage*
- *Parks & Recreation*
- *Event Centers*
- *K-12 Schools*
- *Childcare Facilities*



Aegis Plus gate options vary from *swing gates* for pedestrian or vehicle access to *sliding gates* for high functioning points of entry. Each of these gate systems are *individually constructed* to provide project specific performance.

AEGIS PRODUCTS

STEEL RAIL STRENGTH COMPARISON

WIND LOADING CAPABILITIES

STRUCTURAL PARAMETERS		FORERUNNER™ AEGIS II®	SQUARE RAIL INDUSTRIAL	FORERUNNER™ AEGIS PLUS®	SQUARE RAIL COMMERCIAL
<p><i>Architectural Profile of rail shape.</i> <i>Vertical Design Loads are per rail.</i> <i>(For capacity of fence panel, multiply by number of rails)</i></p>					
T_{eff} = Effective Wall Thickness (inches)		.160	.083	.160	.095
S_v = Section Modulus (inches vertical)		.1624	.188	.1612	.115
S_h = Section Modulus (inches horizontal)		.367	.309	.254	.147
Vertical Load Data PV_f = Ultimate Vertical	6' span	676#	523#	652#	320#
	8' span	506#	392#	492#	239#
Horizontal Load Data PH_f = Ultimate Horizontal	6' span	1,020#	859#	639#	409#
	8' span	765#	644#	482#	306#
Vertical Load Data* PV_d = Vertical Design Load @ 66° F_y	6' span	446#	345#	430#	211#
	8' span	334#	259#	325#	158#
Horizontal Load Data* PH_d = Horizontal Design Load @ 66° F_y	6' span	673#	567#	422#	270#
	8' span	505#	425#	318#	202#

* Recommended load value for safe structural design / allowable strength = .66° F

FENCE HEIGHT	RAIL LENGTH	POST SIZE	WIND LOAD CAPACITY FACTOR (PSF)		TYPICAL WIND LOAD CAPACITY (MPH)	
			AEGIS II®	AEGIS PLUS®	AEGIS II®	AEGIS PLUS®
4'	6'	2½" x 12 ga.	102.3 (PSF)	127.8 (PSF)	236 (MPH)	264 (MPH)
		3" x 12 ga.	122.8 (PSF)	152.6 (PSF)	259 (MPH)	288 (MPH)
	8'	2½" x 12 ga.	77.0 (PSF)	93.2 (PSF)	205 (MPH)	225 (MPH)
5'	6'	2½" x 12 ga.	65.5 (PSF)	82.1 (PSF)	189 (MPH)	211 (MPH)
		3" x 12 ga.	78.6 (PSF)	98.0 (PSF)	203 (MPH)	231 (MPH)
	8'	2½" x 12 ga.	49.3 (PSF)	59.8 (PSF)	164 (MPH)	180 (MPH)
6'	6'	2½" x 12 ga.	45.5 (PSF)	57.1 (PSF)	157 (MPH)	176 (MPH)
		3" x 12 ga.	54.6 (PSF)	68.2 (PSF)	172 (MPH)	193 (MPH)
	8'	2½" x 12 ga.	34.2 (PSF)	41.5 (PSF)	136 (MPH)	150 (MPH)
7'	6'	2½" x 12 ga.	41.0 (PSF)	49.6 (PSF)	149 (MPH)	164 (MPH)
		3" x 12 ga.	33.4 (PSF)	42.0 (PSF)	135 (MPH)	151 (MPH)
	8'	2½" x 12 ga.	40.0 (PSF)	50.0 (PSF)	147 (MPH)	165 (MPH)
8'	6'	2½" x 12 ga.	25.0 (PSF)	30.4 (PSF)	116 (MPH)	128 (MPH)
		3" x 12 ga.	30.0 (PSF)	36.3 (PSF)	128 (MPH)	140 (MPH)
	8'	2½" x 12 ga.	25.6 (PSF)	32.2 (PSF)	118 (MPH)	132 (MPH)
9'	6'	3" x 12 ga.	30.7 (PSF)	38.4 (PSF)	129 (MPH)	144 (MPH)
		2½" x 12 ga.	19.2 (PSF)	23.4 (PSF)	102 (MPH)	113 (MPH)
	8'	3" x 12 ga.	23.0 (PSF)	27.9 (PSF)	112 (MPH)	123 (MPH)
10'	6'	4" x 11 ga.	30.6 (PSF)	36.8 (PSF)	129 (MPH)	141 (MPH)
		4" x 11 ga.	32.0 (PSF)	N/A	132 (MPH)	113 (MPH)
10'	6'	4" x 11 ga.	28.7 (PSF)	N/A	125 (MPH)	107 (MPH)

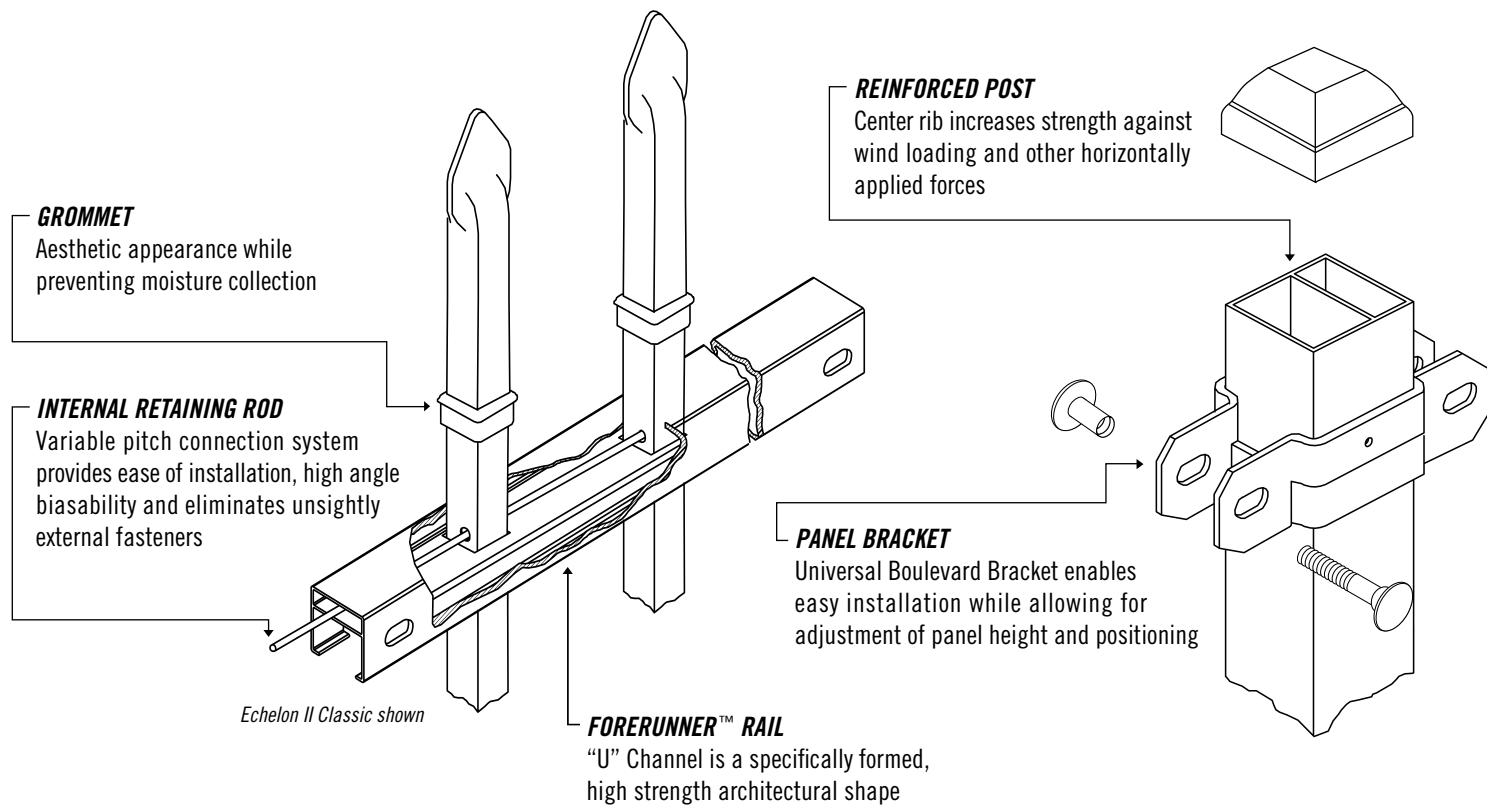
MPH values shown are provided for information only. They are calculated using ANSI/ASCE 7-05, "American Society of Civil Engineers Minimum Design Loads for Buildings and Other Structures" Exposure Category C (open terrain with scattered obstructions having lengths generally less than 30 feet), based on post setting in 36" deep concrete footer in soil assumed to be of mid-range strength and compaction. Since specified project conditions such as jurisdictional building codes, elevation of installation, post base/footer design, soil strength, etc., may change from project to project, a structural engineering evaluation, unique to applicable requirements and conditions, should be performed. Consult your Ameristar Service Representative for an estimate on Engineering Analysis and P.E. Certification.



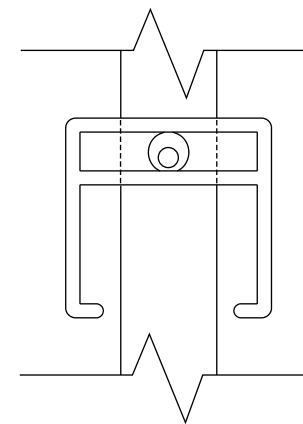
ECHELON PRODUCTS

INTERNALLY SECURED ORNAMENTAL ALUMINUM FENCE

- **ECHELON II®** | INDUSTRIAL ORNAMENTAL ALUMINUM FENCE
- **ECHELON PLUS®** | ORNAMENTAL ALUMINUM FENCE



FORERUNNER® LOCKING SYSTEM



INCREASED SECURITY

The ForeRunner Rail with internal retaining rod prevents the attachment from being compromised. Fasteners are not exposed.

AESTHETIC DETAILS

“Good Neighbor Design” rod follows ForeRunner centerline providing a clean and uninterrupted look void of visible screws or rivets.



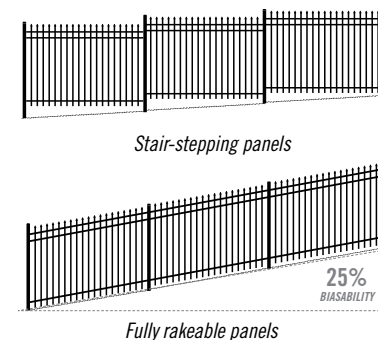
Ameristar’s Echelon fence systems are protected to endure the elements and are maintenance free



Ameristar’s Echelon fence systems are backed by over 30 years of excellence in the fencing industry



Ameristar products are manufactured domestically in Tulsa, Oklahoma



RAKEABLE VS STAIR-STEP

Having a unique picket to rail connection allows Echelon products a minimum biasability of 25%, eliminating unsightly stair stepping of panels.



Echelon II[®]

INDUSTRIAL ORNAMENTAL ALUMINUM FENCE

1"sq x .062" PICKETS | 1.75" x 1.75" x (.070" side & top wall) ForeRunner™ RAILS
 2.5"sq x .080" & 3"sq x .120" wall POSTS
 AVAILABLE HEIGHTS: 4', 5', 6', 7', 8', 9' & 10' (custom heights also available)



STYLE OPTIONS

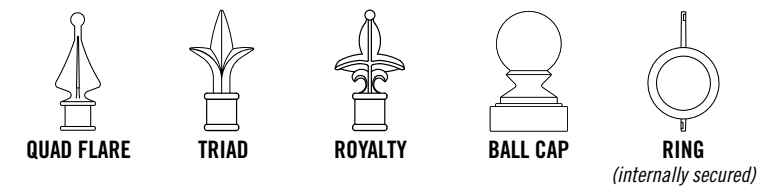


COLOR OPTIONS



Custom colors also available

ADORNMENTS



Echelon II's superior *strength and durability* is a result of combining top quality design components with a *maintenance-free, architectural grade finish*. This revolutionary fence system is comprised of aluminum posts, panels, and mounting brackets that are *easily installed along any terrain*.

PRIMARY APPLICATIONS

- ▶ *Water Treatment & Storage*
- ▶ *Public Housing Authorities*
- ▶ *State Facilities*
- ▶ *Stadiums & Event Centers*
- ▶ *Schools & Universities*
- ▶ *Municipal Facilities*
- ▶ *Airports*
- ▶ *Parks & Recreation*
- ▶ *Hospitals*



Echelon II gate options vary from *swing gates* for pedestrian or vehicle access to *sliding gates* for high functioning points of entry. Each of these gate systems are *individually constructed* to provide project specific performance.

ECHELON II

ALUMINUM RAIL STRENGTH COMPARISON

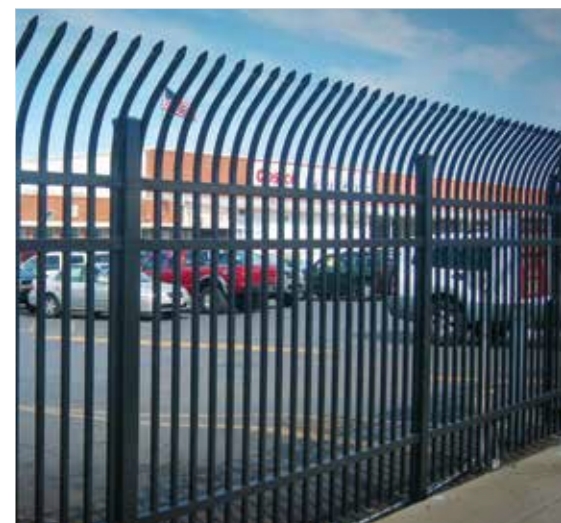
WIND LOADING CAPABILITIES

STRUCTURAL PARAMETERS		FORERUNNER™ ECHELON II®	U-CHANNEL COMPETITORS
<p><i>Architectural Profile of rail shape. Vertical Design Loads are per rail. (For capacity of fence panel, multiply by number of rails)</i></p>			
T_{eff} = Effective Wall Thickness (inches)		.070	.100 / .070
S_v = Section Modulus (inches vertical)		.125	.135
S_h = Section Modulus (inches horizontal)		.260	.260
Vertical Load Data	6' span	243#	262#
PV_f = Ultimate Vertical	8' span	182#	182#
Horizontal Load Data	6' span	505#	499#
PH_f = Ultimate Horizontal	8' span	379#	373#
Vertical Load Data*	6' span	145#	145#
PV_d = Vertical Design Load @ 66° F_y	8' span	109#	109#
Horizontal Load Data*	6' span	303#	299#
PH_d = Horizontal Design Load @ 66° F_y	8' span	227#	224#

* Recommended load value for safe structural design / allowable strength = .66° F

FENCE HEIGHT	RAIL LENGTH	POST SIZE	WIND LOAD CAPACITY FACTOR (PSF)	TYPICAL WIND LOAD CAPACITY (MPH)
4'	6'	2.5" sq.	112 (PSF)	206 (MPH)
		3" sq.	213 (PSF)	285 (MPH)
	8'	2.5" sq.	84 (PSF)	178 (MPH)
		3" sq.	160 (PSF)	246 (MPH)
5'	6'	2.5" sq.	76 (PSF)	170 (MPH)
		3" sq.	145 (PSF)	235 (MPH)
	8'	2.5" sq.	57 (PSF)	147 (MPH)
		3" sq.	109 (PSF)	203 (MPH)
6'	6'	2.5" sq.	52 (PSF)	141 (MPH)
		3" sq.	99 (PSF)	194 (MPH)
	8'	2.5" sq.	40 (PSF)	123 (MPH)
		3" sq.	76 (PSF)	171 (MPH)
7'	6'	2.5" sq.	38 (PSF)	120 (MPH)
		3" sq.	73 (PSF)	166 (MPH)
	8'	2.5" sq.	28 (PSF)	104 (MPH)
		3" sq.	55 (PSF)	144 (MPH)
8'	6'	2.5" sq.	29 (PSF)	105 (MPH)
		3" sq.	56 (PSF)	145 (MPH)
	8'	2.5" sq.	22 (PSF)	91 (MPH)
		3" sq.	42 (PSF)	126 (MPH)
9'	6'	4" sq.	78 (PSF)	172 (MPH)
10'	6'	4" sq.	82 (PSF)	176 (MPH)
10'	6'	4" sq.	66 (PSF)	159 (MPH)

MPH values shown are provided for information only. They are calculated using ANSI/ASCE 7-05, "American Society of Civil Engineers Minimum Design Loads for Buildings and Other Structures" Exposure Category C (open terrain with scattered obstructions having lengths generally less than 30 feet), based on post setting in 36" deep concrete footer in soil assumed to be of mid-range strength and compaction. Since specified project conditions such as jurisdictional building codes, elevation of installation, post base/footer design, soil strength, etc., may change from project to project, a structural engineering evaluation, unique to applicable requirements and conditions, should be performed. Consult your Ameristar Service Representative for an estimate on Engineering Analysis and P.E. Certification.



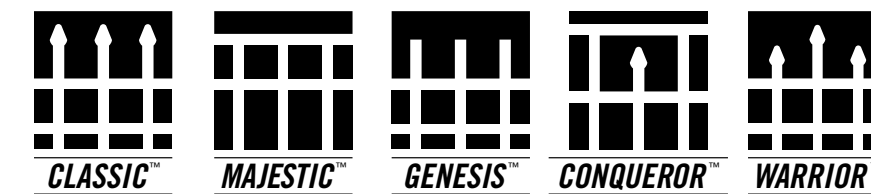
Echelon Plus[®]

ORNAMENTAL ALUMINUM FENCE

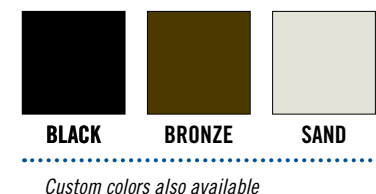
.75"sq x .045" wall PICKETS | 1.4375" x 1.25" x (.090" side / .060" top) ForeRunner™ RAILS
 2.5"sq x .060" POSTS w/reinforced internal web
 AVAILABLE HEIGHTS: 3', 3½', 4, 4½', 5' & 6' (custom heights also available)



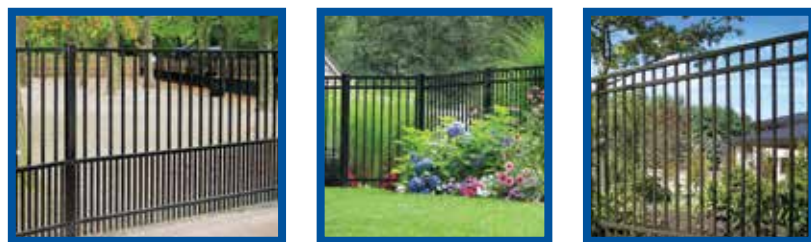
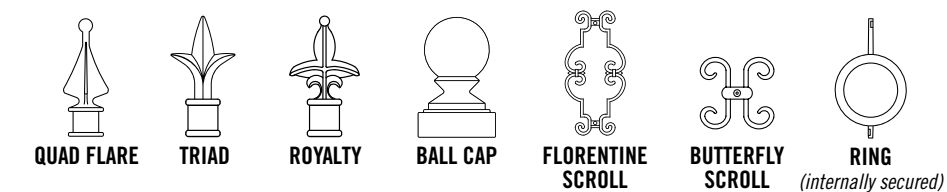
STYLE OPTIONS



COLOR OPTIONS



ADORNMENTS



PRIMARY APPLICATIONS

- **Municipal Facilities**
- **Childcare Facilities**
- **Coastal Environments**
- **Parks & Recreation**
- **Schools**

Echelon Plus has taken the *quality and performance* of aluminum ornamental fencing to a higher level. The strength characteristics of the *reinforced rail and posts*, coupled with a *superior powder coat finish* make Echelon Plus the *most durable .75" ornamental picket product on the market.*



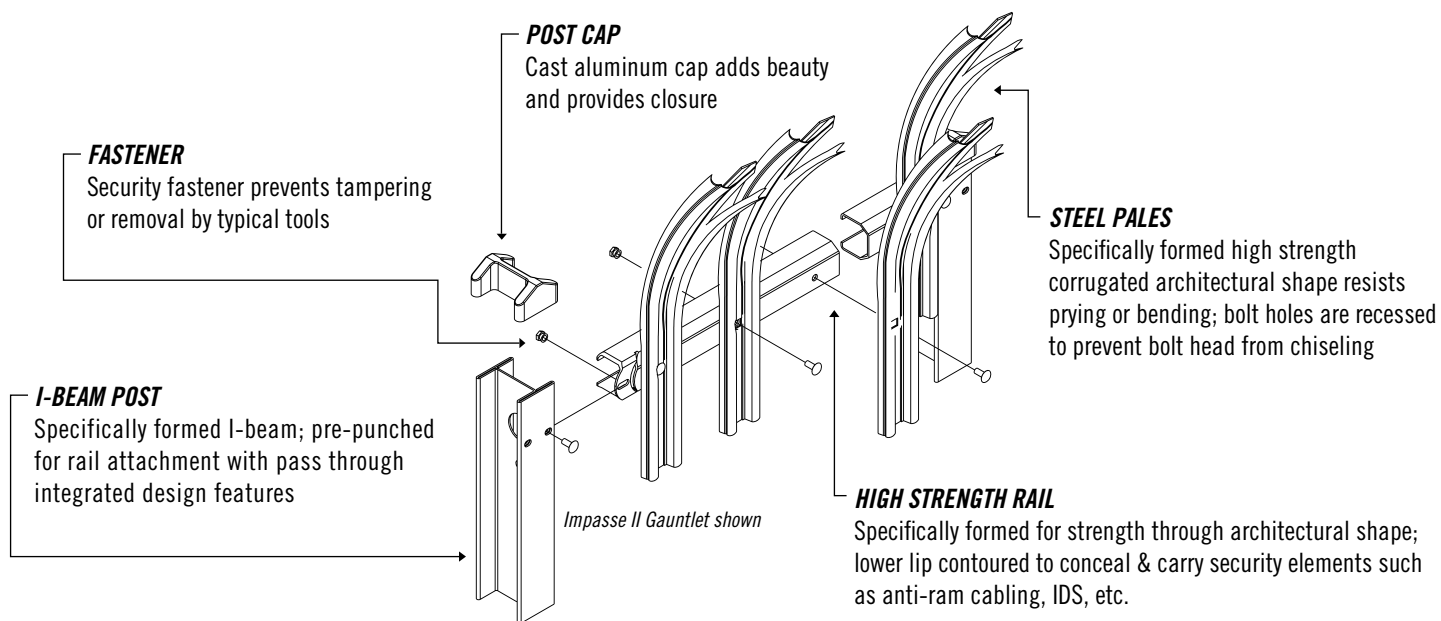
Echelon Plus gate options vary from *swing gates* for pedestrian or vehicle access to *sliding gates* for high functioning points of entry. Each of these gate systems are *individually constructed* to provide project specific performance.

IMPASSE II

HIGH SECURITY STEEL PALISADE FENCE

FABRICATION & DESIGN

Impasse II panels and posts are manufactured using high-tensile pre-galvanized G-90 steel. Each component has been roll-formed into a unique profile that yields significant strength properties. Impasse II's distinct design enables the fence to traverse aggressive changes in grade in order to maintain security along any perimeter. Each connection point of the Impasse II system is secured with tamper-proof fasteners providing the highest level of security and versatility.



DESIGN INTEGRATION

The Impasse II framework is a raceway for wiring, conduits, and/or security cabling required around the perimeter of a project. This integrated design eliminates the need for costly trenching and boring becoming a value added solution for perimeter security upgrades.



(inside of rail shown above / view from protected side)

When installing these security elements use Impasse II as a platform:

- **Communication & Video Cables**
- **Intrusion Detection / Fiber Optic Cables**
- **Access Control Wiring**
- **Conduits**
- **Anti-Ram Cabling (Stalwart)**



Ameristar's Impasse II fence systems are protected to endure the elements and are maintenance free



Ameristar's Impasse II is backed by over 30 years of excellence in the fencing industry



Ameristar products are manufactured domestically in Tulsa, Oklahoma



Manufactured from up to 96% recycled domestic steel, Impasse II products earn project LEED points



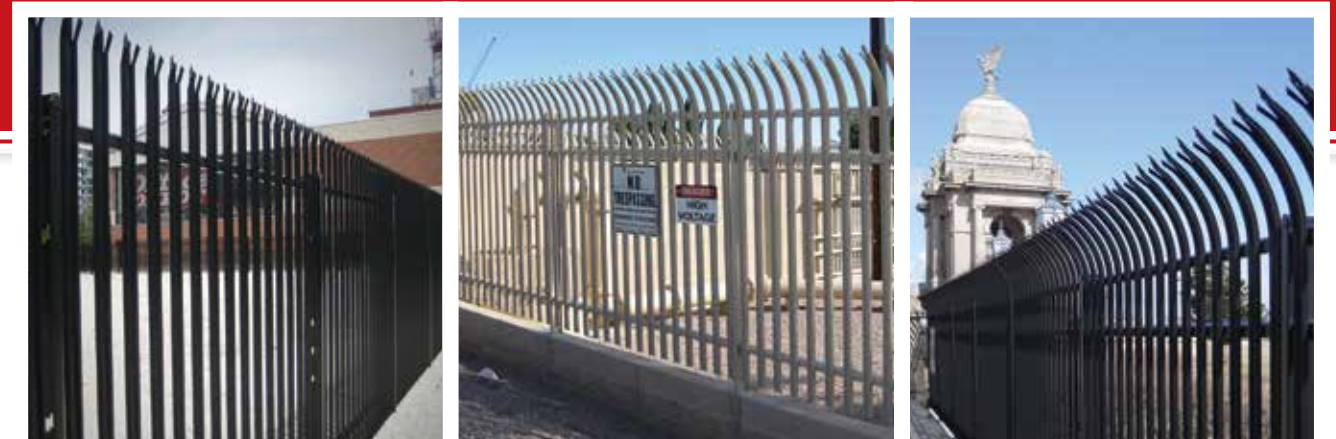
SAFETY ACT CERTIFIED

Developed by the US Department of Homeland Security, the SAFETY Act established a system of risk and litigation management for claims arising out of, relating to, or resulting from an act of terrorism.

IMPASSE II®

HIGH SECURITY STEEL PALISADE FENCE

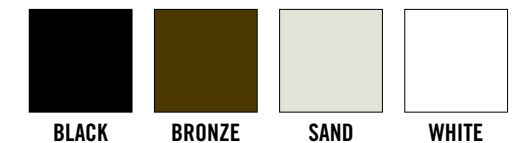
2.75"w x 14ga PALES | 2" x 2" x 11ga RAILS | 3" x 2.75" x 12ga & 4" x 2.75" x 11ga I-BEAM POSTS
 AVAILABLE HEIGHTS: 6', 7', 8', 9' & 10'



STYLE OPTIONS



COLOR OPTIONS



ANTI-SCALE OPTION

The Impasse II Anti-Scale fence system has decreased pale spacing, which helps deter the assailant from climbing, and increases the delay time when trying to cut or pry through the fence.



Maintaining a secure perimeter is your first line of defense against potential threats. Impasse II fence systems serve as a *visual deterrent backed with heavy steel components* that give a higher level of protection compared to the traditional chain link or architectural mesh fence alternatives.

PRIMARY APPLICATIONS

- **Military Sites**
- **Government Facilities**
- **Petroleum & Chemical Facilities**
- **Power Plants & Substations**
- **Airports**
- **Data Centers**
- **Ports of Entry**
- **Water Treatment & Storage**



Impasse II gate options vary from *swing gates* for pedestrian or vehicle access to *sliding gates* for high functioning points of entry. Each of these gate systems are *individually constructed* to provide project specific performance.

STALWART PRODUCTS

ANTI-RAM VEHICLE BARRIERS



- **STALWART®** | POST & RAIL ANTI-RAM CRASH BARRIER
- **STALWART IS®** | ANTI-RAM BARRIER + SECURITY FENCE
- **STALWART II®** | ANTI-RAM BARRIER + ORNAMENTAL FENCE
- **STALWART PLUS®** | ANTI-RAM BARRIER + ARCHITECTURAL MESH

DESIGN INTEGRATION

The Stalwart framework is a raceway for wiring, conduits, and/or security cabling required around the perimeter of a project. This integrated design eliminates the need for costly trenching and boring becoming a value added solution for perimeter security upgrades.



(inside of rail shown / view from protected side)

When installing these security elements use Stalwart Products as a platform:

- **Communication & Video Cables**
- **Intrusion Detection / Fiber Optic Cables**
- **Access Control Wiring**
- **Conduits**
- **Anti-Ram Cabling (Stalwart)**

CRASH RATINGS

Stalwart offers multiple anti-ram ratings engineered and tested to meet ASTM F2656 standards. Each installation can be designed with the most appropriate stand-off distance from the assets.

ASTM F2656 TESTED		
M50	M40	M30
ENGINEERED		
M30	PU60	PU50
DOD RECOGNIZED		
K12	K8	



SAFETY ACT CERTIFIED

Developed by the US Department of Homeland Security, the SAFETY Act established a system of risk and litigation management for claims arising out of, relating to, or resulting from an act of terrorism.



Ameristar's Stalwart systems are protected to endure the elements and are maintenance free



Ameristar's fence framework for Stalwart is backed by over 30 years of excellence in the fencing industry



Ameristar products are manufactured domestically in Tulsa, Oklahoma



Manufactured from up to 96% recycled domestic steel, Stalwart products earn project LEED points



STALWART®

Bollard sizes & cabling vary based on desired crash rating

POST & RAIL ANTI-RAM CRASH BARRIER

2" x 2" x 11ga RAILS | 3" x 2.75" x 12ga I-BEAM POSTS



The Stalwart post and rail anti-ram barrier is the *most economical passive perimeter barrier* on the market. The Stalwart *standalone design* when installed adjacent to an existing perimeter fence, transforms the perimeter into a *secure anti-crash perimeter system*.



STALWART PLUS®

Bollard sizes & cabling vary based on desired crash rating

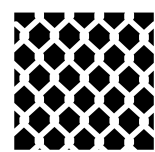
ANTI-RAM BARRIER + ARCHITECTURAL MESH

ARCHITECTURAL MESH | 2" x 2" x 11ga RAILS | 3" x 2.75" x 12ga I-BEAM POSTS

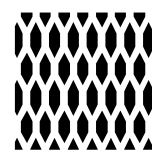


Stalwart Plus combines the design components of an *anti-ram barrier with the industrial appearance of architectural mesh*. Diverse mesh options for a *varied level of security to delay* with anti-cut and anti-climb properties.

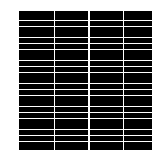
STYLE OPTIONS



UPLINK™
Chain Link



X-SPAN™
Expanded Metal



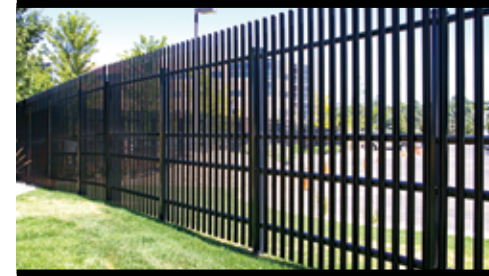
WIREWOKS™
Welded Wire

STALWART IS®

Bollard sizes & cabling vary based on desired crash rating

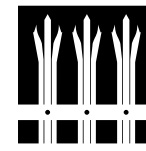
ANTI-RAM BARRIER + SECURITY FENCE

2.75"w x 14ga PALES | 2" x 2" x 11ga RAILS | 3" x 2.75" x 12ga I-BEAM POSTS



Stalwart IS unites the *strongest security fence available* with the *most widely used anti-ram perimeter barrier*. The appearance of Stalwart IS is a *great visual deterrent* that delivers strength and fortitude for keeping any assailant from easily breaching the perimeter.

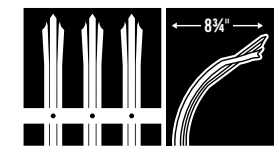
STYLE OPTIONS



TRIDENT™



STRONGHOLD™



GAUNTLET™



STALWART II®

Bollard sizes & cabling vary based on desired crash rating

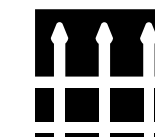
ANTI-RAM BARRIER + ORNAMENTAL FENCE

ORNAMENTAL PANEL | 2" x 2" x 11ga RAILS | 3" x 2.75" x 12ga I-BEAM POSTS

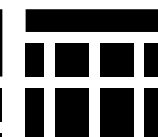


Stalwart II *integrates the design features of a traditional ornamental iron fence* with the resilience of the Stalwart anti-ram barrier. The ornamental picket design blends into its surroundings, *not drawing attention to itself*, but still maintaining the requirements of an *anti-ram barrier*.

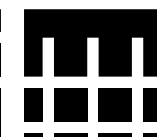
STYLE OPTIONS



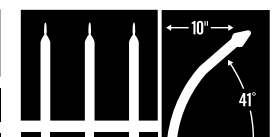
CLASSIC™



MAJESTIC™



GENESIS™

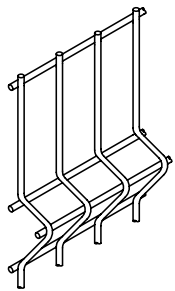


INVINCIBLE™

WIREWORKS PLUS®

COMMERCIAL WELDED WIRE STEEL FENCE

6ga WIRE PANELS | 3" V-FOLDS | 2"sq x 16ga & 2.5"sq x 16sq POSTS



The WireWorks Plus fence system is the *new standard in welded wire fencing*. With this product, Ameristar has a fence solution that will reduce dependency on chain link. WireWorks Plus provides *unobstructed visibility, aesthetics, and security while delivering a value added fencing solution.*

PRIMARY APPLICATIONS

▶ AVAILABLE HEIGHTS: 4', 6' & 8'

- ▶ Commercial Developments
- ▶ Schools & Universities
- ▶ Parking Facilities
- ▶ Apartments (Multi-Family)
- ▶ Self Storage
- ▶ Amusement Parks
- ▶ Parks & Recreation
- ▶ Healthcare Facilities

PRODUCT FEATURES



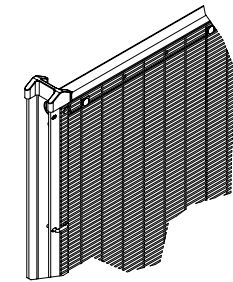
PERMACOAT™ PROTECTIVE FINISH

Our polyester powder coated steel guarantees a maintenance-free and environmentally friendly fence

WIREWORKS ANTI-CLIMB®

HIGH SECURITY WELDED WIRE MESH FENCE

3" x .5" x 10.5"ga WIRE PANELS | 2" x 2" x 11ga RAILS | 3" x 2.75" x 12ga I-BEAM POSTS



WireWorks Anti-Climb is a unique perimeter security system that *maintains a guarded display of visual screening* balancing the need to delay and deter an attack. WireWorks Anti-Climb combines a mesh that *discourages cutting and climbing* with framework that *can support a total security platform.*

PRIMARY APPLICATIONS

▶ AVAILABLE HEIGHT: 8'
(additional heights available upon request)

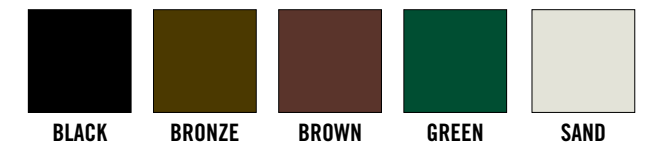
- ▶ Petroleum & Chemical Facilities
- ▶ Government Facilities
- ▶ Power Plants & Substations
- ▶ Airports
- ▶ Manufacturing Plants
- ▶ Railway
- ▶ Military Sites



10 YEAR LIMITED WARRANTY

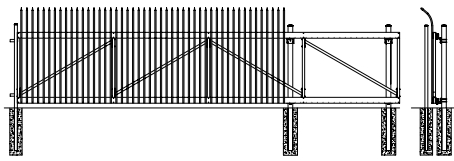
PermaCoated fence framework is backed by over 30 years of excellence in the fencing industry

COLOR OPTIONS



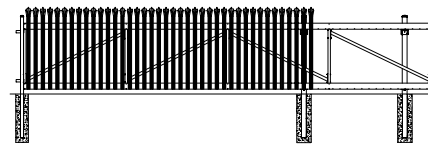
TRANSPORT® CANTILEVER GATES

COMPONENT ALUMINUM ENCLOSED DUAL TRACK DESIGN



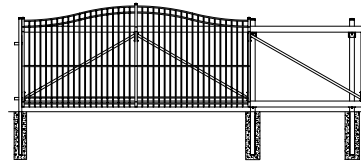
TRANSPORT II®

1" Ornamental Picket Design | *Invincible shown
Matches: Montage II | Echelon II | Aegis II



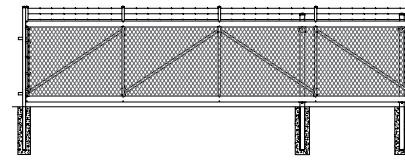
TRANSPORT IS®

2.75" Ornamental Pale Design | *Trident shown
Matches: Impasse II



TRANSPORT ESTATE®

.75" Ornamental Arched Picket Design | *Majestic shown
Matches: Aluminum Estate Entry Gates



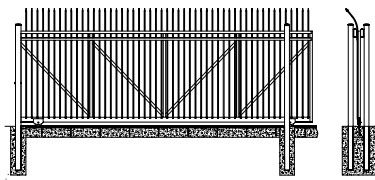
TRANSPORT LINK®

Chain Link Design
Matches: Chain Link Fence



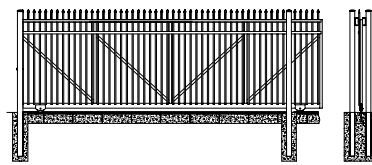
PASSPORT® ROLL GATES

WELDED STEEL CONSTRUCTION V-TRACK DESIGN



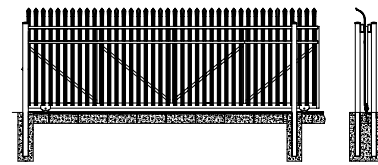
PASSPORT COMMERCIAL®

.75" Ornamental Picket Design | *Montage Commercial Invincible shown
Matches: Montage Plus | Montage Commercial



PASSPORT II®

1" Ornamental Picket Design | *Classic shown
Matches: Montage II



PASSPORT IS®

2.75" Ornamental Pale Design | *Gauntlet shown
Matches: Impasse II

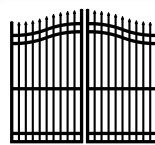


ESTATE® ENTRY GATES

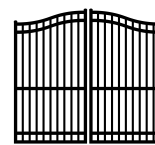
ALUMINUM & STEEL OPTIONS

- SINGLE & DOUBLE SWING OPTIONS
- 3-RAIL, 4-RAIL & 5-RAIL OPTIONS AVAILABLE*
- 1" & .75" PICKET OPTIONS AVAILABLE*

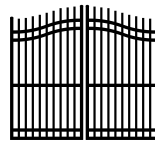
*Steel Estate Entry Gates match Montage II | Aluminum Estate Entry Gates are only available in 5-rail design | Refer to Ameristar Product Catalog for Aluminum & Steel Estate Entry Gate details | Adjacent artwork shown represents Aluminum Estate Entry Gate styles



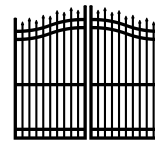
CLASSIC™



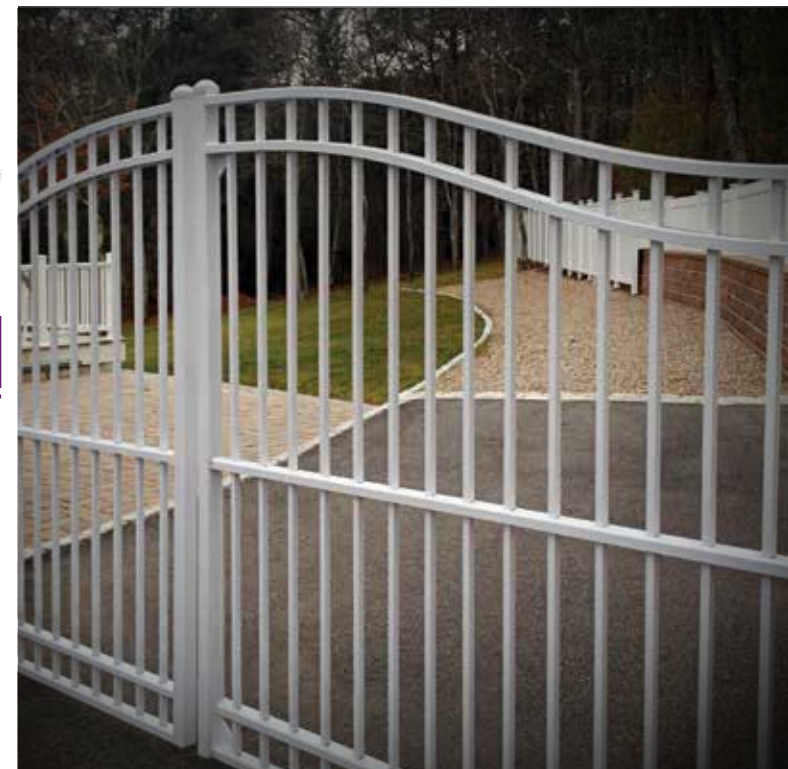
MAJESTIC™



GENESIS™



WARRIOR™



PRODUCT APPLICATIONS

PRODUCT TYPE	INDUSTRIAL PIPE PC-40 & GBR-40 *	COMMERCIAL PIPE PC-20 & GBR-20 *
Terminal Post up to 6'	2.375" O.D. x .130" wall / 3.12 lbs. per ft.	2.375" O.D. x .095" wall / 2.31 lbs. per ft.
Terminal Posts 6'1" to 10'	2.875" O.D. x .160" wall / 4.64 lbs. per ft.	2.875" O.D. x .110" wall / 3.25 lbs. per ft.
Terminal Posts over 10'	4" O.D. x .160" wall / 6.56 lbs. per ft.	n/a
Line Posts up to 6'	1.900" O.D. x .120" wall / 2.28 lbs. per ft.	1.900" O.D. x .090" wall / 1.74 lbs. per ft.
Line Posts 6'1" to 10'	2.375" O.D. x .130" wall / 3.12 lbs. per ft.	2.375" O.D. x .095" wall / 2.31 lbs. per ft.
Line Posts over 10'	2.875" O.D. x .160" wall / 4.64 lbs. per ft.	n/a
Rails & Bracing	1.660" O.D. x .111" wall / 1.84 lbs. per ft.	1.660" O.D. x .090" wall / 1.43 lbs. per ft.

PermaCoat & GalvOnAll Fence framework meet ASTM F1043 standards. PermaCoat framework meets ASTM F934 standards.



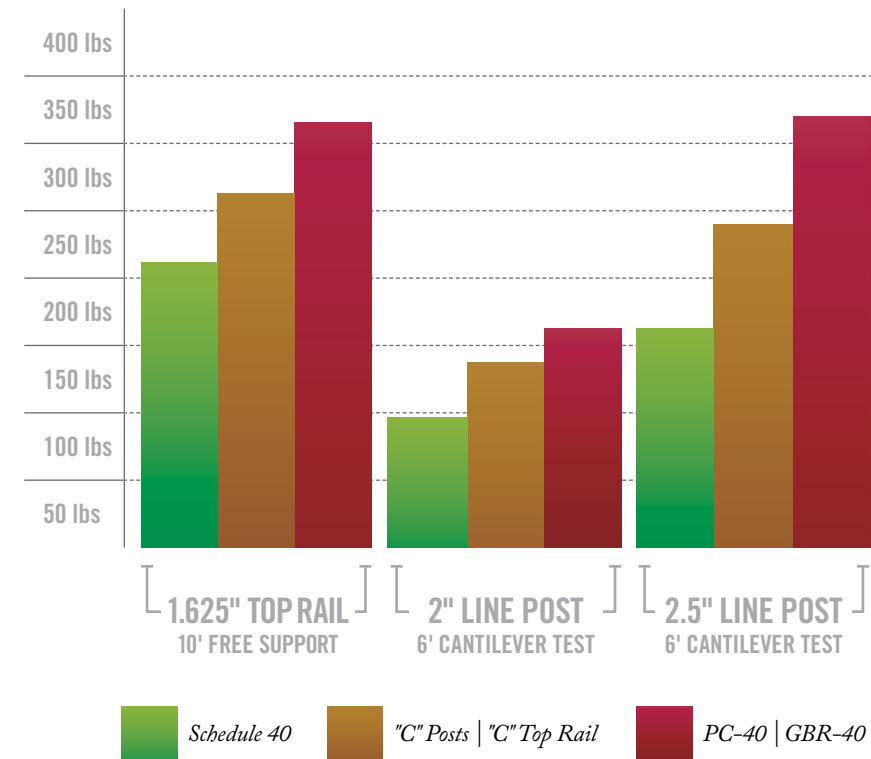
INDUSTRIAL STRENGTH PIPE

DIMENSIONS & CHARACTERISTICS | PC-40 & GBR-40

NOMINAL SIZES	ACTUAL SIZES	WALL THICKNESS	WEIGHT	MIN. YIELD STRENGTH	10' Free Supported	4' Cantilever	6' Cantilever
1.625" O.D.	1.660"	.111"	1.84 lbs./ft.	.1961" x 50,000 (psi) = 9,850 (lbs./in.)	327 lbs.	204 lbs.	136 lbs.
2" O.D.	1.900"	.102"	2.28 lbs./ft.	.2810" x 50,000 (psi) = 14,050 (lbs./in.)	468 lbs.	293 lbs.	195 lbs.
2.5" O.D.	2.375"	.130"	3.12 lbs./ft.	.4881" x 50,000 (psi) = 24,405 (lbs./in.)	814 lbs.	508 lbs.	339 lbs.
3" O.D.	2.875"	.160"	4.64 lbs./ft.	.8778" x 50,000 (psi) = 43,890 (lbs./in.)	1,463 lbs.	914 lbs.	610 lbs.
4" O.D.	4"	.160"	6.56 lbs./ft.	1.7819" x 50,000 (psi) = 89,095 (lbs./in.)	2,970 lbs.	1,856 lbs.	1,237 lbs.

Note: 4" O.D. not available in GalvOnAll (GBR)

INDUSTRIAL BENDING STRENGTHS



COMMERCIAL STRENGTH PIPE

DIMENSIONS & CHARACTERISTICS | PC-20 & GBR-20

NOMINAL SIZES	ACTUAL SIZES	WALL THICKNESS	WEIGHT	MIN. YIELD STRENGTH	10' Free Supported	4' Cantilever	6' Cantilever
1.625" O.D.	1.660"	.085"	1.43 lbs./ft.	.1574" x 50,000 (psi) = 7,870 (lbs./in.)	262 lbs.	164 lbs.	109 lbs.
2" O.D.	1.900"	.090"	1.74 lbs./ft.	.2208" x 50,000 (psi) = 11,040 (lbs./in.)	N/A	230 lbs.	154 lbs.
2.5" O.D.	2.375"	.095"	2.32 lbs./ft.	.3734" x 50,000 (psi) = 18,670 (lbs./in.)	N/A	389 lbs.	259 lbs.
3" O.D.	2.875"	.111"	3.26 lbs./ft.	.6365" x 50,000 (psi) = 31,825 (lbs./in.)	N/A	663 lbs.	442 lbs.

PERMACOAT



PermaCoated fence framework is backed by over 30 years of excellence in the fencing industry



Ameristar products are manufactured domestically in Tulsa, Oklahoma



Manufactured from up to 96% recycled domestic steel, Ameristar products earn project LEED points

Additional physical security solutions manufactured by Ameristar...

BOOTHS | BARRIERS | BOLLARDS

PERIMETER SECURITY PRODUCTS

- **BOOTHS** | SECURITY & GUARD | PARKING & ATTENDANT | TICKET, TOLL & CASHIER
- **BARRIERS** | WEDGES | BEAM
- **BOLLARDS** | FIXED | REMOVABLE | RETRACTABLE (automated or manual)



AMERISTAR SECURITY PRODUCTS | **ATG ACCESS**

BOOTH BALLISTIC OPTIONS

UL 752 LEVEL **1-8**
BALLISTIC RESISTANT

NIJ 0108.01 TYPE **I-IV**
BALLISTIC RESISTANT MATERIALS

UL 752 ratings of ballistic resistant materials are identified by Underwriters Laboratories as a measurable standard. NIJ Standard 0108.01 for ballistic resistant protective materials are defined by the National Institute of Justice. For more detailed ballistic ratings & levels of resistance visit www.ameristarbooths.com

M50 | K12 | K4 | M30 | PAS68

Ameristar offers a variety of active and passive vehicle barriers, each with its own anti-ram rating. Our bollards, wedges & crash beams have been tested and/or engineered to a standard that best equips the product to its design parameters in order to maintain a required level of standoff distance from the asset.

WHY CHOOSE AMERISTAR

▶ KNOWLEDGE & EXPERIENCE

Ameristar was chartered *30 years ago* in response to the *demand by consumers & specifiers for specialty fence products*. Ameristar offers an *aesthetically pleasing product* that is both *high in quality & affordability*. This has been achieved by maximizing *high-volume productivity*, increasing product design strength, and promoting *simplistic installation*.

▶ PROVEN CAPABILITY

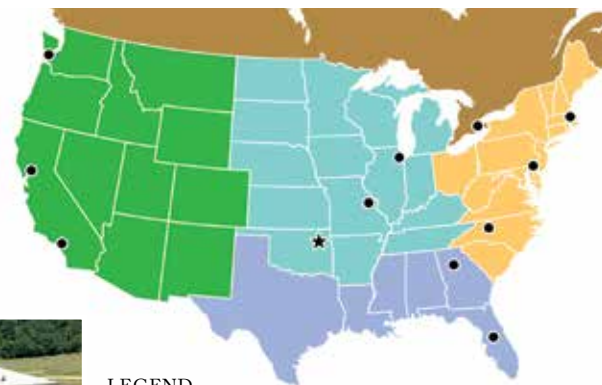
Ameristar's integrated *in-house process & extensive raw material inventory* results in much improved productivity and availability compared to the competition. By having a *vast finished goods inventory*, Ameristar is capable of *delivering finished products faster* than competitors who sublet the majority of their operations.

▶ INDUSTRY LEADERSHIP

Over the years Ameristar has continually *raised the bar* across the board in the *manufacturing of high quality*, innovative fencing products. Our demonstrated commitment to *upholding higher values* translates into superior products that *go far beyond* merely meeting minimum industry standards.



Ameristar's world headquarters, manufacturing & coil processing facilities in Tulsa, Oklahoma, USA.



LEGEND

- ★ Ameristar Headquarters
- Sales & Service Centers

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