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

FENCE PRODUCTS

AMERISTARFENCE.COM | 800-321-8724
ASSA ABLOY, the global leader in door opening solutions
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.
**INDUSTRIAL**

**ARCHITECTURAL SUPPORT SOLUTION SPECIALISTS**

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MONTAGE PRODUCTS

PROFUSION WELDED ORNAMENTAL STEEL FENCE

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

PICKET TO RAIL PROFUSION WELDING
Each picket is welded precisely at each rail connection for ease of installation yet remaining flexible as an all terrain fence

PANEL BRACKET
Universal Boulevard Bracket enables easy installation while allowing for adjustment of panel height and positioning

SECURITY FASTENERS
Tee nut one-way action secures the rail and prohibits removal by typical tools

NO VISIBLE WELDS
Profusion welding techniques are both strong and hidden from view providing a good neighbor profile

Download specifications, drawings & other assets @ ameristarfence.com
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 is committed to
providing products that meet
the Buy American Act

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

Learn more online at ameristarfence.com or by calling 800-321-8724
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**, 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**.
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.

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.

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.

Layered Protection

Acrylic Topcoat
Epoxy Primer
Phosphate
Galvanized Steel
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
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

CLASSIC MAJESTIC® GENESIS® INVINCIBLE®

COLOR OPTIONS

BLACK BRONZE

ADORNMENTS

QUAD FLARE TRIAD ROYALTY BALL CAP

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 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
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’

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 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.**
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'

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

GROMMET
Aesthetic appearance while preventing moisture collection.

INTERNAL RETAINING ROD
Variable pitch connection system provides ease of installation, high angle biasability and eliminates unsightly external fasteners.

FORERUNNER™ RAIL
“U” Channel is a specifically formed, high strength architectural shape.

PANEL BRACKET
Universal Boulevard Bracket enables easy installation while allowing for adjustment of panel height and positioning.

SECURITY FASTENERS
Tee nut one-way action secures the rail and prohibits removal by typical tools.

Download specifications, drawings & other assets @ ameristarfence.com
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 is committed to providing products that meet the Buy American Act.

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

Learn more online at ameristarfence.com or by calling 800-321-8724
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.
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.

NON-CROMATE SEAL
Barrier to prevent moisture from reaching base metal

CLEAR WATER RINSE
Final wash in H2O to remove any excess debris or particles

DRYING OVEN
Eliminates all moisture prior to double coating

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.
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.
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

CLASSIC  MAJESTIC  GENESIS  INVINCIBLE

COLOR OPTIONS

BLACK  BRONZE  SAND  WHITE

Custom colors also available

ADORNMENTS

QUAD FLARE  TRIAD  ROYALTY  BALL CAP  RING (internally secured)

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 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.*
COMMERCIAL ORNAMENTAL STEEL FENCE

.75" sq x 17ga PICKETS | 1.5" x 1.5" x 14ga ForeRunner™ RAILS | 2.5" sq x 12ga POSTS

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

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.
<table>
<thead>
<tr>
<th>Structural Parameters</th>
<th>Forerunner™ Aegis II®</th>
<th>Square Rail Industrial</th>
<th>Forerunner™ Aegis Plus®</th>
<th>Square Rail Commercial</th>
</tr>
</thead>
<tbody>
<tr>
<td>Effective Wall Thickness (inches)</td>
<td>.160</td>
<td>.083</td>
<td>.160</td>
<td>.095</td>
</tr>
<tr>
<td>Section Modulus (inches vertical)</td>
<td>.1624</td>
<td>.188</td>
<td>.1612</td>
<td>.115</td>
</tr>
<tr>
<td>Section Modulus (inches horizontal)</td>
<td>.367</td>
<td>.309</td>
<td>.254</td>
<td>.147</td>
</tr>
<tr>
<td>Vertical Load Data</td>
<td>6’ span</td>
<td>8’ span</td>
<td>6’ span</td>
<td>8’ span</td>
</tr>
<tr>
<td>PVf = Ultimate Vertical</td>
<td>676#</td>
<td>523#</td>
<td>652#</td>
<td>320#</td>
</tr>
<tr>
<td>Horizontal Load Data</td>
<td>6’ span</td>
<td>8’ span</td>
<td>6’ span</td>
<td>8’ span</td>
</tr>
<tr>
<td>PHf = Ultimate Horizontal</td>
<td>1,020#</td>
<td>567#</td>
<td>492#</td>
<td>239#</td>
</tr>
<tr>
<td>Vertical Load Data*</td>
<td>6’ span</td>
<td>8’ span</td>
<td>6’ span</td>
<td>8’ span</td>
</tr>
<tr>
<td>PVd = Vertical Design Load @ 66° Fy</td>
<td>446#</td>
<td>259#</td>
<td>430#</td>
<td>211#</td>
</tr>
<tr>
<td>Horizontal Load Data*</td>
<td>6’ span</td>
<td>8’ span</td>
<td>6’ span</td>
<td>8’ span</td>
</tr>
<tr>
<td>PHd = Horizontal Design Load @ 66° Fy</td>
<td>673#</td>
<td>505#</td>
<td>422#</td>
<td>270#</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Fence Height</th>
<th>Rail Length</th>
<th>Post Size</th>
<th>Wind Load Capacity Factor (PSF)</th>
<th>Typical Wind Load Capacity (MPH)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>4'</td>
<td>6' 2½&quot; x 12 ga.</td>
<td>102.3 (PSF)</td>
<td>236 (MPH)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3&quot; x 12 ga.</td>
<td>122.8 (PSF)</td>
<td>259 (MPH)</td>
</tr>
<tr>
<td>5'</td>
<td>6'</td>
<td>2½&quot; x 12 ga.</td>
<td>77.0 (PSF)</td>
<td>205 (MPH)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3&quot; x 12 ga.</td>
<td>92.2 (PSF)</td>
<td>224 (MPH)</td>
</tr>
<tr>
<td>6'</td>
<td>6'</td>
<td>2½&quot; x 12 ga.</td>
<td>65.5 (PSF)</td>
<td>189 (MPH)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3&quot; x 12 ga.</td>
<td>78.6 (PSF)</td>
<td>203 (MPH)</td>
</tr>
<tr>
<td>7'</td>
<td>6'</td>
<td>2½&quot; x 12 ga.</td>
<td>49.3 (PSF)</td>
<td>164 (MPH)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3&quot; x 12 ga.</td>
<td>59.0 (PSF)</td>
<td>179 (MPH)</td>
</tr>
<tr>
<td></td>
<td>8'</td>
<td>2½&quot; x 12 ga.</td>
<td>34.2 (PSF)</td>
<td>136 (MPH)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3&quot; x 12 ga.</td>
<td>41.0 (PSF)</td>
<td>149 (MPH)</td>
</tr>
<tr>
<td>8'</td>
<td>6'</td>
<td>2½&quot; x 12 ga.</td>
<td>33.4 (PSF)</td>
<td>135 (MPH)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3&quot; x 12 ga.</td>
<td>40.0 (PSF)</td>
<td>147 (MPH)</td>
</tr>
<tr>
<td>9'</td>
<td>6'</td>
<td>2½&quot; x 12 ga.</td>
<td>25.0 (PSF)</td>
<td>116 (MPH)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3&quot; x 12 ga.</td>
<td>30.0 (PSF)</td>
<td>128 (MPH)</td>
</tr>
<tr>
<td>10'</td>
<td>6'</td>
<td>2½&quot; x 12 ga.</td>
<td>25.6 (PSF)</td>
<td>118 (MPH)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3&quot; x 12 ga.</td>
<td>30.7 (PSF)</td>
<td>128 (MPH)</td>
</tr>
</tbody>
</table>

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

- **GROMMET**: Aesthetic appearance while preventing moisture collection
- **REINFORCED POST**: Center rib increases strength against wind loading and other horizontally applied forces
- **INTERNAL RETAINING ROD**: Variable pitch connection system provides ease of installation, high angle biasability and eliminates unsightly external fasteners
- **FORERUNNER™ RAIL**: “U” Channel is a specifically formed, high strength architectural shape
- **PANEL BRACKET**: Universal Boulevard Bracket enables easy installation while allowing for adjustment of panel height and positioning

Echelon II Classic shown

Download specifications, drawings & other assets @ ameristarfence.com
Ameristar’s Echelon fence systems are protected to endure the elements and are maintenance free.

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Ameristar is committed to providing products that meet the Buy American Act.

Learn more online at ameristarfence.com or by calling 800-321-8724.
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
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

CLASSIC™  MAJESTIC™  GENESIS™  INVINCIBLE™

ADORNMENTS

QUAD FLARE  TRIAD  ROYALTY  BALL CAP  RING
(internally secured)

COLOR OPTIONS

BLACK  BRONZE  SAND  WHITE
Custom colors also available

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**

### Structural Parameters

*Architectural Profile of rail shape. Vertical Design Loads are per rail. (For capacity of fence panel, multiply by number of rails)*

<table>
<thead>
<tr>
<th></th>
<th>Forerunner Echelon II</th>
<th>Competitors</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Teff</strong> = Effective Wall Thickness (inches)</td>
<td>.070</td>
<td>.100 / .070</td>
</tr>
<tr>
<td><strong>Sv</strong> = Section Modulus (inches vertical)</td>
<td>.125</td>
<td>.135</td>
</tr>
<tr>
<td><strong>Sh</strong> = Section Modulus (inches horizontal)</td>
<td>.260</td>
<td>.260</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Vertical Load Data</th>
<th>Horizontal Load Data</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>6' span</td>
</tr>
<tr>
<td><strong>PVf</strong> = Ultimate Vertical</td>
<td>243#</td>
<td>505#</td>
</tr>
<tr>
<td><strong>PHf</strong> = Ultimate Horizontal</td>
<td>182#</td>
<td>379#</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th></th>
<th>Vertical Load Data</th>
<th>Horizontal Load Data</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>8' span</td>
</tr>
<tr>
<td><strong>PVd</strong> = Vertical Design Load @ 66°F</td>
<td>145#</td>
<td>303#</td>
</tr>
<tr>
<td><strong>PHd</strong> = Horizontal Design Load @ 66°F</td>
<td>109#</td>
<td>227#</td>
</tr>
</tbody>
</table>

*Recommended load value for safe structural design / allowable strength = 66°F*
## WIND LOADING CAPABILITIES

<table>
<thead>
<tr>
<th>FENCE HEIGHT</th>
<th>RAIL LENGTH</th>
<th>POST SIZE</th>
<th>WIND LOAD CAPACITY FACTOR (PSF)</th>
<th>TYPICAL WIND LOAD CAPACITY (MPH)</th>
</tr>
</thead>
<tbody>
<tr>
<td>4'</td>
<td>6'</td>
<td>2.5&quot; sq.</td>
<td>112 (PSF)</td>
<td>206 (MPH)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3&quot; sq.</td>
<td>213 (PSF)</td>
<td>285 (MPH)</td>
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<td>2.5&quot; sq.</td>
<td>84 (PSF)</td>
<td>178 (MPH)</td>
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<tr>
<td></td>
<td></td>
<td>3&quot; sq.</td>
<td>160 (PSF)</td>
<td>246 (MPH)</td>
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<tr>
<td>5'</td>
<td>6'</td>
<td>2.5&quot; sq.</td>
<td>76 (PSF)</td>
<td>170 (MPH)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3&quot; sq.</td>
<td>145 (PSF)</td>
<td>235 (MPH)</td>
</tr>
<tr>
<td></td>
<td>8'</td>
<td>2.5&quot; sq.</td>
<td>57 (PSF)</td>
<td>147 (MPH)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3&quot; sq.</td>
<td>105 (PSF)</td>
<td>203 (MPH)</td>
</tr>
<tr>
<td>6'</td>
<td>6'</td>
<td>2.5&quot; sq.</td>
<td>52 (PSF)</td>
<td>141 (MPH)</td>
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<tr>
<td></td>
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<td>3&quot; sq.</td>
<td>99 (PSF)</td>
<td>194 (MPH)</td>
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<td>2.5&quot; sq.</td>
<td>48 (PSF)</td>
<td>123 (MPH)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3&quot; sq.</td>
<td>76 (PSF)</td>
<td>171 (MPH)</td>
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<td>7'</td>
<td>6'</td>
<td>2.5&quot; sq.</td>
<td>38 (PSF)</td>
<td>120 (MPH)</td>
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<td>71 (PSF)</td>
<td>166 (MPH)</td>
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<td>28 (PSF)</td>
<td>104 (MPH)</td>
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<td>55 (PSF)</td>
<td>144 (MPH)</td>
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<td>8'</td>
<td>6'</td>
<td>2.5&quot; sq.</td>
<td>29 (PSF)</td>
<td>105 (MPH)</td>
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<td></td>
<td>3&quot; sq.</td>
<td>56 (PSF)</td>
<td>145 (MPH)</td>
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<td>22 (PSF)</td>
<td>91 (MPH)</td>
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</tr>
<tr>
<td></td>
<td></td>
<td>4&quot; sq.</td>
<td>78 (PSF)</td>
<td>172 (MPH)</td>
</tr>
<tr>
<td>9'</td>
<td>6'</td>
<td>4&quot; sq.</td>
<td>82 (PSF)</td>
<td>176 (MPH)</td>
</tr>
<tr>
<td>10'</td>
<td>6'</td>
<td>4&quot; sq.</td>
<td>66 (PSF)</td>
<td>159 (MPH)</td>
</tr>
</tbody>
</table>

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 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.
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

CLASSIC™  MAJESTIC™  GENESIS™  CONQUEROR™  WARRIOR™

COLOR OPTIONS

BLACK  BRONZE  SAND

Available in custom colors also available

ADORNMENTS

QUAD FLARE  TRIAD  ROYALTY  BALL CAP  FLORENTINE SCROLL  BUTTERFLY SCROLL  RING (internally secured)

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 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.

**FASTENER**
Security fastener prevents tampering or removal by typical tools

**POST CAP**
Cast aluminum cap adds beauty and provides closure

**I-BEAM POST**
Specifically formed I-beam; pre-punched for rail attachment with pass through integrated design features

**STEEL PALES**
Specifically formed high strength corrugated architectural shape resists prying or bending; bolt holes are recessed to prevent bolt head from chiseling

**HIGH STRENGTH RAIL**
Specifically formed for strength through architectural shape; lower lip contoured to conceal & carry security elements such as anti-ram cabling, IDS, etc.

Download specifications, drawings & other assets @ ameristarfence.com
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.

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)

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

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

Ameristar is committed to providing products that meet the Buy American Act

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

Learn more online at ameristarfence.com or by calling 800-321-8724
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
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.

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.

Learn more online at ameristarfence.com or by calling 800-321-8724
STALWART PRODUCTS
ANTI-RAM VEHICLE BARRIERS

- STALWART OPTIMA® | FIBER ROPE ANTI-RAM BARRIER
- 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.

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)
Ameristar is committed to providing products that meet the Buy American Act.
Manufactured from up to 96% recycled domestic steel, Stalwart products earn project LEED points.

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

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

Ameristar is committed to providing products that meet the Buy American Act.

Manufactured from up to 96% recycled domestic steel, Stalwart products earn project LEED points.
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 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
- **WIREWORKS™**
  - Welded Wire
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 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**
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**

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

**AVAILABLE HEIGHTS:** 4', 6' & 8'

**PRODUCT FEATURES**

PERMACOAT™ PROTECTIVE FINISH

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

Download specifications, drawings & other assets @ ameristarfence.com
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

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

Available Height: 8' (additional heights available upon request)

10 Year Limited Warranty

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

Color Options

- Black
- Bronze
- Brown
- Green
- Sand

Learn more online at ameristarfence.com or by calling 800-321-8724
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

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

Download specifications, drawings & other assets @ ameristarfence.com
TRANSPORT LINK®
Chain Link Design
Matches: Chain Link Fence
## PRODUCT APPLICATIONS

<table>
<thead>
<tr>
<th>PRODUCT TYPE</th>
<th>INDUSTRIAL PIPE</th>
<th>COMMERCIAL PIPE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Terminal Post up to 6'</td>
<td>2.375&quot; O.D. x .130&quot; wall / 3.12 lbs. per ft.</td>
<td>2.375&quot; O.D. x .095&quot; wall / 2.31 lbs. per ft.</td>
</tr>
<tr>
<td>Terminal Posts 6'1&quot; to 10'</td>
<td>2.875&quot; O.D. x .160&quot; wall / 4.64 lbs. per ft.</td>
<td>2.875&quot; O.D. x .110&quot; wall / 3.25 lbs. per ft.</td>
</tr>
<tr>
<td>Terminal Posts over 10'</td>
<td>4&quot; O.D. x .160&quot; wall / 6.56 lbs. per ft.</td>
<td>n/a</td>
</tr>
<tr>
<td>Line Posts up to 6'</td>
<td>1.900&quot; O.D. x .120&quot; wall / 2.28 lbs. per ft.</td>
<td>1.900&quot; O.D. x .090&quot; wall / 1.74 lbs. per ft.</td>
</tr>
<tr>
<td>Line Posts 6'1&quot; to 10'</td>
<td>2.375&quot; O.D. x .130&quot; wall / 3.12 lbs. per ft.</td>
<td>2.375&quot; O.D. x .095&quot; wall / 2.31 lbs. per ft.</td>
</tr>
<tr>
<td>Line Posts over 10'</td>
<td>2.875&quot; O.D. x .160&quot; wall / 4.64 lbs. per ft.</td>
<td>n/a</td>
</tr>
<tr>
<td>Rails &amp; Bracing</td>
<td>1.660&quot; O.D. x .111&quot; wall / 1.84 lbs. per ft.</td>
<td>1.660&quot; O.D. x .090&quot; wall / 1.43 lbs. per ft.</td>
</tr>
</tbody>
</table>


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### INDUSTRIAL STRENGTH PIPE

**DIMENSIONS & CHARACTERISTICS | PC-40 & GBR-40**

<table>
<thead>
<tr>
<th>NOMINAL SIZES</th>
<th>ACTUAL SIZES</th>
<th>WALL THICKNESS</th>
<th>WEIGHT</th>
<th>MIN. YIELD STRENGTH</th>
<th>10' Free Supported</th>
<th>4' Cantilever</th>
<th>6' Cantilever</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.625&quot; O.D.</td>
<td>1.660&quot;</td>
<td>.111&quot;</td>
<td>1.84 lbs./ft.</td>
<td>.1961&quot; x 50,000 (psi) = 9,850 (lbs./in.)</td>
<td>327 lbs.</td>
<td>204 lbs.</td>
<td>136 lbs.</td>
</tr>
<tr>
<td>2&quot; O.D.</td>
<td>1.900&quot;</td>
<td>.102&quot;</td>
<td>2.28 lbs./ft.</td>
<td>.2810&quot; x 50,000 (psi) = 14,050 (lbs./in.)</td>
<td>468 lbs.</td>
<td>293 lbs.</td>
<td>195 lbs.</td>
</tr>
<tr>
<td>2.5&quot; O.D.</td>
<td>2.375&quot;</td>
<td>.130&quot;</td>
<td>3.12 lbs./ft.</td>
<td>.4881&quot; x 50,000 (psi) = 24,405 (lbs./in.)</td>
<td>814 lbs.</td>
<td>508 lbs.</td>
<td>339 lbs.</td>
</tr>
<tr>
<td>3&quot; O.D.</td>
<td>2.875&quot;</td>
<td>.160&quot;</td>
<td>4.64 lbs./ft.</td>
<td>.8778&quot; x 50,000 (psi) = 43,890 (lbs./in.)</td>
<td>1,463 lbs.</td>
<td>914 lbs.</td>
<td>610 lbs.</td>
</tr>
<tr>
<td>4&quot; O.D.</td>
<td>4&quot;</td>
<td>.160&quot;</td>
<td>6.56 lbs./ft.</td>
<td>1.7815&quot; x 50,000 (psi) = 89,095 (lbs./in.)</td>
<td>2,970 lbs.</td>
<td>1,856 lbs.</td>
<td>1,237 lbs.</td>
</tr>
</tbody>
</table>

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

Download specifications, drawings & other assets @ ameristarfence.com
INDUSTRIAL BENDING STRENGTHS

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

COMMERCIAL STRENGTH PIPE
DIMENSIONS & CHARACTERISTICS | PC-20 & GBR-20

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

Learn more online at ameristarfence.com or by calling 800-321-8724
ANTI-RAM VEHICLE BARRIERS

PERIMETER SECURITY PRODUCTS

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

UL 752 BALLISTIC RESISTANT LEVEL 1-8

NIJ 0108.01 BALLISTIC RESISTANT MATERIALS TYPE I-IV

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

Learn more by visiting ameristarbooths.com or by calling 855-526-6847
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.
KNOWLEDGE & EXPERIENCE

Ameristar was chartered over 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.