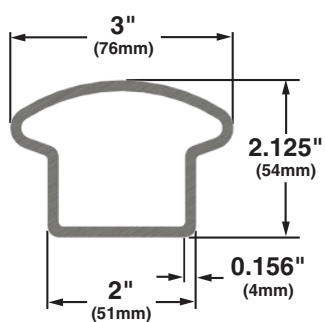




EXCLUSIVELY  
 MADE IN THE  
USA

# STRONG RAIL<sup>®</sup>

ARCHITECTURAL FIBERGLASS RAILING AND FENCING SYSTEMS



# STRONGRAIL® Architectural Fiberglass Railing and Fencing Systems



STRONGRAIL® architectural railing technology integrates aesthetic appeal with an easy-to-install, cost-effective picket rail system for 1st Class Homes NC in Topsail Island, North Carolina.



## What is STRONGRAIL®?

STRONGRAIL® architectural railing and fencing systems are a strong, attractive, and safe solution to your structural needs. The standard systems are fabricated from pultruded fiberglass components produced by Strongwell and molded thermoplastic connectors. The railing systems are particularly well-suited to corrosive environments such as those found in commercial structures with urban and salt air corrosion. Systems can be made to meet ADA requirements, adding safety and beauty to your property.

STRONGRAIL® architectural fiberglass railing and fencing systems are:

- Corrosion Resistant
- Structurally Strong
- Impact Resistant
- Lightweight
- Easy to Field Fabricate
- Low in Thermal and Electrical Conductivity

## Why Use STRONGRAIL®?

STRONGRAIL® systems are the result of decades of experience in the manufacture, design, and fabrication of fiberglass railing and fencing systems. The systems offer the following advantages:

- **Ease of Assembly** — STRONGRAIL® systems are produced in lightweight standard sections that include both post and rail. Systems can be prefabricated in large sections and shipped to the site for easy installation with simple carpenter tools.
- **Cost Effective** — An easy-to-install design provides reduced labor and maintenance, resulting in long-term savings and elimination of the cost and inconvenience of downtime for repairs.
- **Internal Connection System** — All connections fit flush, resulting in a pleasing, streamlined appearance. The internal connections allow the construction of continuous systems.
- **Safety Features** — STRONGRAIL® systems feature low electrical conductivity and exhibit high strength. Systems meet IBC 2009 loading with a 2:1 factor of safety with a 4' (1.22m) maximum post spacing. Systems also meet OSHA loading with a 6' (1.83m) maximum post spacing.
- **Low Maintenance** — Corrosion resistant fiberglass with molded-in color will outlast aluminum or steel systems with virtually no maintenance.

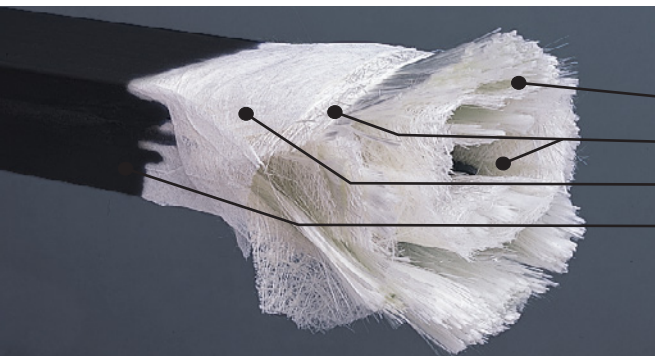
An industrial grade polyurethane UV coating is standard on all STRONGRAIL® architectural fiberglass railing and fencing systems. A fire-retardant polyester resin system is standard for Strongwell's architectural railing systems, with other resin systems available upon request.

## Materials of Construction

STRONGRAIL® is an engineered composite consisting of:

- Continuous glass fibers
- Two continuous strand glass mats
- A synthetic surfacing veil
- Fire-retardant polyester resin (other resin systems available upon request)

This unique combination provides the ultimate in strength, stiffness, long-term corrosion, and UV protection.



# Standard STRONGRAIL® Options

When choosing the best STRONGRAIL® fiberglass architectural railing system for your project, several options are available to achieve the look you need.

**Top Railing:** 2" (51mm) square top rails or 3" (76mm) round top rails

**Pickets:** square or round

**Colors:** white or black color (other custom colors available upon request)



Rounded top rail STRONGRAIL® system with square pickets in white.



Rounded top rail STRONGRAIL® system with round pickets in black.



Square STRONGRAIL® system with round pickets in white.



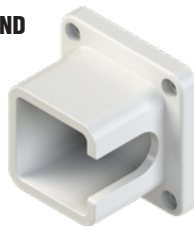
Square STRONGRAIL® system with square pickets in black.

# Standard STRONGRAIL® Components

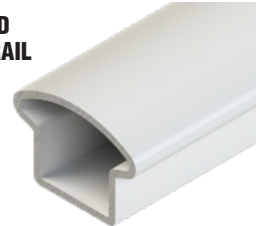
**SQUARE POST OR RAIL**



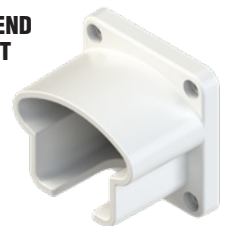
**SQUARE END BRACKET**



**ROUND TOP RAIL**



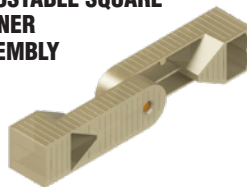
**ROUND END BRACKET**



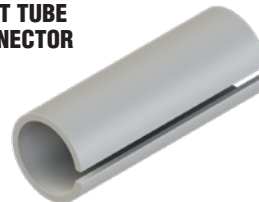
**90° SQUARE CORNER**



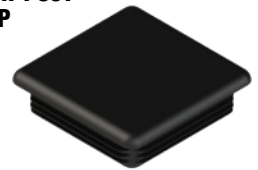
**ADJUSTABLE SQUARE CORNER ASSEMBLY**



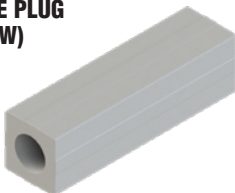
**SPLIT TUBE CONNECTOR**



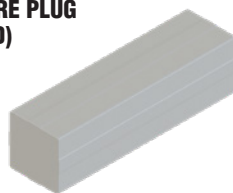
**FLAT POST CAP**



**SQUARE PLUG (HOLLOW)**



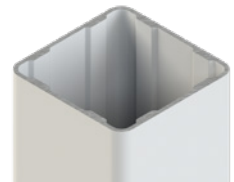
**SQUARE PLUG (SOLID)**



**POST BASE (Mounted To Post)**



**4" (102mm) SQUARE POST**



# STRONGRAIL® Railing Applications

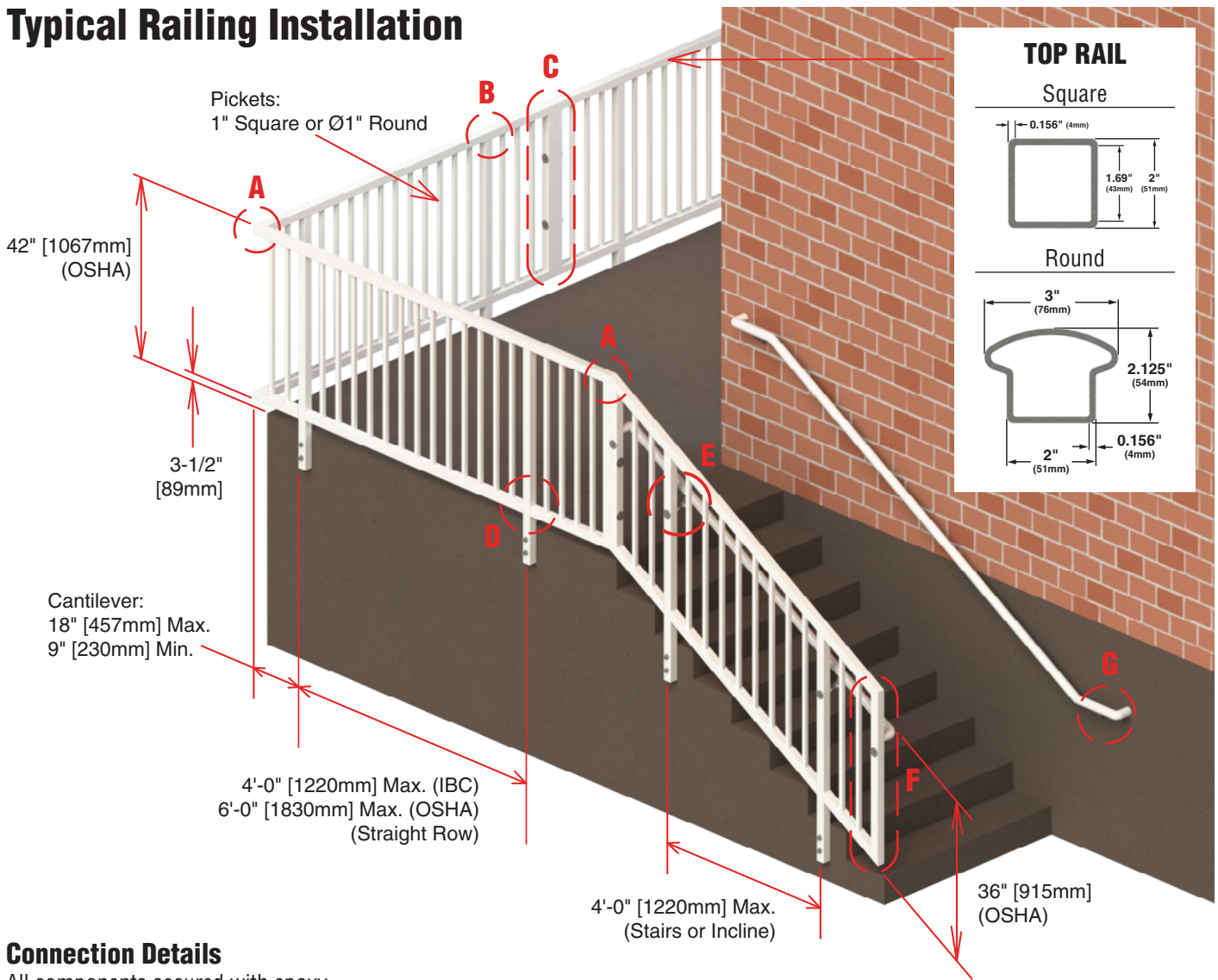


STRONGRAIL® with square pickets and a round top rail was produced in a custom color to complement the exterior of this residential area.



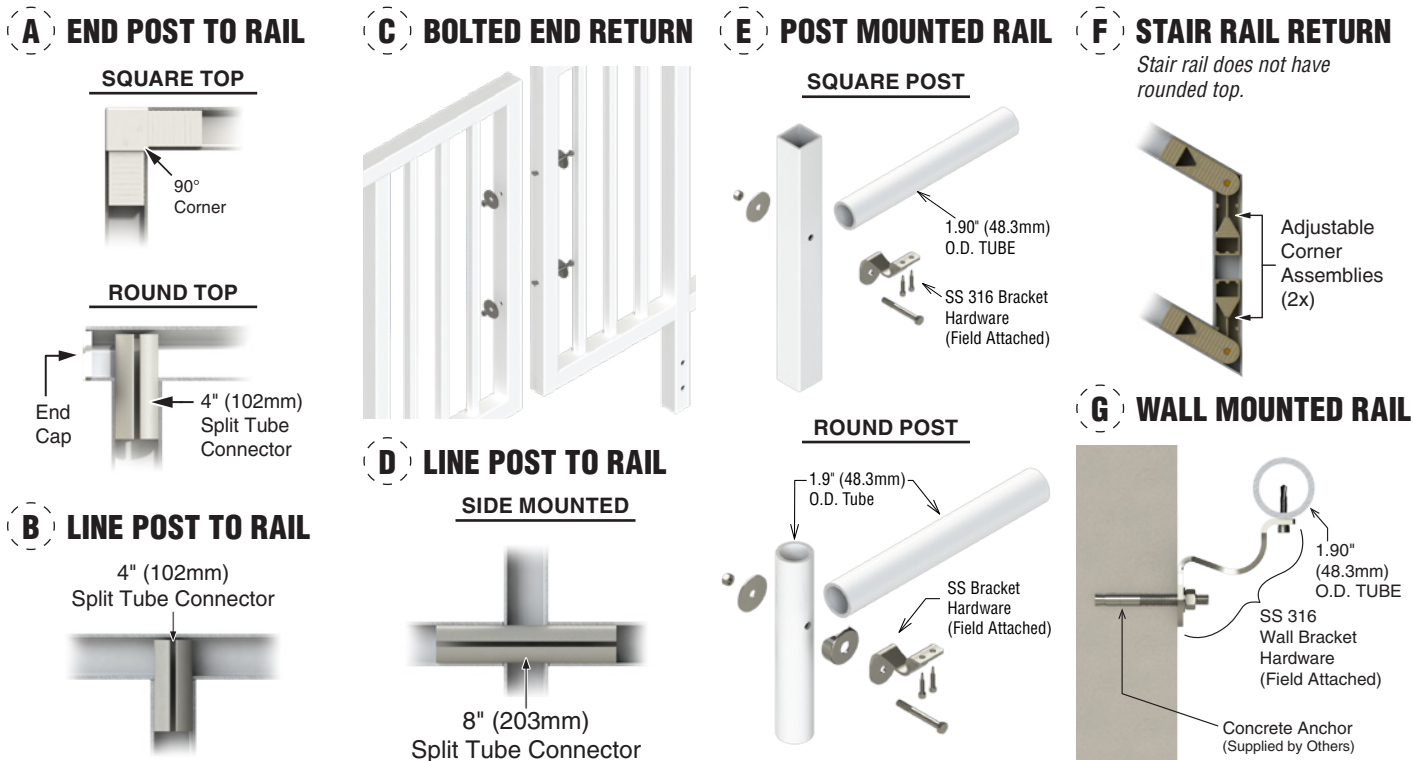
This sun deck wrapped with STRONGRAIL® will outlast wood, PVC, aluminum and steel systems with virtually no maintenance.

# Typical Railing Installation



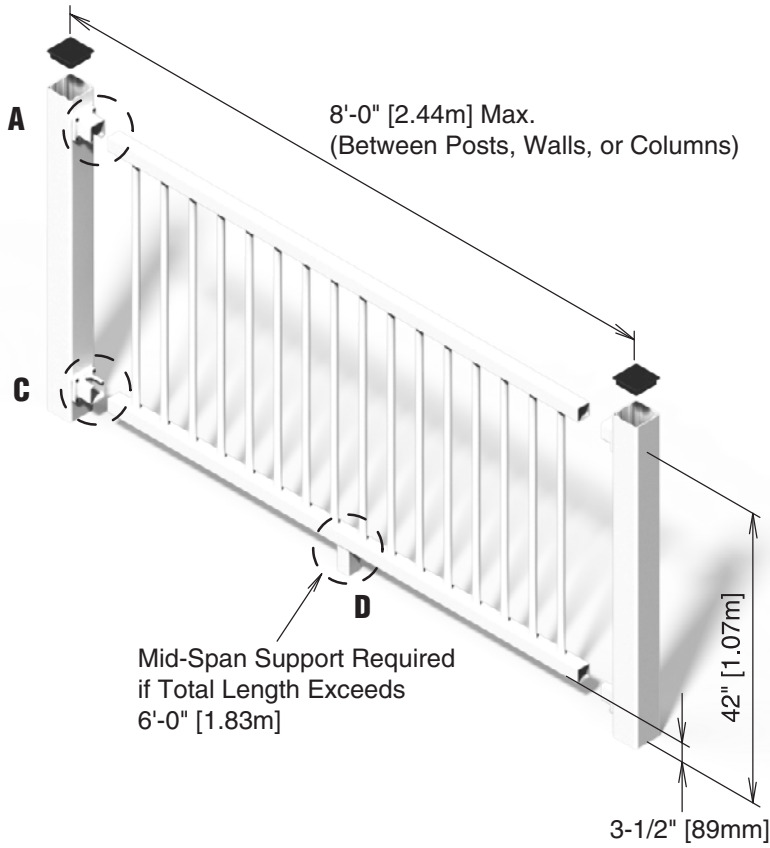
## Connection Details

All components secured with epoxy.

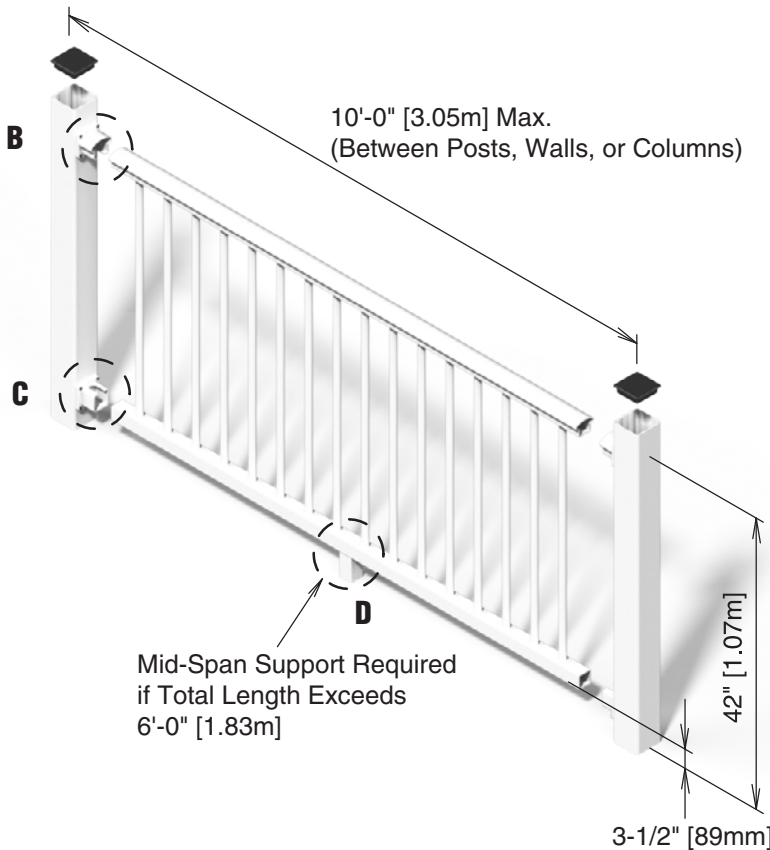


# Typical Railing with 4" (101.6mm) Post or Wall Installation

## 2" (51mm) Square Top



## 3" (76mm) Round Top



## Connection Details

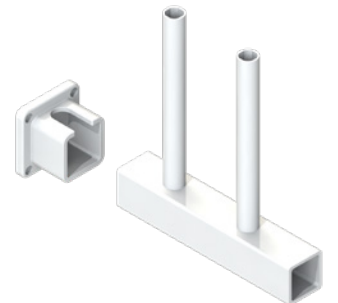
**A END BRACKET**  
2" (51mm) SQUARE TUBE



**B END BRACKET**  
3" (76mm) ROUND TUBE



**C END BRACKET**  
2" (51mm) SQUARE TUBE



**D MID-SPAN SUPPORT**



# STRONGRAIL® Architectural Fencing Systems

## Design Criteria

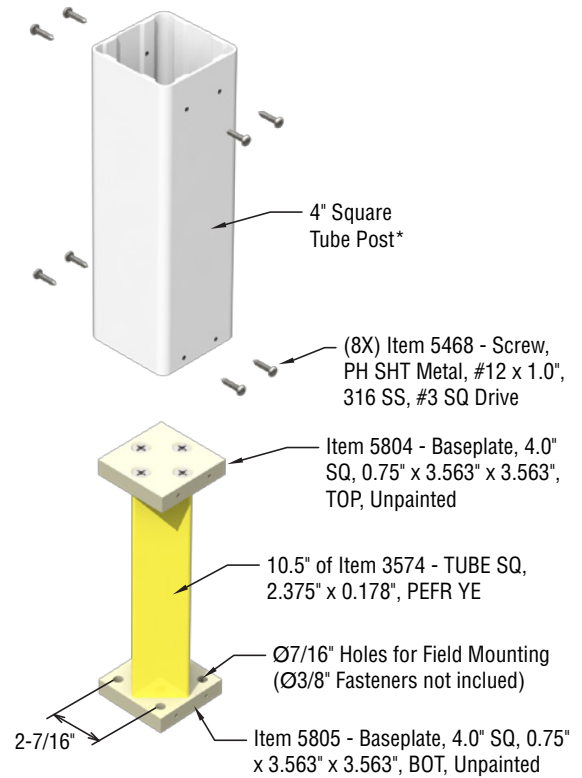
- **Maximum bending moment on post:** 8400 in-lb (950 Nm) (Lateral load, P = 200 lb (91 kg) is applied at height of 42" (1m) above base)
- **Wind load:** 30 psf (146 kg/m<sup>2</sup>) (Applied as a concentrated load to the top of post)
- **Square Rail and Post dimensions:** 2" x 2" x 0.156" (51 x 51 x 4mm) or 4" x 4" x 0.156" (102 x 102 x 4mm)
- **Picket diameter:** 1.0" (25mm)
- **Picket spacing:** 4.75" (121mm) on center

## STRONGRAIL 2" (51mm) Square Fence Post Spacing

FENCE HEIGHT	MAXIMUM POST SPACING	RECOMMENDED POST SPACING	PICKETS PER FENCE SECTION
48" (1.2m)	115" (2.9m)	96" (2.4m)	19
60" (1.5m)	77" (2.0m)	72" (1.8m)	14
72" (1.8m)	53" (1.3m)	48" (1.2m)	9

*Note: For fence height above 72" (1.8m) contact Strongwell.*

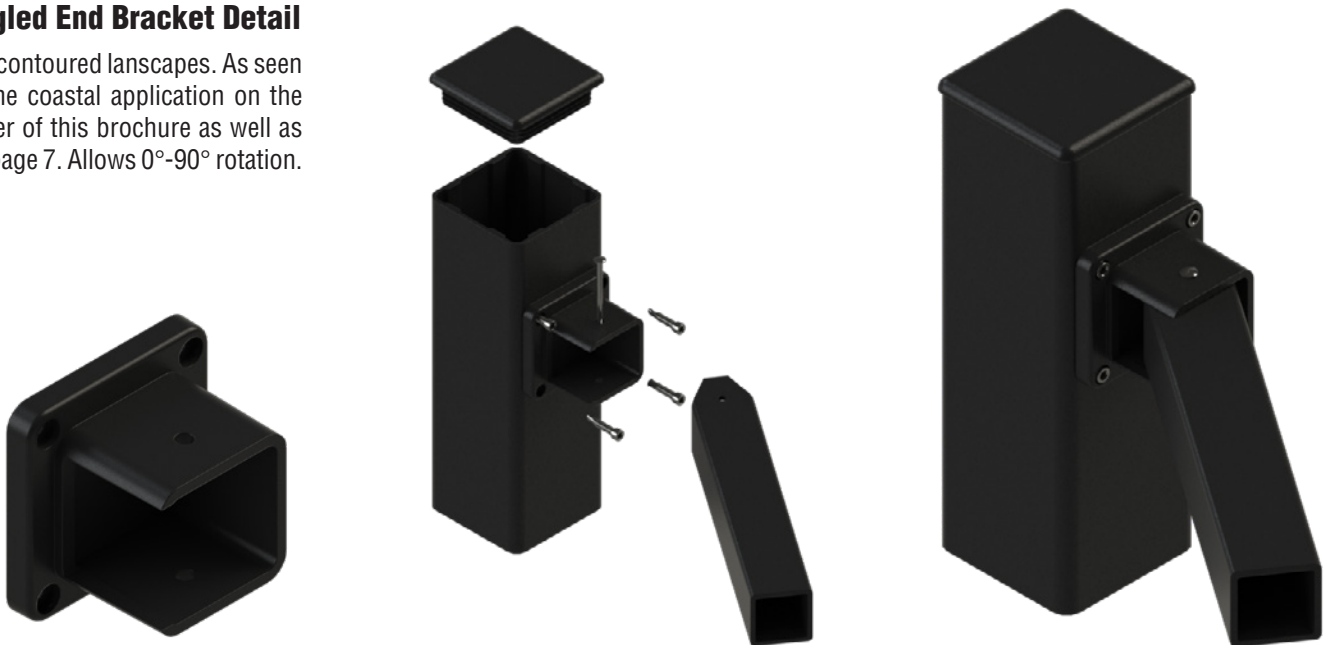
## Alternate Post Base Plate Detail



\*4" (102mm) square tube post may be spaced 120" (3m) on center.

## Angled End Bracket Detail

For contoured landscapes. As seen in the coastal application on the cover of this brochure as well as on page 7. Allows 0°-90° rotation.

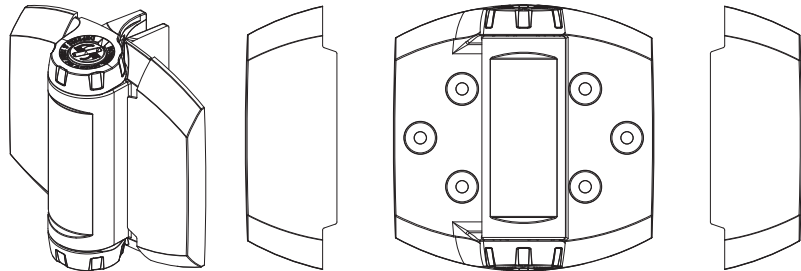
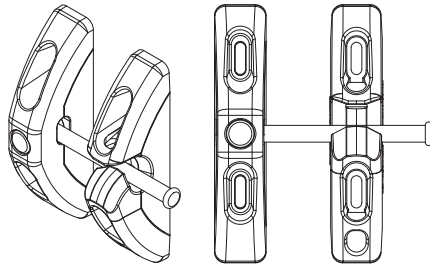


## Latch and Hinge Hardware

This toggle-style, padlockable, gravity-action gate latch fits all square posts and gate frames and has a strong polymer construction.

These tension adjustable, self-closing gate hinges have an internal stainless steel spring closer and are weather-resistant.

Other latch and hinge options are available.



## STRONGRAIL® Fencing Applications



*Crusader Fence Co, Inc. selected STRONGRAIL® fiberglass architectural fencing system for customer San Mateo County Transit District in California. The railing serves as a safety fence, preventing pedestrians from contacting electrified train track rails.*



*STRONGRAIL® outlines the entrance to the New Mexico Military Institute. The fiberglass fencing's low maintenance, ease of installation and aesthetic quality were driving factors behind the institute's selection of STRONGRAIL®.*



*Rupe Building Co. installed Strongwell's maintenance-free fiberglass fencing (foreground) & guardrail (background) for this apartment complex in Oklahoma. The fencing mimics the "wrought iron look" without rusting worries.*



*Allco Fence Industries installed this section of corrosion resistant STRONGRAIL® fencing system along the coast at California's Martin Resorts, which will soon span 3 miles of coastline.*

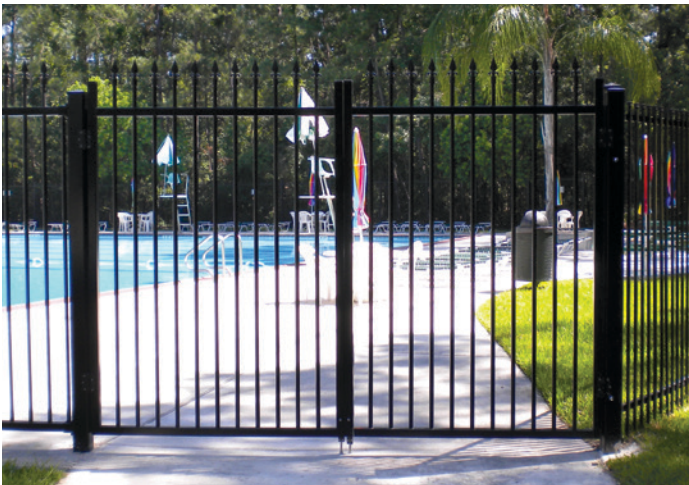
# Custom Handrail and Fencing Applications



*This custom half round top rail is used by Fairfield Inn hotels to reduce maintenance and provide long lasting good looks.*



*A custom guardrail system installed for Karlo's Bistro blends with surrounding architecture and adds aesthetic appeal.*



*An 8' tall, custom fiberglass fence replaced wrought iron at this Kingwood, Texas community pool. The fiberglass fence provides aesthetic appeal like the wrought iron, but without the corrosion problems faced at a pool side environment.*



*The Moody Gardens Theme Park has embraced the low maintenance and corrosion resistance of Strongwell's custom fiberglass railing systems. A day dock at the popular destination features an ADA compliant custom handrail system that uses several of Strongwell's pultruded fiberglass structural profiles.*



**STRONGWELL**

*ISO-9001 Certified Manufacturing Plants*

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ST0524  
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