



D O M E S T I C A L L Y M A N U F A C T U R E D

**SS 40<sup>®</sup>**

High Strength Fence Framework

F O R S E C U R I T Y A N D H I G H S E C U R I T Y A P P L I C A T I O N S



SS 40®

allied  
TUBE & CONDUIT

Allied Tube & Conduit, with an engineering breakthrough in pipe manufacturing and corrosion resistant coating, has developed the most specified and the most requested framework in the fencing industry.

SS 40® is manufactured with cold-formed steel which provides a high yield strength, followed by a uniform triple layer of corrosion protection. Using Allied's patented Flo-Coat® process consisting of zinc, conversion coatings, and a clear organic top coat applied in-line. SS 40 is 37% stronger and 21% lighter than Schedule 40 pipe.

The high yield strength steel and the triple coat of locked-in protection, results in pipe that not only out-performs Schedule 40 pipe in strength and corrosion resistance, but maintains its lustrous appearance in the most severe atmospheric conditions. SS 40® is clearly the industry leader.

### Flo-Coat® Process



### Specifying Agencies

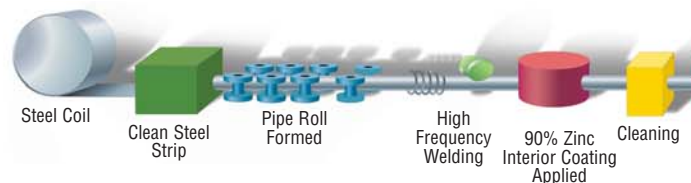
Partial list of agencies which have approved **SS 40®**.

- (AASHTO) American Associations of State Highway and Transportation Officials M181-93
- Federal Specifications RR-F-191/2E (Chain Link Fence Gates)
- Federal Specifications RR-F-191/3E (Chain Link Fence Posts, Top Rails and Braces)
- Unified Facilities Guide Specification (Department of Defense)
- Department of Transportation Federal Aviation Administration AC 150/5370-10A Item F-162
- U.S. Department of Justice - Federal Bureau of Prisons
- ASTM Specification F1043-06 Standard Specification for Strength and Protective Coatings

### Certification

"Made in U.S.A." is proudly displayed on every length of **SS 40®** pipe. Allied will certify that all **SS 40** fence pipe is manufactured in the USA and is in compliance with applicable Federal, State and local specifications.

### FLO-COAT® Process





## SECTION 32 31 13 (Formerly CSI SECTION 02821)

### Security and High Security Applications for **CHAIN-LINK FENCES AND GATES**

#### PART 1 - GENERAL

##### 1.01 WORK INCLUDED

- A. Fence framework, fabric and accessories.
- B. Gates and related hardware.
- C. Installation

##### 1.02 SCOPE OF WORK

- A. Summary: This section covers the work necessary to complete the chain link fence and gate installation.
- B. General: Like items of materials provided hereafter shall be the end-products of one manufacturer in order to achieve standardization for appearance, maintenance, and replacement.
- C. Delivery, Storage, and Handling: Deliver material to the site in an undamaged condition. Carefully store material off the ground to provide proper protection against oxidation caused by ground moisture.

##### 1.03 SUBMITTALS AND CERTIFICATION

- A. Shop Drawings: Include complete details of fence and gate construction, fence height, post spacing, dimensions, and unit weights of framework and concrete footing details.
- B. Product Data: Provide manufacturer's catalog cuts with printed specifications. Manufacturer shall provide certification of compliance with material specifications. Actual samples of the material may be requested.

#### PART 2 - PRODUCTS

##### 2.01 MATERIAL

- A. Framework: SS 40<sup>®</sup> Fence Framework manufactured by Allied Tube & Conduit conforming to Standard Specification ASTM F 1043, Group IC. High-strength steel pipe triple coated per ASTM F 1043: external coating, Type B; internal coating, Type D.
- B. Fabric Options: Fabric to be 9-gauge wire, woven in a 2" diamond mesh. Top selvage to be twisted and barbed, bottom selvage to be knuckled unless otherwise specified.
  - 1. Aluminized fabric shall be manufactured in accordance with ASTM A 491 and coated before weaving with a minimum .40 ounces of aluminum per square foot of surface area. The steel wire and coating shall conform to ASTM A 817.
  - 2. Zinc-coated fabric shall be galvanized before or after weaving in accordance with ASTM A 392, Class 1 or Class 2.

##### 2.02 CONCRETE MIX

- A. Concrete: Conforming to ASTM C 94, having a minimum compressive strength of 3,000 PSI at 28 days.

##### 2.03 COMPONENTS

- A. Rails and Braces: 1-5/8" O.D.
- B. Gates: Per ASTM F 900
- C. Fittings, Tie Wires, and Hog Rings: Per ASTM F 626
- D. Tension Wire: Per ASTM A 824. (If required)

- E. Barbed Wire: If required, commercial quality steel, 12-1/2 gauge, two strand twisted line wire with 4 point barbs at 5" spacing. Coating shall consist of a minimum of 0.80 ounces of zinc per square foot of wire surface conforming to ASTM A 121 or a minimum of 0.30 ounces of aluminum per square foot of wire surface conforming to ASTM A 585.
- F. Barbed Tape: If required, options are available in ASTM F 1910 Table 1 and 2.

#### PART 3 - EXECUTION

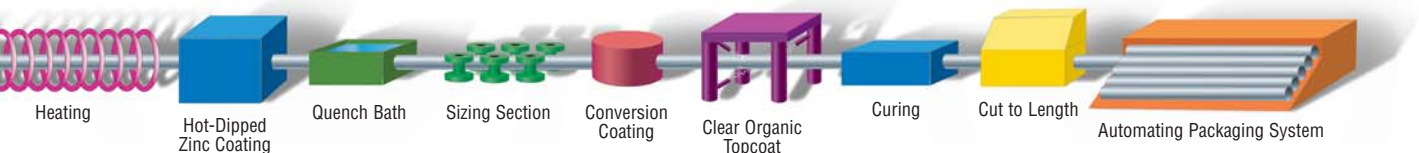
##### 3.01 INSTALLATION

- A. General: Installation to conform to ASTM F 567.
- B. Height: Provide height as indicated on contract drawings.
- C. Post Spacing: Space line posts at intervals not exceeding ten feet.
- D. Post Setting: Set terminal, gate and line posts plumb in concrete footings. Top of footing to be 2" above grade and sloped to direct water away from posts.
- E. Bracing: Brace Gate and terminal posts back to adjacent line posts with horizontal brace rails and diagonal truss rods.
- F. Top Rail: Install through line loop caps connecting sections with sleeves to form a continuous rail between terminal posts.
- G. Bottom / Middle Rail: Install between posts with line rail clamps or rail ends and bands.
- H. Fabric: Pull fabric taut with bottom selvage 2" above grade. Fasten to terminal posts with tension bars threaded through mesh and secured with tension bands at maximum 15" intervals. Tie to line posts and top rails with tie wires spaced at maximum 12" on posts and 24" on rails. Attach to bottom/top tension wire with hog rings at maximum 24" intervals.
- I. Barbed Wire: Anchor to terminal extension arms, pull taut, and firmly install in slots of line post extension arms.
- J. Gates: Install gates plumb, level and secure for full opening without interference. Anchor center stops and keepers in concrete.
- K. Fasteners: Install nuts for fittings, bands, and hardware bolts on inside of fence.
- L. Barbed Tape: Install in accordance with ASTM F 1911. Consult with manufacturer for unique applications.

##### 3.02 COMPLETION

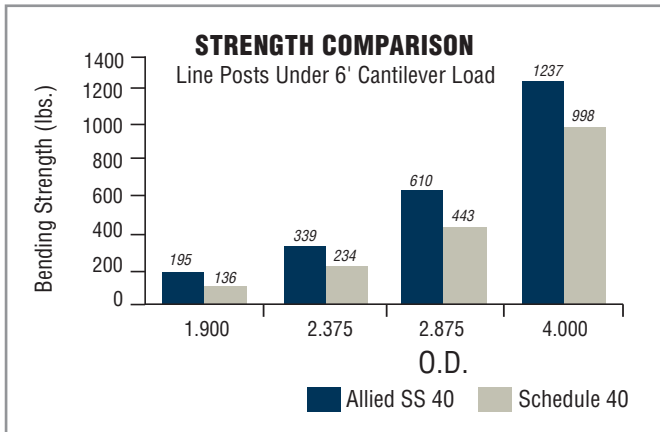
- A. The area of installation shall be left free of debris caused by the installation of the fence End of Section.

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# Allied SS 40® vs. Schedule 40

Posts		Outside Dimensions (in.)	Pipe Wall Thickness (in.)	Weight (lbs./ft)	Section Modulus (inches <sup>3</sup> )	Yield Strength (psi)	Bending Moment (lbs. in.)	Bending Strength (lbs.) 6' Cantilever Load
1-7/8" O.D.	SS 40	1.900	.120	2.28	0.2810	50,000	14,050	195
1-7/8" O.D.	Sch 40	1.900	.145	2.72	0.3262	30,000	9,786	136
2-3/8" O.D.	SS 40	2.375	.130	3.12	0.4881	50,000	24,405	339
2-3/8" O.D.	Sch 40	2.375	.154	3.65	0.5606	30,000	16,818	234
2-7/8" O.D.	SS 40	2.875	.160	4.64	0.8778	50,000	43,890	610
2-7/8" O.D.	Sch 40	2.875	.203	5.79	1.0640	30,000	31,920	443
3-1/2" O.D.	SS 40	3.500	.160	5.71	1.3408	50,000	67,040	931
3-1/2" O.D.	Sch 40	3.500	.216	7.58	1.7241	30,000	51,723	718
4" O.D.	SS 40	4.000	.160	6.56	1.7819	50,000	89,095	1237
4" O.D.	Sch 40	4.000	.226	9.11	2.3940	30,000	71,820	998
<b>Top Rail</b>								<b>10' Supported</b>
1-5/8" O.D.	SS 40	1.660	.111	1.84	0.1961	50,000	9,805	327
1-5/8" O.D.	Sch 40	1.660	.140	2.27	0.2350	30,000	7,050	235



## Bundle Counts for SS 40

Shape	O.D.	Bundle Qty.
Round	1.315	91
Round	1.660	61
Round	1.900	61
Round	2.375	37
Round	2.875	30
Round	3.500	19
Round	4.000	19

SS 40® is available with POLYKOTE color finish: Allied Tube's patented Flo-Coat® process with polyester coating conforms to ASTM F 1043 the recommended standards of Section 8, Additional Coatings Requirements. Contact your distributor for details.

SS 40® is available in long and extra long lengths and in cut posts.

### Manufacturing Locations:

Harvey, IL / Pine Bluff, AR / Philadelphia, PA / Phoenix, AZ

For information on Razor Ribbon® brand barbed tape products, please visit [www.razorribbon.com](http://www.razorribbon.com)

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