



TUBE & CONDUIT
MECHANICAL TUBE
DIVISION

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A **tyco** INTERNATIONAL LTD. COMPANY

Available From:



GATORSHIELD TOUGH



ONE What is Gatorshield®...and Why is it Gator Tough?

Gatorshield is our patented triple layer Flo-Coat® rust and corrosion resistant product protection which has shown itself to be the best over the long haul versus all competitive product offerings. When rust and corrosion protection is needed...Gatorshield is Gator Tough.

In addition, our zinc interior coating provides the inside of the tube with maximum corrosion and rust protection. Inside and out... Gatorshield is the best... and has been the best product choice for over 30 years.

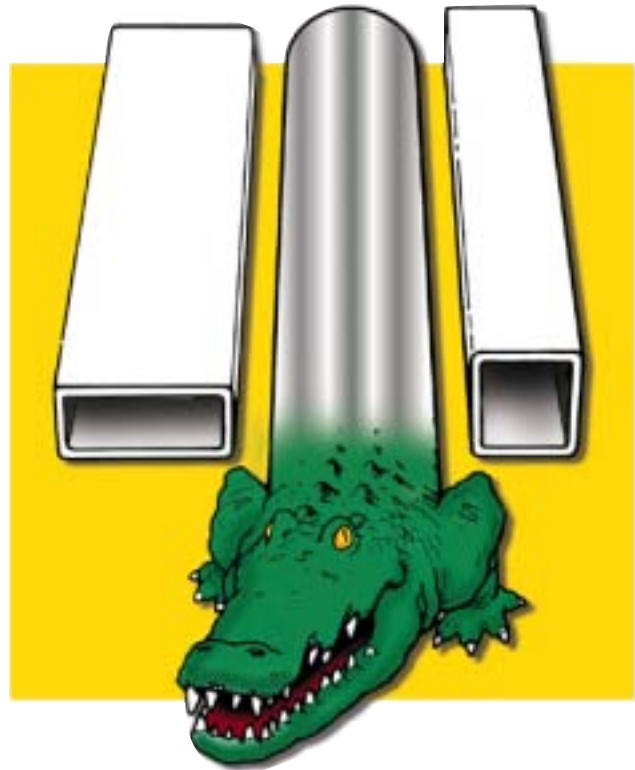


**Even Greater
Rust &
Corrosion
Protection**

Allied Mechanical Tube Division is the world's leading producer of galvanized electric resistance welded steel tubing. Gatorshield coated steel tubing is considered the standard of excellence in many industrial end-use applications.

TWO What Else Should I Know About Gatorshield®?

- It's available in round, square and rectangular shapes...in a 1/2" to 5" O.D. size range...in a .028 to .250 wall thickness (gauge) range.
- It delivers to all end-users a smooth, shiny appearance.
- It can be easily fabricated...with no deformation or flaking of the base material.
- It can be produced in whatever length is needed to meet your specific requirements.
- It can be manufactured at these convenient production facilities...Harvey, IL (Chicago), Philadelphia, PA. and Phoenix, AZ.



GATORSHIELD TOUGH



THREE How Does Gatorshield® Compare With the Competition in Terms of Rust and Corrosion Protection?

Salt Spray Tests - Galvanized Products

(First Sign of Red Rust-No. of Hours)

192	Pregalvanized G-60
480	Pregalvanized G-90
576	Pregalvanized G-115
576	Galvanized Schedule 40 Pipe
744	Competitive Triple-Coat Product
840	Allied Zinc Flo-Coat®
1848	Allied Gatorshield (square)
2016	Allied Gatorshield (round)

* Conducted in accordance with ASTM-B-117 standards. All tests conducted by Scientific Laboratories, Inc., Chicago, IL.

** Gatorshield triple coat protection is used exclusively for all 50/55®, 60/75® and RS-20/RS-40 Recreational/Structural Steel Tubes.

FOUR What About Strength Options Available With the Gatorshield® Triple Coat of Protection?

Gatorshield is available in a wide variety of yield and tensile strengths.

Commonly requested are 15 gauge (.072 wall thickness) and heavier, 1.000" to 5.000" O.D., for high strength and super strength structural steel tube applications which require specific mechanical properties.

Some typical properties asked for in the O.D. and Gauge combinations described above include: (see following page)



FOUR (cont'd)

High Strength 50/55® = 50,000 Minimum PSI Yield / 55,000 Minimum PSI Tensile

Super Strength 65™ = 65,000 Minimum PSI Yield / 70,000 Minimum PSI Tensile

60/75® = 60,000 Minimum PSI Yield / 75,000 Minimum PSI Tensile

Call us...we have the strength properties you need to meet your specific high strength applications.

FIVE How Does the Gatorshield® Coated Tube Perform in Terms of Fabrication Properties Versus Competitive Product Offerings?

Let's compare:

Product	Flaking/Chipping During Bending Operations
Gatorshield®	No Flaking/Chipping When Fabricated
Hot Dipped Schedule 40 Pipe	Flakes When Fabricated
Pregalvanized Tube	Flakes When Fabricated
Product	Weld Integrity Properties
Gatorshield®	Excellent*
Hot Dipped Schedule 40 Pipe	Fair
Pregalvanized Tube	Fair
Product	Appearance Characteristics
Gatorshield®	Bright & Shiny
Hot Dipped Schedule 40 Pipe	Rough & Dull Surface
Pregalvanized Tube	Dull Gray Surface



* The weld & weld area are as strong as the tube itself.

GATORSHIELD TOUGH



SIX What About Painting of Powder Coating Over Gatorshield® Triple Coat Finish?

It's easy to paint or powder coat over our galvanized steel tubing.

Simple surface cleaning of the tube is required due to normal transportation and storage related accumulated soils. Merely wipe off such soils with a mild cleaning solution.

Our galvanized steel tube coatings will also withstand in-line chemical cleaning baths and rinses. At the same time, our coatings will not damage or contaminate any part of your cleaning system.

Allied's galvanized tube products are protected by a clear, organic top coating which provides excellent adhesion properties to most thermo-set powder coatings, as well as to the following air dry and bake topcoats:

- High bake thermoset acrylic
- High bake alkyd
- High bake polyester
- Two-part urethane or epoxy
- Solvent-based paints for metals
- Solvent-based paints for wood
- Solvent-based high-solids paints
- Oil-based paints
- Paints for car bodies or appliances

As you can see, almost all powder or liquid paints will work well over our clear topcoat. If the paint/powder coating you are using does not fall into one of the above categories, or you have any questions, please contact Allied's Mechanical Tube Division for more specific information.

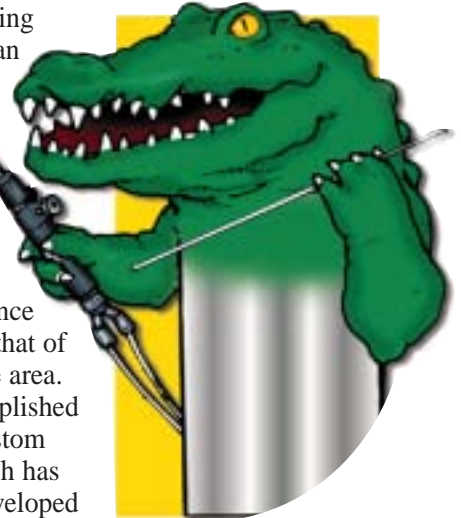


SEVEN What About Welding Gatorshield®?

Gatorshield's zinc coated finish welds quickly and easily under normal working conditions and utilizing prescribed welding procedures. Allied's galvanizing process utilizes a 99.99% pure zinc alloy with significantly less harmful lead content than generally encountered with pregalvanized tube and hot-dipped Schedule 40 products. This means that the lead oxide fumes generated during welding are kept to an absolute minimum.

When welding any galvanized tubing, it is important to restore the corrosion resistance of the weld zone to that of the surrounding tube area. This is easily accomplished by using Allied's custom touch-up paint, which has been specifically developed for this purpose, and is available directly from Allied.

If you would like more in-depth information on welding galvanized steel tubing, or the various methods of restoring corrosion resistance to weld areas, please contact your sales representative for a copy of Allied's Welding & Painting Guidelines.



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EIGHT What About Threading Gatorshield®?



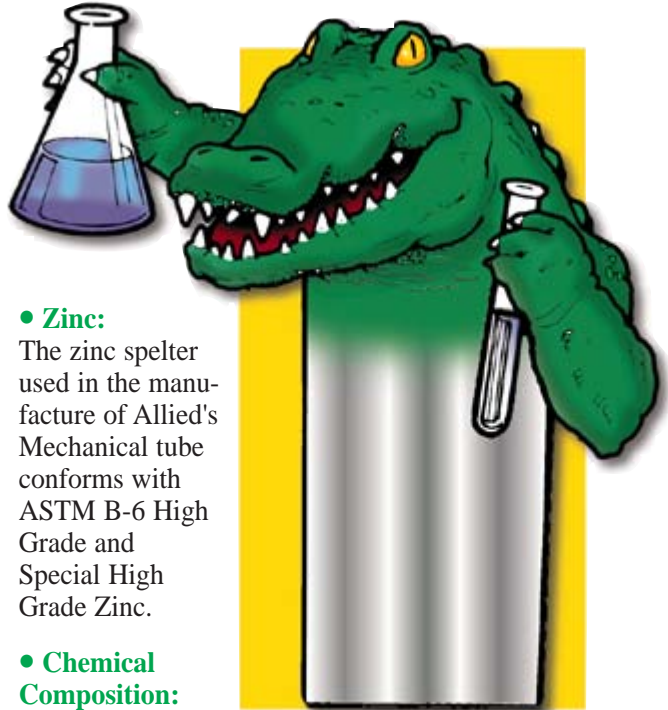
On 15 gauge and heavier products, in all popular pipe sizes, standard threading procedures apply.

With lighter-gauge tubing, the threading tolerances must be proportionately modified. For detailed threading procedures, please see Allied's Galvanized Steel Tubing Threading Guidelines. They are available from your local sales representative, or call the Mechanical Tube Division at (800) 882-5543.



NINE What About the Gatorshield® Steel Tube Product as it Relates to ASTM Standards?

- **Base Metal:** The steel strip used in the manufacture of Mechanical tube shall conform to ASTM A-569 for 1008-1010 Carbon Steels. For 1015 through 1022 Carbon Steels the steel strip shall conform to ASTM A-568.



- **Zinc:** The zinc spelter used in the manufacture of Allied's Mechanical tube conforms with ASTM B-6 High Grade and Special High Grade Zinc.

- **Chemical Composition:** In accordance with ASTM A-500.

- **Materials Testing:** In accordance with ASTM-500 and ASTM E-8.

GATORSHIELD TOUGH

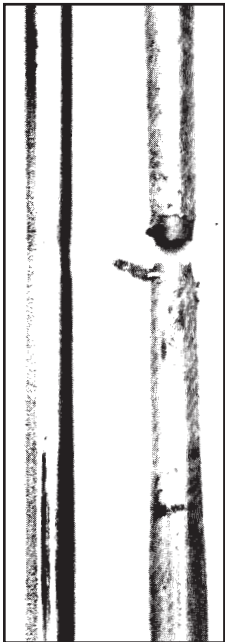


TEN How Does Gatorshield® Perform Vs. Schedule 40 Pipe?

Allied's 50/55® significantly outperforms galvanized Schedule 40 pipe, gauge for gauge, in every way...and weighs at least 31% less (OD/OD) in popular pipe sizes.

Let's compare the results of documented tests:

Galvanized Schedule 40 Pipe (ASTM-A-53)	Allied's 50/55 with Gatorshield
35,300 psi pulling force- Pipe begins to yield	Unchanged
56,200 psi pulling force- Pipe fractures	Unchanged
	58,840 psi pulling force- Tube begins to yield



Allied's 50/55® Galvanized Schedule 40 (ASTM-A-53)

Allied guarantees minimum yield strength of 50,000 psi...55,000 tensile strength (fracture point). Yet the test results show that Allied's 50/55® with Gatorshield® yield point was 17% greater than the guaranteed minimum. The galvanized Schedule 40 pipe, however, fractured at 56,200 psi pulling force.

And when compared with aluminum pipe, 50/55's superior strength characteristics are even more dramatic, with an average 60% greater load carrying capacity in tension.

Plus, Gatorshield offers the added benefits of easier, more reliable welding, increased structural rigidity, greater impact resistance and substantially lower material cost than with aluminum Schedule 40 pipe.

Weight/Strength Comparison

50/55® with Gatorshield®

Pipe Size Inches	Pipe OD Inches	Nominal Wall	Wall Range	Lbs./ Ft.	Weight Savings	Minimum Yield Tensile
1/2	.840 (.815)	.072	.066-.075	.591	30.6%	50,000 psi Yield 55,000 psi Tensile
3/4	1.050 (1.029)	.083	.075-.085	.857	32.0%	
1	1.315	.083	.085-.075	1.092	35.0%	
1-1/4	1.660	.083	.085-.075	1.398	38.5%	
1-1/2	1.900	.095	.087-.097	1.831	32.6%	
2	2.375	.095	.087-.097	2.313	36.7%	
2-1/2	2.875	.120	.112-.122	3.531	39.1%	

Galvanized Schedule 40 ASTM-A-53 Pipe

Pipe Size Inches	Pipe OD Inches	Nominal Wall	Lbs./ Ft.	Minimum Yield Tensile
1/2	.840	1.09	.851	30,000 psi Yield 48,000 psi Yield
3/4	1.050	.113	1.131	
1	1.315	.133	1.679	
1-1/4	1.660	.140	2.273	
1-1/2	1.900	.145	2.718	
2	2.375	.154	3.653	
2-1/2	2.875	.203	5.793	

Specifications

Physical Properties/Tolerances

- Outside Diameter: ±0.005 up to 1.500"
±0.010 up to 2.000"
±0.015 over 2.000"
- Wall Thickness-10% of nominal, or ± .010" based on end use.
- Length Tolerance: Under 5' ±1/16"
5'-15' ±1/8"
15'-20' ±1/4"
20'-27' ±1/2"
- Straightness-Maximum deviation from flat .010" per foot.

Standard Mechanical Specifications

- Outside Diameter-.815 up to and including 2.875
- Wall Thickness-.072" through .250
- Minimum Yield Strength-50,000 PSI
- Minimum Tensile Strength-55,000 PSI
- Minimum Elongation-23% in 2"

*Shorter and longer length tolerance parameters upon request.