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MANUFACTURING SPECIFICATION

12 GAUGE SQUARE TUBING

MATERIAL: Steel tube shall conform to the Standard Specification for Hot-Rolled Carbon Sheet Steel, structural quality, ASTM A1011 (previously A570). Tube shall conform to the Standard Specification for Electric-Resistance-Welded Metallic-Coated Carbon Steel Mechanical Tubing, ASTM designation A787.

FINISH: The tubing shall be hot-dipped galvanized conforming to ASTM specification A653 designation G90 with weld zinc-coated after scarfing operation.

SHAPE: The cross section shall be square tubing formed of 12 gauge steel, be carefully formed into size, and induction welded with weld in the corner, $\pm 1/4"$. Flash shall not exceed 0.01. Neither weld nor flash shall interfere with telescoping properties. Tubing shall have no weld splatter on ID of tube.

YIELD STRENGTH PROPERTIES: 60,000 PSI minimum

THICKNESS: 12 gauge 0.094 min., 0.105 nominal. Tubing shall be produced using material as close to the min. as possible.

TELESCOPING PROPERTIES:

The finished tubing shall be straight and have a smooth uniform finish. It shall be possible to telescope the tubing with each consecutive larger or smaller size of square tube freely and for not less than ten feet of their length without the necessity of matching any particular face to any other face.

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TOLERANCES:

<u>Nominal Outside Dimensions</u>	<u>Outside Tolerance on All Sides at Corners</u>
1 $\frac{3}{4}$ " x 1 $\frac{3}{4}$ "	± 0.010"
2" x 2"	± 0.010"
2 $\frac{1}{4}$ " x 2 $\frac{1}{4}$ "	± 0.010"
2 $\frac{1}{2}$ " x 2 $\frac{1}{2}$ "	± 0.010"

Note: Measurements from outside dimension shall be made at least 2" from end of tube.

Squareness of Sides and Twists:

<u>Nominal Outside Dimensions</u>	<u>Squareness Tolerance</u>	<u>Twist Permissible in 3' length</u>
1 $\frac{3}{4}$ " x 1 $\frac{3}{4}$ "	± 0.010"	0.062"
2" x 2"	± 0.012"	0.062"
2 $\frac{1}{4}$ " x 2 $\frac{1}{4}$ "	± 0.014"	0.062"
2 $\frac{1}{2}$ " x 2 $\frac{1}{2}$ "	± 0.016"	0.062"

Note: A sample shall be considered to fail if its sides are not 90 degrees to each other within the squareness tolerance listed above.

Corner Radii: Standard outside corner radii shall be 5/32" ± 1/32"

Length: The length of each tube shall be as specified and have a permissible length tolerance of ± ¼"
Cut end shall not have internal burr exceeding 0.010".

Straightness: 1/16" in 3 feet

All specifications are subject to change without notice.