

# SQUARE-FIT<sup>®</sup>

TELESCOPING SQUARE TUBING



For Industrial  
and OEM  
Applications

# SQUARE-FIT®

A Versatile, Cost-Eff

Square-Fit has been designed to provide both flexibility and maximum savings in time and labor costs.

This versatile system has been successfully fulfilling in-plant support and product design needs for years.

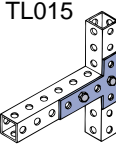
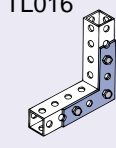
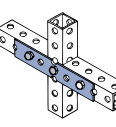


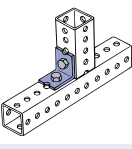
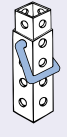
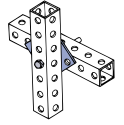
Use Square-Fit Square Tube to fill your building needs in almost any application: racks, shelving, ceiling grids, conveyor systems, interior partitions, adjustable platforms, material handling devices, scaffolds, strapping machines, hangers, support members, protective railings, sign supports, etc. No special welding, tools or assembly procedures are necessary.

One of the secrets to Square-Fit's versatility is its ability to telescope. Smaller sizes fit smoothly and snugly into the next larger size. This is made possible by the latest in high-speed roll-forming technology with high-frequency resistance welding. This produces smooth corner welds within very close tolerances, reducing your fabrication costs. Square-Fit comes in seven sizes, from 1" to 2-1/2" square.

Perforated holes are 7/16" spaced on 1" centers, except for 1" and 1-1/4" which have 11/32" holes on 1" centers. Sections without holes are available in all sizes.

Square-Fit tubing is galvanized per ASTM A-653 des. G-90, then receives a conversion coating and a clear organic topcoat to prevent rust and corrosion.

Fittings*	Tube Size		Cutting Dimensions**
 TL015	1-1/2" sq.	Both tubes must be same size.	1-3/16"
	1-3/4" sq.		1-1/16"
	2" sq.		15/16"
	2-1/4" sq.		13/16"
	2-1/2" sq.		11/16"
 TL016	1-1/2" sq.	Both tubes must be same size.	1-3/16"
	1-3/4" sq.		1-1/16"
	2" sq.		15/16"
	2-1/4" sq.		13/16"
	2-1/2" sq.		11/16"
 TL017	1-1/2" sq.	N/A	N/A
	1-3/4" sq.		
	2" sq.		
	2-1/4" sq.		
	2-1/2" sq.		

Fittings*	Tube Size		Cutting Dimensions**
 TL018	1-1/2" sq.		1-3/16"
	1-3/4" sq.		1-1/16"
	2" sq.		15/16"
	2-1/4" sq.		13/16"
	2-1/2" sq.		11/16"
 TL090 TL092 TL094	1-1/2" sq.		N/A
	1-3/4" sq.		
	2" sq.		
	2-1/4" sq.		
	2-1/2" sq.		
 TL020	1-1/2" sq.		1"
	1-3/4" sq.		1"
	2" sq.		1"
	2-1/4" sq.		1"
	2-1/2" sq.		1"

\* Standard Unistrut® channel fittings will not work on Square-Fit®

\*\* Distance from end of tube to center of first hole.

# Effective Choice in Galvanized Square Telescoping Tubing



## Connecting Bolts

Part No.	Description	Use with Tube Sizes
TLCB516S	Corner Bolt	1-1/2", 1-3/4", 2"
TLCB516M	Corner Bolt	2-1/4", 2-1/2"
TLJNH516	5/16" Heavy Hex Jam Nut	All
TL092EG	Lock Pin	1", 1-1/4", 1-1/2", 1-3/4"
TL094EG	Lock Pin	2", 2-1/4", 2-1/2"
TLXDR3878	Drive Rivet	All

Tubing holes are 7/16" diameter, one inch on center, which accommodates standard 5/16" or 3/8" bolts. All corner bolts are 5/16" diameter.



## Elements of Section

Tube Size	Wall Thickness U.S. Std. Gauge	Area Sq. In.	Wt./Ft. Lbs.	Non-Perforated				Allowable Moment in.-lbs.	Area Sq. In.	Wt./Ft. Lbs.	Perforated			Allowable Moment in.-lbs.
				I In. <sup>4</sup>	S In. <sup>3</sup>	r In.	K In. <sup>4</sup>				I In. <sup>4</sup>	S In. <sup>3</sup>	r In.	
1" x 1"	12 (.105)	.354	1.203	.040	.080	.336	.075	3,320	.210	1.070	.026	.052	.352	2,153
1-1/4" x 1-1/4"	12 (.105)	.459	1.560	.093	.148	.450	.158	6,125	.315	1.427	.070	.112	.472	4,638
1-1/2" x 1-1/2"	12 (.105)	.564	1.917	.175	.234	.557	.285	9,694	.380	1.702	.129	.172	.582	7,121
1-3/4" x 1-3/4"	12 (.105)	.669	2.274	.294	.336	.663	.467	13,910	.485	2.060	.231	.264	.690	10,939
2" x 2"	12 (.105)	.774	2.631	.456	.456	.768	.715	18,890	.590	2.416	.372	.372	.794	15,405
2-1/4" x 2-1/4"	12 (.105)	.879	2.988	.668	.594	.872	1.036	24,601	.695	2.773	.561	.499	.898	20,667
2-1/2" x 2-1/2"	12 (.105)	.987	3.356	.937	.749	.974	1.443	31,025	.803	3.141	.804	.643	1.001	26,626

I-Moment of Inertia S-Section Modulus r-Radius of Gyration K-Torsional Factor

# Specifications

Tubing shall be Square-Fit® tubing conforming to manufacturer's standards. Tubing shall be corner welded by high-frequency resistance welding and externally scarfed to agree with corner radii.

## MATERIALS

Tubing with plain finish is roll formed from 12 gauge (.105 U.S.S. Gauge) hot rolled steel, ASTM Des. A-1011 Grade 50, pickled and oiled. Galvanized finish, roll formed from 12 gauge (.105 U.S.S. Gauge) hot rolled steel, galvanized material ASTM A-653 Grade 50. Average minimum yield strength after cold forming is 60,000 PSI.

## STANDARD FINISH

**Pre-Galv Plus™** – Galvanized conforming to ASTM specification A-653 des. G-90. Corner weld is zinc coated after scarfing operation. Tubing then receives a conversion coating and a clear organic polymer topcoat.

**Wall thickness tolerance** – Permissible variation in wall thickness is + .011, -.005 inches.

**Convexity and concavity** – Measured in the center of the flat side, tolerance is ± .010 inch applied to the specific size determined at the corner.

**Straightness tolerance** – Permissible variation in straightness is 1/16" in 3 feet.

**Corner radii** – Standard corner radius is 5/32" ± 1/64".

**Weld Flash** – Weld flash on corner welded square tubing shall permit 9/64" radius gauge to be placed in the corner.

**Telescoping** – Consecutive size tubes shall telescope freely for ten feet.

**Length tolerance** – To allow for subsequent cutting – tubes without holes – standard length members are 3/8" ± 1/8" longer. Tubes with holes – standard length members are 2" ± 1/8" longer. Tubes can be furnished in special lengths.

**Hole tolerance** – Tolerance on hole size is ± 1/64" on a 7/16" hole size. Tolerance on hole spacing ± 1/8" in 10 feet.

## Squareness of Sides and Twist

Nominal Outside Dimension, Inches	Squareness Tolerance, Inch*	Twist Permissible in 3 Ft., Inch†
1" x 1"	± .006	.050
1-1/4" x 1-1/4"	± .007	.050
1-1/2" x 1-1/2"	± .009	.050
1-3/4" x 1-3/4"	± .010	.062
2" x 2"	± .012	.062
2-1/4" x 2-1/4"	± .014	.062
2-1/2" x 2-1/2"	± .015	.075

\* Square-Fit® tubing may have its sides failing to be 90° to each other by the tolerance listed.

† Twist is measured by holding down the edge of one end of a square tube on a surface plate with the bottom side of the tube parallel to the surface plate and noting the height that either corner on the opposite end of the bottom side is above the surface plate.

## Tolerances

Nominal Outside Dimension, Inches	Outside Tolerance for All Sides at Corners, Inch
1" x 1"	± .005
1-1/4" x 1-1/4"	± .006
1-1/2" x 1-1/2"	± .006
1-3/4" x 1-3/4"	± .008
2" x 2"	± .008
2-1/4" x 2-1/4"	± .010
2-1/2" x 2-1/2"	± .010



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