

# **TELESPAR<sup>®</sup>**

**TELESCOPING SQUARE TUBING**



**FOR INDUSTRIAL &  
OEM APPLICATIONS**

# The TELESPAR® System...

**PULLING IT ALL TOGETHER... Telespar Offers Solutions!**

## Versatile, Reusable, Economical

The Telespar system 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 the Telespar System 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 with the Telespar System.

One of the secrets to Telespar'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.

Telespar standard perforated tubing comes in eight sizes, from 1" to 2-1/2" square, in 10 and 12 gauge. 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.

Telespar comes in two standard finishes: Pre-Galv Plus™ and plain (lightly oiled) surface. The Telespar System includes a complete line of zinc-electroplated fittings, fasteners and accessories for splicing, extending and reinforcing.

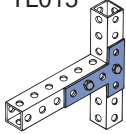
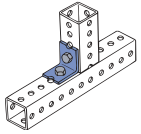
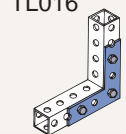
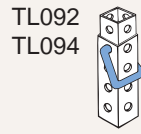
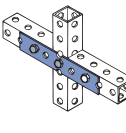
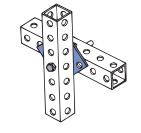
### TUBE SIZES

Tube Size	Wall Thickness Gauge & Inch	Non-Perforated		Perforated	
		Wt./Ft., Lbs.	Part No.	Wt./Ft., Lbs.	Part No.
1" x 1"	12 (.105)	1.203	11F10	1.110	11F12
1-1/4" x 1-1/4"	12 (.105)	1.560	12F10	1.430	12F12
1-1/2" x 1-1/2"	12 (.105)	1.917	14F10	1.702	14F12
1-3/4" x 1-3/4"	12 (.105)	2.274	16F10	2.060	16F12
2" x 2"	12 (.105)	2.631	20F10	2.416	20F12
2-1/4" x 2-1/4"	12 (.105)	2.988	22F10	2.773	22F12
2-1/2" x 2-1/2"	12 (.105)	3.356	24F10	3.141	24F12
2" x 3"	12 (.105)	3.356	2030F10	3.034	2030F12
2-3/16" x 2-3/16"	10 (.135)	3.662	21H10	3.432	21H12
2-1/2" x 2-1/2"	10 (.135)	4.236	24H10	4.006	24H12

## 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.

Fittings*	Tube Size		Cutting Dimensions**	Fittings*	Tube Size		Cutting Dimensions**
 TL015	1-1/2" sq.	Both tubes must be same size.	1-3/16"	 TL020	1-1/2" sq.		1-3/16"
	1-3/4" sq.		1-1/16"		1-3/4" sq.		1-1/16"
	2" sq.		15/16"		2" sq.		15/16"
	2-1/4" sq.		13/16"		2-1/4" sq.		13/16"
	2-1/2" sq.		11/16"		2-1/2" sq.		11/16"
 TL016	1-1/2" sq.	Both tubes must be same size.	1-3/16"	 TL090 TL092 TL094	1-1/2" sq.		N/A
	1-3/4" sq.		1-1/16"		1-3/4" sq.		N/A
	2" sq.		15/16"		2" sq.		N/A
	2-1/4" sq.		13/16"		2-1/4" sq.		N/A
	2-1/2" sq.		11/16"		2-1/2" sq.		N/A
 TL018	1-1/2" sq.	N/A	N/A	 TL017	1-1/2" sq.		1"
	1-3/4" sq.		N/A		1-3/4" sq.		1"
	2" sq.		N/A		2" sq.		1"
	2-1/4" sq.		N/A		2-1/4" sq.		1"
	2-1/2" sq.		N/A		2-1/2" sq.		1"

\* Standard Unistrut® channel fittings will not work on Telespar®

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

## 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				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	
2-3/16" x 2-3/16"	10 (.135)	1.077	3.662	.731	.668	.824	1.167	25,172	.841	3.432	.605	.590	.848	22,227	
2-1/2" x 2-1/2"	10 (.135)	1.246	4.236	1.146	.917	.959	1.786	34,549	1.010	4.006	.979	.783	.985	29,505	

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

Tubing shall be TELESPAR® tubing conforming to manufacturers' 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 10 gauge (.135) and 12 gauge (.105 U.S.S. Gauge) hot rolled steel, ASTM Des. A-1011 Grade 50, pickled and oiled. Galvanized finish, roll formed from 10 gauge (.135) and 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 FINISHES

**Plain** – Material has oiled finish as the material comes from the rolling mills. Tubes must be thoroughly cleaned before protective finishes are applied.

**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.

## TOLERANCES

Tolerance on size	
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
2-3/16" x 2-3/16"	± .010
2-1/4" x 2-1/4"	± .010
2-1/2" x 2-1/2"	± .010
2" x 3"	± .010

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

## 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
2-3/16" x 2-3/16"	± .014	.062
2-1/4" x 2-1/4"	± .014	.062
2-1/2" x 2-1/2"	± .015	.075
2" x 3"	± .018	.075

\* TELESPAR 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.

**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** – Using 10 gauge (.135) or 12 gauge (.105) square tube, 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. Specify lengths desired.

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

## START SOLVING PRODUCT DESIGN AND IN-PLANT CONSTRUCTION PROBLEMS TODAY...

Telespar Telescopic Tubing is among the world's best known and most trusted engineering support systems...and for good reason. It's a complete system, designed and manufactured to exacting quality standards. For more information call your nearest Telespar tubing representative.

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