

# TB and LTB Bridging

TB and LTB bridging connectors are a cost-effective solution for bracing between floor joists when compared with field fabricated blocking and clip angles.

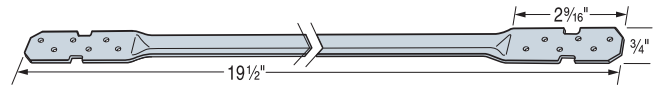
**Material:** LTB — 27 mil (22 ga.); TB — 33 mil (20 ga.)

**Finish:** Galvanized (G90)

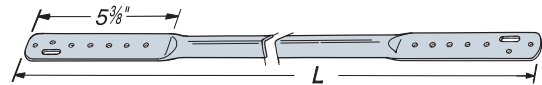
**Installation:**

- Use (2) #10 screws at each end

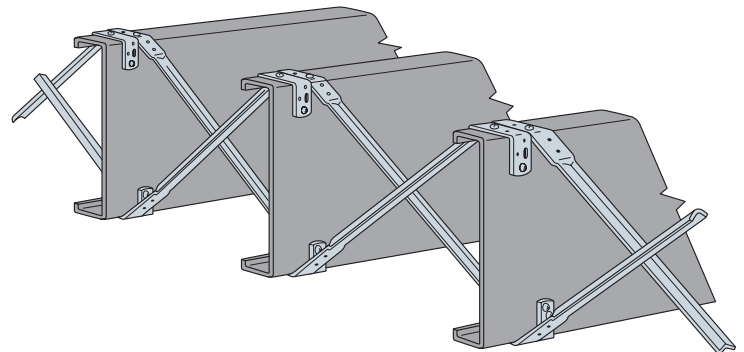
**Codes:** See p. 11 for Code Reference Key Chart



LTB20



TB



Typical TB Installation

Web Height (in.)	Spacing (in.)	TB		LTB Model No.	Code Ref.
		Model No.	L (in.)		
6	12	TB20	20	LTB20	—
8		TB20	20	LTB20	
10		TB20	20	—	
12		TB27	27	—	
14		TB27	27	—	
6	16	TB27	27	—	
8		TB27	27	—	
10		TB27	27	—	
12		TB27	27	—	
14		TB27	27	—	
10	24	TB36	36	—	
12		TB36	36	—	
14		TB36	36	—	

## CS Coiled Strap

CS coiled utility straps are an ideal solution when it is desired to brace floor joist flanges with flat strap. These products are packaged in lightweight cartons (about 40 lb.) and can be cut to length on the jobsite.

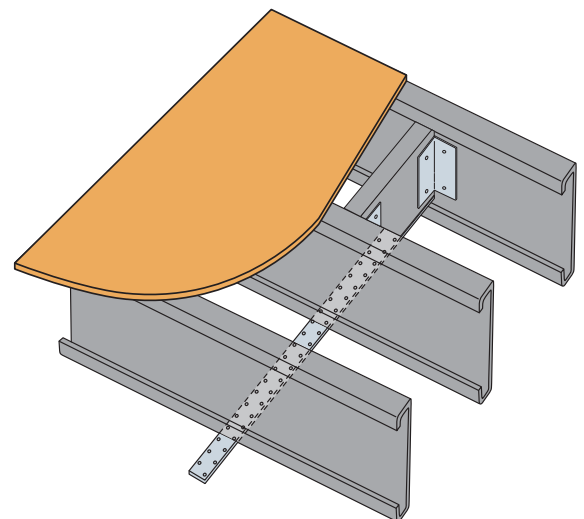
**Material:** See table

**Finish:** Galvanized (G90)

**Installation:**

- Use all specified fasteners
- Refer to the applicable code for minimum edge and end distance

**Codes:** See p. 11 for Code Reference Key Chart



Typical CS Installation for Block and Strap Joist Bridging

Model No.	Total Length (ft.)	Connector Material Thickness mil (ga.)	Width (in.)	Fasteners <sup>4</sup> (At Blocking)			Allowable Tension Load (lb.)	Code Ref.
				Framing Thickness mil (ga.)				
				33 (20 ga.)	43 (18 ga.)	54 (16 ga.)		
CS16	150	54 (16)	1 1/4	(9) #10	(6) #10	(4) #10	1,550	IBC, FL, LA
CS20	250	33 (20)	1 1/4	(6) #10	(4) #10	(3) #10	945	

1. In order to achieve the tabulated loads in the strap, attach each strap to the blocking with the tabulated number of screws.
2. Strap length at blocking to achieve tabulated load = number of tabulated screws + 1".
3. Calculate the strap value for a reduced number of screws to the blocking as follows:  

$$\text{Allowable Load} = \frac{\text{No. of Screws Used}}{\text{No. of Screws in Table}} \times \text{Table Load}$$
4. See *Fastening Systems* catalog (C-F-2019) on [strongtie.com](http://strongtie.com) for more information on Simpson Strong-Tie fasteners.

# NCA/TB/LTB

## Bridging

**NCA** — Nailless installation eliminates callbacks for nail squeaks. Designed for secure grip before the drive-home blow, and deeper prong penetration. Precision-formed into a rigid “V” section.

**TB** — Tension-type bridging with maximum nailing flexibility. Use just two of the seven nail holes at each end.

**LTB** — Staggered nail pattern accommodates 2x8 and 2x10 joists. Use just two of the six nail holes at each end. LTB40 has rigid prongs that install easily into the joist, and embossments that allow crisp bends.

**Material:** LTB — 22 gauge; NCA and TB — 20 gauge  
(except NCA2x12-16 — 18 gauge)

**Finish:** Galvanized

**Installation:** • Support floor joists with a depth-to-thickness ratio of six or more with bridging at intervals not exceeding 8'. If span is greater than 8', install on 2x8 or larger joists. If span is greater than 16', use more than one pair.

- Tension bridging works only in tension, so must be used in cross pairs.
- Install bridging tightly; loose installation may allow floor movement.
- NCA may be installed before or after sheathing, from the top or bottom. Simply locate the bend line approximately 1" from the joist edge.
- NCA has nail holes in one end for use if a prong is bent during installation. Fully seat nails (0.131" x 1 1/2") if they are used; otherwise, they may lead to squeaks.
- TB requires two 0.148" x 1 1/2" fasteners per end.
- LTB requires two 0.113" x 2" nails per end.

**Codes:** See p. 11 for Code Reference Key Chart

**Code Reference:** IRC 2012/2015/2018/2021 — R502.7.1, R802.8.1

### Tension Bridging for I-Joists

Joist Height (in.)	Joist Spacing (in.)								
	12	16	19.2	24	30	32	36	42	48
9 1/2	TB20	TB27	TB27	TB30	TB36	TB36	TB42	TB48	TB54
10	TB20	TB27	TB27	TB30	TB36	TB36	TB42	TB48	TB54
11 7/8	TB20	TB27	TB27	TB30	TB36	TB36	TB42	TB48	TB54
12	TB20	TB27	TB27	TB30	TB36	TB36	TB42	TB48	TB54
14	TB27	TB27	TB27	TB36	TB36	TB42	TB42	TB48	TB54
16	TB27	TB27	TB30	TB36	TB42	TB42	TB42	TB48	TB54
18	TB27	TB30	TB30	TB36	TB42	TB42	TB48	TB54	TB56
20	TB30	TB30	TB36	TB36	TB42	TB42	TB48	TB54	TB56
22	TB30	TB36	TB36	TB36	TB42	TB42	TB48	TB54	TB56
24	TB36	TB36	TB36	TB42	TB42	TB48	TB48	TB54	TB56
26	TB36	TB36	TB36	TB42	TB48	TB48	TB48	TB54	TB60
28	TB36	TB36	TB42	TB42	TB48	TB48	TB54	TB54	TB60
30	TB36	TB42	TB42	TB42	TB48	TB48	TB54	TB56	TB60
32	TB42	TB42	TB42	TB42	TB48	TB48	TB54	TB56	TB60

### Tension Bridging for Solid Sawn Lumber

Joist Size	Spacing (in.)	NCA		TB		LTB	Code Ref.
		Model No.	L (in.)	Model No.	L (in.)	Model No.	
2x10	12	NCA2x10-12	12 1/2	TB20	20	—	IBC, FL, LA
2x12	12	NCA2x12-12	13 3/8	TB20	20	—	
2x14	12	NCA2x8-16	15 1/4	TB27	27	—	
2x16	12	NCA2x10-16	15 13/16	TB27	27	—	
2x8	16	NCA2x8-16	15 1/4	TB27	27	LTB20 or 40	
2x10	16	NCA2x10-16	15 13/16	TB27	27	LTB20 or 40	
2x12	16	NCA2x12-16	16 7/8	TB27	27	—	
2x14	16	—	—	TB27	27	—	
2x16	16	—	—	TB27	27	—	
2x10	24	—	—	TB30	30	—	
2x12	24	—	—	TB30	30	—	
2x14	24	—	—	TB36	36	—	
2x16	24	—	—	TB36	36	—	

