

# TBE

## Truss Bearing Enhancer

The TBE transfers load from the truss or girder to plates for bearing-limited conditions and provides exceptional uplift capacity. It replaces nail-on scabs that provide lower load transfer, or in some cases, an additional ply when needed for bearing. One size works with any number of girder plies.

The table lists allowable loads for TBE4 used on 2x4 and TBE6 used on 2x6 top plates. The table gives the different loads calculated for TBE with and without wood bearing. See Fastener Schedule and Alternative Installation below.

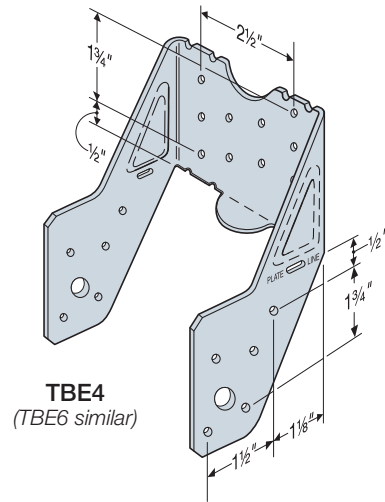
**Material:** 18 gauge

**Finish:** Galvanized; See Corrosion Information, pp. 12–15

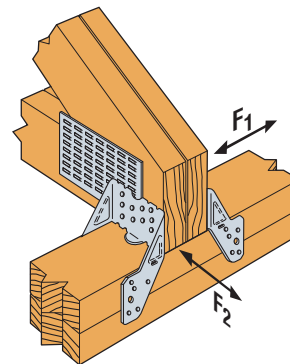
**Installation:**

- Use all specified fasteners; see General Notes.
- TBE must be installed in pairs.
- Top-plate size is 2x4 for TBE4, 2x6 for TBE6. Use alternate installation for TBE4 and TBE6 on larger plates or pre-sheathed walls. See alternate installation below.

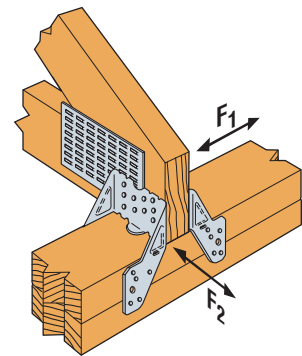
**Codes:** See p. 11 for Code Reference Key Chart



**TBE4**  
(TBE6 similar)



Two TBE Installed with Two-Ply Girder Truss



Two TBE Installed with Single-Ply Truss

### TBE Fastener Schedule

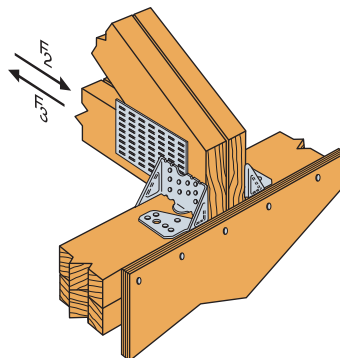
Model No.	Truss Plies	Fasteners per each TBE (in.)	
		Rafter	Plate
TBE4	1	(10) 0.148 x 1 1/2	(10) 0.148 x 1 1/2
	2 or more	(10) 0.148 x 3	(10) 0.148 x 3
TBE6	1	(10) 0.148 x 1 1/2	(10) 0.148 x 1 1/2
	2 or more	(10) 0.148 x 3	(10) 0.148 x 3

1. **Fasteners:** Nail dimensions are listed diameter by length. See pp. 21–22 for fastener information.

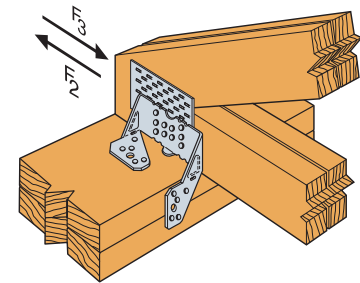
### Alternate Installation

Model No.	Alternate Installation Allowable Loads <sup>5,6</sup> Perpendicular to Plate			
	DF/SP		SPF/HF	
	(160)		(160)	
	F <sub>2</sub>	F <sub>3</sub>	F <sub>2</sub>	F <sub>3</sub>
TBE4	910	270	785	230
TBE6				

1. Use full table loads for uplift and parallel-to-plate allowable loads.
2. Download capacities are 0.80 of table loads.
3. See additional footnotes on p. 229.



Pre-sheathed shearwall. Bend tab along slot and nail one leg to top of the plate.



**TBE6 Installed on Double 2x8 Top Plate**

Alternative Installation Allowable Downloads are 0.80 and Allowable Uplift Loads are 1.0 of the TBE only table loads on p. 229.

Refer to Simpson Strong-Tie® technical bulletin T-C-HTIEBEAR at [strongtie.com](http://strongtie.com) for alternative bearing enhancers.

# TBE

## Truss Bearing Enhancer (cont.)

Model No.	Wall Top Plate	Top Plate or Truss Wood Species <sup>2</sup>	No. of Truss Plies	Allowable Loads <sup>1,2,3</sup>											Equivalent Bearing Length <sup>7</sup> of TBE and Top Plate (in.)				Code Ref.	
				Uplift	Download								Lateral (160)							
					TBE Only				TBE and Wood Top Plate											
					(160)	(100)	(115)	(125)	(160)	(100)	(115)	(125)	(160)	F <sub>1</sub>	F <sub>2</sub>	(100)	(115)	(125)		(160)
TBE4	2x4	Douglas Fir-Larch	1	730	2,100	2,100	2,100	2,100	2,100	5,380	5,380	5,380	5,380	380	855	5.44	5.73	5.88	5.88	IBC, FL
			2	730	2,100	2,100	2,100	2,100	8,665	8,665	8,665	8,665	380	855	4.68	4.69	4.69	4.69		
			3	730	2,100	2,100	2,100	2,100	11,945	11,945	11,945	11,945	380	855	4.29	4.29	4.29	4.29		
			4	730	2,100	2,100	2,100	2,100	15,225	15,225	15,225	15,225	380	855	4.09	4.09	4.09	4.09		
		Southern Pine	1	730	2,100	2,100	2,100	2,100	5,065	5,065	5,065	5,065	380	855	5.65	5.97	6.13	6.13		
			2	730	2,100	2,100	2,100	2,100	8,035	8,035	8,035	8,035	380	855	4.81	4.82	4.82	4.82		
			3	730	2,100	2,100	2,100	2,100	11,000	11,000	11,000	11,000	380	855	4.37	4.38	4.38	4.38		
			4	730	2,100	2,100	2,100	2,100	13,965	13,965	13,965	13,965	380	855	4.15	4.16	4.16	4.16		
		Spruce-Pine-Fir	1	730	1,815	1,815	1,815	1,815	4,045	4,045	4,045	4,045	340	855	5.95	6.32	6.56	6.76		
			2	730	1,815	1,815	1,815	1,815	6,280	6,280	6,280	6,280	340	855	5.01	5.15	5.15	5.15		
			3	730	1,815	1,815	1,815	1,815	8,510	8,510	8,510	8,510	340	855	4.5	4.6	4.6	4.6		
			4	730	1,815	1,815	1,815	1,815	10,740	10,740	10,740	10,740	340	855	4.25	4.32	4.32	4.32		
		Hem-Fir	1	730	1,815	1,815	1,815	1,815	3,940	3,940	3,940	3,940	340	855	6.07	6.45	6.71	6.92		
			2	730	1,815	1,815	1,815	1,815	6,070	6,070	6,070	6,070	340	855	5.08	5.23	5.23	5.23		
			3	730	1,815	1,815	1,815	1,815	8,195	8,195	8,195	8,195	340	855	4.55	4.65	4.65	4.65		
			4	730	1,815	1,815	1,815	1,815	10,320	10,320	10,320	10,320	340	855	4.29	4.36	4.36	4.36		
TBE6	2x6	Douglas Fir-Larch	1	880	2,360	2,425	2,425	2,425	7,515	7,580	7,580	7,580	270	910	7.44	7.73	7.93	8.09		
			2	880	2,360	2,425	2,425	2,425	12,675	12,740	12,740	12,740	270	910	6.68	6.86	6.96	6.96		
			3	880	2,360	2,425	2,425	2,425	17,830	17,895	17,895	17,895	270	910	6.29	6.41	6.47	6.47		
			4	880	2,360	2,425	2,425	2,425	22,985	23,050	23,050	23,050	270	910	6.09	6.71	6.82	6.9		
		Southern Pine	1	880	2,360	2,425	2,425	2,425	7,020	7,085	7,085	7,085	270	910	7.65	7.97	8.18	8.36		
			2	880	2,360	2,425	2,425	2,425	11,685	11,750	11,750	11,750	270	910	6.81	7.01	7.11	7.11		
			3	880	2,360	2,425	2,425	2,425	16,345	16,410	16,410	16,410	270	910	6.37	6.5	6.58	6.58		
			4	880	2,360	2,425	2,425	2,425	21,005	21,070	21,070	21,070	270	910	6.15	6.25	6.31	6.31		
		Spruce-Pine-Fir	1	880	2,040	2,320	2,425	2,425	5,545	5,825	5,930	5,930	270	785	7.95	8.32	8.55	8.76		
			2	880	2,040	2,320	2,425	2,425	9,055	9,335	9,440	9,440	270	785	7.01	7.23	7.38	7.51		
			3	880	2,040	2,320	2,425	2,425	12,560	12,840	12,945	12,945	270	785	6.5	6.66	6.75	6.84		
			4	880	2,040	2,320	2,425	2,425	16,065	16,345	16,450	16,450	270	785	6.25	6.37	6.44	6.5		
		Hem-Fir	1	880	2,040	2,320	2,425	2,425	5,380	5,660	5,765	5,765	270	785	8.07	8.45	8.7	8.92		
			2	880	2,040	2,320	2,425	2,425	8,725	9,005	9,110	9,110	270	785	7.08	7.32	7.48	7.61		
			3	880	2,040	2,320	2,425	2,425	12,065	12,345	12,450	12,450	270	785	6.55	7.32	7.48	7.61		
			4	880	2,040	2,320	2,425	2,425	15,405	15,685	15,790	15,790	270	785	6.29	6.41	6.49	6.55		

1. Loads are for a pair of TBES.
2. When truss chord wood species is different from the wall top-plate wood species, choose the tabulated allowable loads based on the species with the lower tabulated download capacity.
3. Uplift and lateral loads have been increased for wind or earthquake loading, with no further increase allowed; reduce where other loads govern.
4. Allowable loads are determined only by nail shear calculations or tests of the metal connectors based on the lowest of 0.125" of deflection or the ultimate load with a safety factor of 3. The attached wood members must be designed to withstand the loads imposed by the nails.
5. Perpendicular-to-Plate loads are reduced for Alternative Installation.
6. Parallel-to-Plate loads are not reduced for Alternative Installation.
7. The width of bearing wall required to provide the same bearing capacity as the TBE Allowable Load (TBE and Wood Top Plate) is referred to as the Equivalent Bearing Length.