

Deck Properties & Spans						MAXIMUM SPANS (ft.)										
						Main Bars Transverse					Main Bars Parallel					
						Cast-in-Place		Precast			Cast-in-Place		Precast			
Main Bar Spacing (in.)	Top Rebar	Concrete Thickness (in.)	Deck Thickness (in.)	Weight of Grid with Pans (psf)	Total Weight (psf)	HS20	HS25	HS20	HS25	LRFD	HS20	HS25	HS20	HS25	LRFD	
Shallow WT4x5, 2" cover over rebar																
12	#4 @ 4"	3 7/8	6.2	9.7	58.1	6.0	4.4	5.7	4.3	4.9	4.5	3.7	4.4	3.6	4.1	
12	#5 @ 4"	4	6.3	9.7	60.5	7.8	7.6	7.8	7.2	5.1	6.7	5.4	6.5	5.3	4.2	
12	#6 @ 4"	4 1/8	6.4	9.7	62.9	8.0	8.0	8.0	8.0	5.3	8.0	6.4	7.6	6.3	4.4	
10	#5 @ 5"	4	6.3	10.7	61.0	8.0	6.1	7.4	5.8	7.2	5.7	4.6	5.5	4.5	5.5	
10	#6 @ 5"	4 1/8	6.4	10.7	63.2	8.6	8.6	8.6	8.5	7.4	7.9	6.3	7.5	6.1	5.7	
8	#4 @ 4"	3 7/8	6.2	12.2	60.5	6.5	4.9	6.1	4.7	6.0	4.8	3.9	4.7	3.9	4.9	
8	#5 @ 4"	4	6.3	12.2	62.8	9.1	8.0	9.1	7.5	9.5	7.0	5.7	6.7	5.5	7.6	
8	#6 @ 4"	4 1/8	6.4	12.2	65.3	9.3	9.3	9.3	9.3	9.7	9.3	7.7	9.0	7.4	7.7	
Standard WT4x5, 2" cover over rebar																
12	#4 @ 4"	4	6.9	9.0	59.1	7.3	5.5	6.8	5.3	6.1	5.3	4.3	5.1	4.2	5.1	
12	#5 @ 4"	4 1/8	7.1	9.0	61.4	9.3	9.3	9.3	8.7	7.4	7.9	6.4	7.6	6.2	5.9	
12	#6 @ 4"	4 1/4	7.2	9.0	63.9	9.6	9.6	9.6	9.6	7.6	9.6	8.2	9.6	8.0	6.0	
10	#5 @ 5"	4 1/8	7.1	10.0	61.9	9.7	7.4	8.8	7.0	10.1	6.6	5.3	6.4	5.2	7.7	
10	#6 @ 5"	4 1/4	7.2	10.0	64.2	10.2	10.2	10.2	10.2	10.2	9.2	7.4	8.7	7.2	7.8	
8	#5 @ 4"	4 1/8	7.1	11.5	63.8	10.9	9.7	10.9	8.9	10.7	8.2	6.6	7.8	6.4	9.7	
8	#6 @ 4"	4 1/4	7.2	11.5	66.3	11.2	11.2	11.2	11.2	11.0	11.2	9.2	10.7	8.8	10.0	
Standard WT5x6, 2" cover over rebar																
12	#5 @ 4"	4 1/8	8.1	10.9	63.3	11.5	11.5	11.5	10.8	11.6	9.7	7.8	9.2	7.5	9.7	
12	#6 @ 4"	4 1/4	8.2	10.9	65.7	11.8	11.8	11.8	11.8	11.7	11.8	10.5	11.8	10.4	9.7	
10	#5 @ 5"	4 1/8	8.1	12.1	64.0	12.3	9.7	11.1	9.0	9.2	8.2	6.6	7.8	6.4	7.0	
10	#6 @ 5"	4 1/4	8.2	12.1	66.3	12.6	12.6	12.6	12.6	12.5	11.3	9.1	10.6	8.7	11.3	
8	#6 @ 4"	4 1/4	8.2	13.9	68.6	13.8	13.8	13.8	13.8	13.4	13.8	11.3	12.9	10.7	12.2	
Standard WT6x7, 2" cover over rebar																
12	#5 @ 4"	4 1/8	9.1	11.9	64.3	14.2	14.2	14.2	13.0	11.9	11.6	9.3	10.9	8.9	10.3	
12	#6 @ 4"	4 1/4	9.2	11.9	66.7	14.5	14.5	14.5	14.5	13.9	14.5	12.9	14.5	12.1	12.7	
10	#5 @ 5"	4 1/8	9.1	13.3	65.2	14.0	12.2	13.5	11.1	8.1	9.0	8.0	9.0	7.7	6.7	
10	#6 @ 5"	4 1/4	9.2	13.3	67.5	15.6	15.6	15.6	15.1	13.9	13.5	10.9	12.4	10.3	11.7	
8	#6 @ 4"	4 1/4	9.2	15.4	70.1	17.0	17.0	17.0	17.0	15.6	16.8	13.5	15.2	12.6	14.4	

Assumptions and Notes:

- Designs in accordance with AASHTO Standard Specifications, 17th Edition (2002 with all interims) (Allowable Stress) and LRFD Specifications, 4th Edition.
- WT Shape main bars are ASTM A992 (f_y = 50 ksi). Plate and flat bars are ASTM A709 Grade 36 or Grade 50.
- Rebar is ASTM A615 (f_y = 60 ksi) (F_t = 20 ksi).
- 4000 psi concrete, n = 8, (n = 24 for sustained dead load). Top 0.5" of concrete is sacrificial. Concrete not considered in tension regions.
- Spans are continuous from centerline support to centerline support, with 7" flange width assumed, and incorporate a continuity factor = 0.8 for DL & LL moment.
- Meets deflection criteria of L/800.
- Total weights shown are with normal concrete and exclusive of "haunch" concrete (between top of beams and top of distribution bars), additional full depth concrete at connections between panels, and any additional deck overlay. Further weight reduction is possible by using lightweight concrete.
- Cover over rebar (2") meets AASHTO requirements. More or less cover is possible to meet site requirements.
- For other deck configurations, or for other information, please contact The D.S. Brown Company.

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