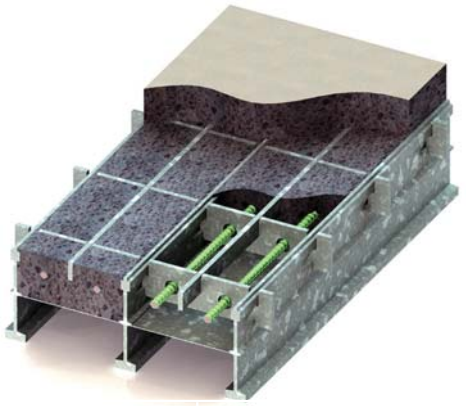
Grid Deck Properties - Design and Specification Data

Rectangular Half Filled Grid Deck with 2” Overfill

- Cast-in-Place or Precast
- High Strength to Weight Ratio
- Rapid Construction
- Light Weight
- Proven Performance since 1960’s



	Main Bars	Supplemental Bars	Top Rebar	Positive Moment Region Section Modulus (in^3/ft)		Negative Moment Region Section Modulus (in^3/ft)			Approximate Weight (psf)		* Maximum Spans (LRFD 4.6.2.1.8)	
	Spacing (in.)	Number of bars evenly spaced between Main Bars	Number of bars spaced between Main Bars	Top of Concrete (compression)	Bottom of Steel (tension)	Top of Steel (tension)	Bottom of Steel (compression)	Total Height (in.)	Steel Only	Concrete Overfilled	Main Bars Perpendicular to Traffic (ft.)	Main Bars Parallel to Traffic (ft.)
One Supplemental Bar	4	1	0	108.7	11.0	6.4	7.7	7.188	25.0	75.4	11.1	10.5
	6	1	0	91.7	7.8	4.3	5.1	7.188	18.9	70.1	9.9	9.3
	8	1	0	81.6	6.0	3.2	3.8	7.188	15.8	67.4	8.0	6.9
	10	1	0	74.7	5.0	2.5	3.1	7.188	14.0	65.9	5.2	4.9
Multiple Supplemental Bars	6	2	0	94.0	7.7	5.7	5.5	7.188	20.6	71.3	10.0	9.3
	8	2	0	82.9	6.0	4.3	4.1	7.188	17.1	68.3	9.2	8.5
	8	3	0	84.2	6.0	5.3	4.2	7.188	18.3	69.2	9.2	8.5
	10	2	0	75.5	5.0	3.4	3.3	7.188	15.0	66.5	8.6	7.4
	10	4	0	76.8	4.9	5.1	3.5	7.188	17.0	68.0	8.6	7.9
1 Supplemental Bar & 2 Rebar	6	1	2	91.5	7.8	4.9	5.1	7.188	20.4	71.1	9.5	9.0
	8	1	2	81.2	6.1	3.7	3.8	7.188	16.9	68.2	8.8	7.9
	10	1	2	74.3	5.0	2.9	3.1	7.188	14.9	66.5	5.9	5.7
2 Supplemental Bars & 1 Rebar	6	2	1	93.9	7.8	6.0	5.4	7.188	21.3	71.8	9.6	9.1
	8	2	1	82.7	6.0	4.5	4.1	7.188	17.6	68.7	8.8	8.3
	10	2	1	75.2	5.0	3.6	3.2	7.188	15.4	66.9	7.2	6.6

Design Notes:

Main Bars: 5.188” rolled shape; 5.6 pounds per lineal foot. **Cross Bars:** 1/4” x 2” @ 4” spacing. **Supplemental Bars:** 1/4” x 1” (5/16” x 1” Supplemental Bars are also available).

Steel: ASTM A709 GR 50. **Rebar:** ASTM A615 (Fy=60 ksi). **Top Rebar:** #3 rebar.

Concrete: f’c=4000 psi, n=8, (n=24 for sustained dead load). Top 0.5” of concrete is sacrificial. Concrete is not considered in tension regions.

Total weights shown are with normal weight concrete.and exclusive of “haunch” concrete (between top of beams and intermediate flange), additional full depth concrete at connections between panels, and any additional deck overlay. Further weight reduction is possible by using lightweight concrete.

* Design in accordance with current 2010 AASHTO LRFD Bridge Design Specifications and BGFMA proposed code revisions. Meets deflection criteria of L/800.

All punched holes or slots in steel members are deducted when computing section properties.

Sectional properties and weights are within 5% (+/-) of an individual fabricator’s calculated values. Consult with fabricators for actual values.

Other configurations are available. Contact individual BGFMA fabricators for more information.