



**Material Properties:**

- Steel: Grid can be constructed using A709 Gr. 36/50/50W, A36, or A588 Steel

**Steel Grid Components:**

- Main Rails: 5-3/16" ribless rolled section
- Cross Bars: 1/4"x2 1/2" spaced 4" center-to-center
- Supplemental Bars: 1/4" x 1"
- Diagonal Bars: None
- Trim Bars: 1/4"x2" or 1/4" x 5" (Optional)

**Geometric Profile**

- Total height of grid deck = 5-3/16"

Component Code	Deck Parameters				Section Properties		
	Main Rail Spacing (in)	Main Bar Weight (lb/ft)	Num of Supp Bars	Total Height (in)	Moment of Inertia (in <sup>4</sup> /ft)	Section Modulus (in <sup>3</sup> /ft)	
					Top of Steel	Bot of Steel	
ODS5R-02	2	5.36	0	5 3/16	23.72	7.31	13.52
ODS5R-04	4	5.36	1	5 3/16	14.15	4.67	7.20
ODS5R-06	6	5.36	2	5 3/16	10.75	3.77	5.00
ODS5R-08	8	5.36	3	5 3/16	8.92	3.32	3.86

(-) Negative value indicates compression

HS 20 (MS 18) and HS 25 (MS 22) LOAD TABLE								
Component Code	Main Rail Spacing (in)	HS20 - Maximum Continuous Clear Span (ft)			HS25 - Maximum Continuous Clear Span (ft)			Approx. Weight (psf) Steel Only
		Transverse/Parallel to Traffic		Deflection L/800	Transverse/Parallel to Traffic		Deflection L/800	
		36 ksi	50 ksi		36 ksi	50 ksi		
ODS5R-02	2	7.20	9.67	6.92	7.02	9.42	6.82	35.8
ODS5R-04	4	5.25	7.07	5.69	5.01	6.74	5.55	23.2
ODS5R-06	6	4.75	6.40	5.24	4.45	6.00	5.07	19.0
ODS5R-08	8	4.62	6.22	5.02	4.27	5.75	4.82	16.9

**Design Notes:**

1. Designs are in accordance with AASHTO (17 Edition - 2002) Allowable Stress design Method.
2. Reference IDSI ODS5R Series Grid Deck Drawings for further geometric details.
3. Assumes at least a 7 inch wide flange width for the supporting beams.
4. Designs valid for Maximum Continuous Clear Spans based upon the following criteria.
  - a) 36 or 50 ksi minimum yield steel.
  - b) Steel strength stress limit of 27 ksi for 50 ksi yield steel or 20 ksi for 36 ksi yield steel.
  - c) 50% of supplemental bars assumed to be active in withstanding load for open grid.
5. Deflection span limits as shown above are independent of the main rail orientation for AASHTO ASD methods of analysis & the results shown are independent of the steel strength stress limits. (i.e. For this chart, it is possible that the grid system is overstressed for a given deflection criteria. Both stresses and deflection must be analyzed together by the user prior to final design decision.)
6. All punched holes or slots in steel members are deducted when computing section properties.
7. Fatigue not considered for above published span limits.