TIMBER HOLDINGS USA
IRON WOODS™

Technical Bulletin-Deck Spans

Deck Spans

For residential applications, the live load requirement by most building codes is between 50 and 100 pounds per square ft. Based on this criteria Iron Woods® decking achieves minimal deflection at 16 to 24 inch stringer centers for nominal 1 inch (net .75 inch) thick decking, 24 to 36 inch stringer centers for nominal 5/4 inch (net1 inch) thick decking, 36 to 48 inch stringer centers for nominal 2 inch (net 1.5 inch) thick decking, 48 to 72 inch stringer centers for 3 inch (net 2.5 inch) thick decking and 72 to 96 inch spans for 4 inch (net 3.5 inch) thick decking. The following span calculations indicate the maximum allowable spans based on 200 lbs of live load and 300 pounds of snow load as a “worse case” residential deck scenario.

STRUCTURAL DESIGN INFORMATION - Simple Span with Snow Load						
Iron Woods® Decking- IPE Species						
MODULUS OF ELASTICITY		3010000	3010000	3010000	3010000	3010000
BENDING - Allowable		3750	3750	3750	3750	3750
SHEAR - Allowable		425	425	425	425	425
SPECIES		IPE	IPE	IPE	IPE	IPE
WEIGHT PER CUBIC FOOT		75	75	75	75	75
DECKING THICKNESS (Net Inches)		**0.75**	**1**	**1.5**	**2.5**	**3.5**
Decking SPAN (Net Inches)		**16**	**24**	**36**	**48**	**72**
DEAD LOAD-Decking		0.0326	0.0434	0.0651	0.1085	0.1519
DEAD LOAD- ***Assumes Snow Load 300lb.***		2.0834	2.0834	2.0834	2.0834	2.0834
LIVE LOAD/PSF	**200**	1.3889	1.3889	1.3889	1.3889	1.3889
TOTAL LOAD	**W**	3.5048	3.5157	3.5374	3.5808	3.6242
SHEAR	**V**	28.0387	42.1883	63.6731	85.9391	130.4712
MAXIMUM MOMENT	**M**	112.1549	253.1298	573.0577	1031.2692	2348.4807
AREA	**A**	0.7500	1.0000	1.5000	2.5000	3.5000
SECTION	**S**	0.0938	0.1667	0.3750	1.0417	2.0417
INERTIA	**I**	0.0352	0.0833	0.2813	1.3021	3.5729
	Fb	1196.3191	1518.7788	1528.1538	990.0184	1150.2763
	Fv	56.0775	63.2825	63.6731	51.5635	55.9162
Deflection (inches)		**0.028**	**0.061**	**0.091**	**0.063**	**0.118**
		Fb OKAY	*Fb OKAY*	*Fb OKAY*	*Fb OKAY*	*Fb OKAY*
		Fv OKAY	*Fv OKAY*	*Fv OKAY*	*Fv OKAY*	*Fv OKAY*
ASHTO Standard	L/360	0.044	0.067	0.100	0.133	0.200
DEFLECTION		***OK***	***OK***	***OK***	***OK***	***OK***

This Span calculator is designed to assist in the specification process only and carries no warranty of fitness or liability.
It is the responsibility of the end user to consult local building codes to verify compliance.

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