

Technical Bulletin-Iron Woods Stringer Spacing

Stringer Spacing

When deciding stringer spacing there are other issues to consider beyond allowable deck spans.

For new construction with conventional decking and hidden fasteners we recommend doubling stringers 24" on center when using even length (2' multiples) decking and doubling stringers 12" on center when using random length (1' multiples). The additional cost of a few extra pressure treated stringers and some extra fasteners will significantly reduce decking trim waste while increasing the overall load capacity of the deck.

For new construction utilizing Iron Woods® Elevations Deck Tiles we also recommend using doubled stringers 24" on center. This system combines the cost savings benefits associated with using our prefabricated tile system, fewer fasteners (4 Pro Plugs per 4 square ft.), reduced labor cost and also increases the overall load capacity of the deck.



Conventional Decking



Deck Tiles

Considering a minimum decking thickness of net $\frac{3}{4}$ " spans 24" at a live load of 100 pounds per square foot 24" double stringers spaced 24 on center will meet all U.S. Residential Building Code requirements. It is important to note that a 24" span is the same distance used in our Roof Deck, Deck Tile and Pedestal System.

DECKING STRUCTURAL DESIGN INFORMATION IRON WOODS - IPE

SIMPLE SPAN

MODULUS OF ELASTICITY		3010000	3010000	3010000	3010000	3010000	3010000	3010000
BENDING - Allowable		3750	3750	3750	3750	3750	3750	3750
SHEAR - Allowable		425	425	425	425	425	425	425
SPECIES		ipe	ipe	ipe	ipe	ipe	ipe	ipe
WEIGHT PER CUBIC FOOT (lbs.)		75	75	75	75	75	75	75
DECKING THICKNESS (inches)		0.75	0.75	0.75	1	1.5	1.5	2.5
DECKING SPAN (inches)		12	16	24	36	48	60	72
DEAD LOAD		0.0326	0.0326	0.0326	0.0434	0.0651	0.0651	0.1085
LIVE LOAD/PSF	100	0.6944	0.6944	0.6944	0.6944	0.6944	0.6944	0.6944
TOTAL LOAD	W	0.7270	0.7270	0.7270	0.7378	0.7595	0.7595	0.8030
SHEAR	V	4.3620	5.8160	8.7240	13.2813	18.2292	22.7865	28.9063
MAXIMUM MOMENT	M	13.0859	23.2639	52.3438	119.5313	218.7500	341.7969	520.3125
AREA	A	0.7500	0.7500	0.7500	1.0000	1.5000	1.5000	2.5000
SECTION	S	0.0938	0.0938	0.0938	0.1667	0.3750	0.3750	1.0417
INERTIA	I	0.0352	0.0352	0.0352	0.0833	0.2813	0.2813	1.3021
	Fb	139.5833	248.1481	558.3333	717.1875	583.3333	911.4583	499.5000
	Fv	8.7240	11.6319	17.4479	19.9219	18.2292	22.7865	17.3438
	Deflection in Inches	0.002	0.006	0.030	0.064	0.062	0.151	0.072
		<i>Fb</i>	<i>Fb</i>	<i>Fb</i>	<i>Fb</i>	<i>Fb</i>	<i>Fb</i>	<i>Fb</i>
		OKAY	OKAY	OKAY	OKAY	OKAY	OKAY	OKAY
		<i>Fv</i>	<i>Fv</i>	<i>Fv</i>	<i>Fv</i>	<i>Fv</i>	<i>Fv</i>	<i>Fv</i>
		OKAY	OKAY	OKAY	OKAY	OKAY	OKAY	OKAY
L/360	L/360	0.033	0.044	0.067	0.100	0.133	0.167	0.200
	Deflection	OK	OK	OK	OK	OK	OK	OK

This deck span calculator is designed to assist in the specification process. It is not a warranty of fitness or assumption of liability. It is the responsibility of the end user to consult local building codes and verify compliance with a licensed engineer.

The above deck span calculator is available for use with any Iron Woods Species and Deck Thickness to determine maximum spans within the parameter of desired live load requirements and acceptable deflection limits.