



NATRON WOOD PRODUCTS

Panel 3_Load Spans

Panel 3: 7ply/7layer, 11/16" MDO

Tables derived on: October 28, 2010
By: Benjamin Herzog, Staff Scientist, APA

Design Capacities

Along Panel			Across Panel		
MOE	MOR	F _s			
1,500,000	1,190	63			
I		0.21	I		0.09
KS		0.54	KS		0.37
lb/Q		5.77	lb/Q		4.69
EI	F _b S	F _s lb/Q	EI	F _b S	F _s lb/Q
317,437	644	364	136,286	437	295

← Based on wet stresses, S-2 stress level, Form Y510

Panel Thickness (in.)	0.665
Duration of Load Factor	1.25
Experience Factor	1.30
Bending and Shear Deflection	2

Note: 1 = combined, 2 = separate

No. of Spans	
SW =	PDS [enter "PDS" or actual support width (in.)]
Spans =	PDS [enter "PDS" or actual number of spans up to 3]
Panel length (in.) =	96
Panel width (in.) =	48

PDS note: For spans <48 in., SW assumed to be nominal 2x, for spans >= 48 in. nominal 4x assumed.
PDS note: When panel strength axis is across supports; spans <= 32 in., 3 spans are assumed, for spans >32 in. 2 spans are assumed. When panel strength axis is parallel supports; spans <= 16 in., 3 spans are assumed, for 16 in. >spans >=24 in. 2 spans are assumed, spans > 24 in., 1 span is assumed.

Panel Strength Axis Across Supports, Spans (o.c.)

	4	8	12	16	19.2	24	30	32	36	40	48	60
Applied SW =	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	3.5	3.5
L ₁ (in.) =	4	8	12	16	19.2	24	30	32	36	40	48	60
L ₂ (in.) =	2.5	6.5	10.5	14.5	17.7	22.5	28.5	30.5	34.5	38.5	44.5	56.5
L ₃ (in.) =	3	7	11	15	18	23	29	31	35	39	45	57
SW Factor (in.) =	0.250	0.250	0.250	0.250	0.250	0.250	0.250	0.250	0.250	0.250	0.625	0.625
Applied Spans =	3	3	3	3	3	3	3	3	2	2	2	2

Panel Strength Axis Parallel to Supports, Spans (o.c.)

	4	8	12	16	19.2	24	30	32	36	40	48	60
Applied SW =	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	3.5	3.5
L ₁ (in.) =	4	8	12	16	19.2	24	30	32	36	40	48	60
L ₂ (in.) =	2.5	6.5	10.5	14.5	17.7	22.5	28.5	30.5	34.5	38.5	44.5	56.5
L ₃ (in.) =	3	7	11	15	18	23	29	31	35	39	45	57
SW Factor (in.) =	0.250	0.250	0.250	0.250	0.250	0.250	0.250	0.250	0.250	0.250	0.625	0.625
Applied Spans =	3	3	3	3	2	2	1	1	1	1	1	1

Panel Strength Axis Across Supports, Spans (o.c.)

	4	8	12	16	19.2	24	30	32	36	40	48	60
L/360	12,120	2,475	915	420	250	130	70	55	50	35	25	10
L/270	16,160	3,300	1,220	560	335	175	90	75	65	50	30	15
Bending	7,845	1,960	870	490	340	220	140	125	75	65	45	30
Shear	4,730	1,820	1,125	815	670	525	415	390	330	295	255	200
Deflection*	0.00	0.02	0.03	0.05	0.07	0.11	0.17	0.20	0.15	0.20	0.25	0.42

Panel Strength Axis Parallel to Supports, Spans (o.c.)

	4	8	12	16	19.2	24	30	32	36	40	48	60
L/360	9,440	1,540	490	210	150	75	15	15	10	5	5	0
L/270	12,585	2,055	655	280	200	100	20	20	10	10	5	5
Bending	5,325	1,330	590	335	185	120	75	65	55	45	30	20
Shear	3,835	1,475	915	660	520	410	405	375	335	300	260	205
Deflection*	0.00	0.02	0.04	0.07	0.07	0.11	0.38	0.43	0.59	0.74	0.91	1.54

* Average deflection at maximum recommended load based on strength (in.)

The Following is A Short Table Of Net Results From The Load-Span Table:

(Recommended loads less than 100 psf are not shown - English units only)

		Panel Strength Axis Across Supports, Spans (o.c.)											
		4	8	12	16	19.2	24	30	32	36	40	48	60
L/360		4,730	1,820	870	420	250	130	---	---	---	---	---	---
L/270		4,730	1,820	870	490	335	175	---	---	---	---	---	---
		Panel Strength Axis Parallel to Supports, Spans (o.c.)											
		4	8	12	16	19.2	24	30	32	36	40	48	60
L/360		3,835	1,330	490	210	150	---	---	---	---	---	---	---
L/270		3,835	1,330	590	280	185	100	---	---	---	---	---	---