

Nordic Lam Decking

CHECKLIST: Nordic Lam Decking

To verify that the Decking Selection Tables are appropriate for the structure being designed, the following questions should be asked (the appropriate modification factor is given in brackets):

1. Is load duration "standard" (K_D)?

K_D is a load duration factor. The tables are based on a standard term load ($K_D = 1.0$), which includes the effects of dead loads plus live loads due to use and occupancy, and snow loads. For other durations of load, the tabulated values w_{FR} shall be multiplied by the appropriate factor permitted by the code.

2. Is the service condition "dry" (K_S)?

K_S is a service condition factor. The tables are based on dry service conditions ($K_{Sb} = K_{SE} = 1.0$). For wet service conditions, multiply the values by the following factors:

$$K_{Sb} = 0.80 \text{ for } w_{FR}$$

$$K_{SE} = 0.90 \text{ for } w_{\Delta R}$$

3. Is the material free of incising and/or strength-reducing chemicals (K_T)?

K_T is a treatment factor. The tables are based on untreated decking ($K_T = 1.0$). For glued-laminated timber treated with fire-retardant or other potentially strength-reducing chemicals, strength and stiffness capacities shall be based on documented results of tests that shall take into account the effects of time, temperature, and moisture content.

4. Is the width of the pieces 89 mm maximum (K_{ZbR})?

K_{ZbR} is a size factor in bending that is incorporated in the tables for a maximum width of 89 mm. If wider pieces are used, multiply the w_{FR} values by K_{ZbR} (refer to CSA O86-09 Standard).

5. Is L/240 or L/360, based on live load, the applicable deflection limitation (K_{Δ})?

K_{Δ} is a deflection factor. The tables are based on a deflection limit of span/240 or span/360 ($K_{\Delta} = 1.0$) under specified live load. Decking may also be checked for a deflection limit for specified total load. For other deflection limits, multiply the $w_{\Delta R}$ values by the following:

Table L/240

$$K_{\Delta} = 1.33 \text{ for span/180}$$

$$= 0.80 \text{ for span/300}$$

$$= 0.67 \text{ for span/360}$$

Table L/360

$$K_{\Delta} = 2.00 \text{ for span/180}$$

$$= 1.50 \text{ for span/240}$$

$$= 1.20 \text{ for span/300}$$

6. Is the decking laid in two-span continuous (K_{span})?

K_{span} is a factor for deflection depending on the pattern in which the decking is laid. The tables are based on two- or more-span continuous ($K_{span} = 1.0$). For other patterns, multiply $w_{\Delta R}$ values by the following factors:

$$K_{span} = 0.53 \text{ for single span}$$

$$= 0.69 \text{ for a controlled random pattern}$$

7. Is the loading of a uniform nature?

If the answer to any of those questions is no, refer to the description of modification factors below and make the necessary adjustments to the tabulated values. Otherwise, the Decking Selection Tables may be used directly. The selection tables provide the maximum uniform factored load w_{FR} and maximum uniform specified load $W_{\Delta R}$ that may be applied to a two-span continuous deck to ensure that the design criteria are met. Occasionally, decking may have to be designed for concentrated loads or other non-uniform loading. In these cases refer to CSA O86 Standard.

Decking Selection Tables (L/240)

Nordic Lam ES11
S-P-F
 W_{FR} Maximum factored uniform load W_{FR} (kPa)

Span (m)	Thickness (mm)					
	38	44	54	64	86	89
1.0	39.0					
1.2	27.1	36.9				
1.4	19.9	27.1				
1.6	15.2	20.7	30.6			
1.8	12.0	16.4	24.2	34.0		
2.0	9.75	13.3	19.6	27.5		
2.2	8.06	11.0	16.2	22.7		
2.4	6.77	9.22	13.6	19.1	34.5	37.0
2.6	5.77	7.86	11.6	16.3	29.4	31.5
2.8	4.98	6.77	10.0	14.0	25.4	27.2
3.0	4.34	5.90	8.70	12.2	22.1	23.7
3.2	3.81	5.19	7.65	10.8	19.4	20.8
3.4		4.59	6.77	9.52	17.2	18.4
3.6		4.10	6.04	8.50	15.3	16.4
3.8		3.68	5.42	7.62	13.8	14.7
4.0			4.89	6.88	12.4	13.3
4.2			4.44	6.24	11.3	12.1
4.4			4.04	5.69	10.3	11.0
4.6			3.70	5.20	9.40	10.1
4.8				4.78	8.63	9.24

 $W_{\Delta R}$ Maximum specified (service) uniform load for L/240 deflection $W_{\Delta R}$ (kPa)

Span (m)	Thickness (mm)					
	38	44	54	64	86	89
1.0	28.7					
1.2	16.6	26.3				
1.4	10.4	16.6				
1.6	7.00	11.1	19.9			
1.8	4.92	7.81	14.0	23.3		
2.0	3.58	5.69	10.2	17.0		
2.2	2.69	4.28	7.65	12.8		
2.4	2.07	3.29	5.90	9.83	23.8	26.4
2.6	1.63	2.59	4.64	7.73	18.8	20.8
2.8	1.31	2.07	3.71	6.19	15.0	16.6
3.0	1.06	1.69	3.02	5.03	12.2	13.5
3.2	0.87	1.39	2.49	4.15	10.1	11.2
3.4		1.16	2.07	3.46	8.39	9.30
3.6		0.98	1.75	2.91	7.07	7.83
3.8		0.83	1.49	2.48	6.01	6.66
4.0			1.27	2.12	5.15	5.71
4.2			1.10	1.83	4.45	4.93
4.4			0.96	1.60	3.87	4.29
4.6			0.84	1.40	3.39	3.75
4.8				1.23	2.98	3.30

Note: The decking is available in widths of 203, 305 et 406 mm and lengths up to 18 m.

Decking Selection Tables (L/360)

Nordic Lam ES11
S-P-F
 W_{FR} Maximum factored uniform load W_{FR} (kPa)

Portée (m)	Épaisseur (mm)					
	38	44	54	64	86	89
1.0	39.0					
1.2	27.1	36.9				
1.4	19.9	27.1				
1.6	15.2	20.7	30.6			
1.8	12.0	16.4	24.2	34.0		
2.0	9.75	13.3	19.6	27.5		
2.2	8.06	11.0	16.2	22.7		
2.4	6.77	9.22	13.6	19.1	34.5	37.0
2.6	5.77	7.86	11.6	16.3	29.4	31.5
2.8	4.98	6.77	10.0	14.0	25.4	27.2
3.0		5.90	8.70	12.2	22.1	23.7
3.2		5.19	7.65	10.8	19.4	20.8
3.4		4.59	6.77	9.52	17.2	18.4
3.6			6.04	8.50	15.3	16.4
3.8			5.42	7.62	13.8	14.7
4.0			4.89	6.88	12.4	13.3
4.2				6.24	11.3	12.1
4.4				5.69	10.3	11.0
4.6				5.20	9.40	10.1
4.8				4.78	8.63	9.24

 $W_{\Delta R}$ Maximum specified (service) uniform load for L/360 deflection $W_{\Delta R}$ (kPa)

Span (m)	Thickness (mm)					
	38	44	54	64	86	89
1.0	19.1					
1.2	11.1	17.6				
1.4	6.96	11.1				
1.6	4.67	7.41	13.3			
1.8	3.28	5.20	9.32	15.5		
2.0	2.39	3.79	6.79	11.3		
2.2	1.79	2.85	5.10	8.51		
2.4	1.38	2.20	3.93	6.55	15.9	17.6
2.6	1.09	1.73	3.09	5.15	12.5	13.9
2.8	0.87	1.38	2.48	4.13	10.0	11.1
3.0		1.12	2.01	3.35	8.14	9.02
3.2		0.93	1.66	2.76	6.71	7.43
3.4		0.77	1.38	2.30	5.59	6.20
3.6			1.16	1.94	4.71	5.22
3.8			0.99	1.65	4.01	4.44
4.0			0.85	1.42	3.43	3.81
4.2				1.22	2.97	3.29
4.4				1.06	2.58	2.86
4.6				0.93	2.26	2.50
4.8				0.82	1.99	2.20

Note: The decking is available in widths of 203, 305 et 406 mm and lengths up to 18 m.