NORDIC LAM™

DECKING

Built for life

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NORDIC LAM™
20F-1.9E

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MAXIMUM UNIFORM LOADS (psf)

WIDTH (in.)	DEPTH (in.)	CRITERIA	SPAN (ft)												
			6.0	6.5	7.0	7.5	8.0	8.5	9.0	9.5	10.0	10.5	11.0	11.5	12.0
12	1-1/2	L/360 LL	55	43	35	28	23	---	---	---	---	---	---	---	---
		L/240 LL	78	60	47	38	30	---	---	---	---	---	---	---	---
		Fact. Load	273	232	199	173	151	---	---	---	---	---	---	---	---
	1-3/4	L/360 LL	87	68	55	45	37	31	26	22	---	---	---	---	---
		L/240 TL	125	98	77	62	50	41	34	28	---	---	---	---	---
		Fact. Load	373	317	272	236	207	182	162	145	---	---	---	---	---
	2-1/8	L/360 LL	156	123	98	80	66	55	46	39	34	29	25	22	---
		L/240 TL	228	178	141	113	92	76	63	53	44	37	32	27	---
		Fact. Load	551	468	403	350	307	271	241	215	193	175	159	144	---
	2-1/2	L/360 LL		200	160	130	107	89	75	64	55	47	41	36	32
		L/240 TL		292	232	188	153	127	105	89	75	64	54	47	40
		Fact. Load		650	559	486	426	376	335	299	269	243	221	201	184
	3-1/2	L/360 LL						245	206	175	150	130	113	99	87
		L/240 TL							299	253	215	185	159	138	120
		Fact. Load						743	661	592	533	482	438	400	366

NOTES:

1. Values shown are the maximum uniform loads, in pounds per square foot (psf), that can be applied to the decking in addition to its own weight.
2. Selected decking shall satisfy both live (LL) and total (TL) specified loads, and the total factored load (Fact. Load).
3. Table is based on uniform loads, continuous equal spans, and dry-use conditions. Span is measured centre to centre of supports. The maximum uniform loads are for standard term duration of load.
4. Maximum deflection = L/360 under specified live load, and L/240 under specified total load. Other deflection limits may apply. For deflection limit of L/480, multiply live load values by 0.75. The resulting live load shall not exceed the factored total load shown.
5. For preliminary design only. A complete design shall include among other things the verification of a concentrated live load (if applicable), bearing resistance, effect of floor vibration (if applicable), and fire safety requirements.

DESIGN VALUES
FOR NORDIC LAM™

SPECIFIED STRENGTHS AND DESIGN PROPERTIES [1,2,3] (psi)

APPLICATION	DECKING
APPEARANCE GRADE	ARCHITECTURAL
STRESS GRADE	20F-1.9E
EWS LAYUP	20F-ES/CPG
Bending about X-X axis	
Bending at extreme fibre (F_{bx})[4,5]	3713 psi
Longitudinal shear (F_{vx})[6]	319 psi
Compression perpendicular to grain (F_{cpx})[7]	841 psi
Shear-free modulus of elasticity (E_x)	1.9E+06 psi
Apparent modulus of elasticity ($E_{x,app.}$)[8]	1.8E+06 psi
Bending about Y-Y axis	
Bending at extreme fibre (F_{by})[5]	3713 psi
Longitudinal shear (F_{vy})[6]	319 psi
Compression perpendicular to grain (F_{cpy})[7]	841 psi
Shear-free modulus of elasticity (E_y)	1.9E+06 psi
Apparent modulus of elasticity ($E_{y,app.}$)[8]	1.8E+06 psi
Axially loaded	
Compression parallel to grain (F_c)	2089 psi
Tension parallel to grain (F_t)	1479 psi
Tension perpendicular to grain (F_{tp})	74 psi
Modulus of elasticity (E_a)[8]	1.9E+06 psi
Mean relative density	0.42
Density (for member weight)	35 pcf

(1) The combinations in this table are applicable to members consisting of 4 or more laminations, unless otherwise noted.

(2) The tabulated design values are for dry service conditions. For wet service conditions, multiply the tabulated values by the wet service condition factors, K_S, per CSA O86-09, Clause 6.4.2.

(3) The tabulated design values are for standard term duration of load. For other durations of load, see applicable design code (CSA O86-09, Clauses 4.3.2 and 6).

(4) Nordic Lam bending members are symmetrical throughout the depth of the member (balanced layups). Vertically glued-laminated beams shall be designed using the specified strengths and modulus of elasticity for bending about Y-Y axis. (Clause 6.5.3 of CSA O86-09 is not applicable.)

(5) The tabulated specified strengths in bending (F_{bx} and F_{by}) shall be multiplied by a size factor, K_{Zbg}. The size factor formula is: $K_{Zbg} = 1.03\ (BL)^{-0.18} \leq 1.0$, where B = net beam width (m), and L = length of beam segment from point of zero moment to point of zero moment (m).

(6) At the location of notches in rectangular members, the specified strength in shear (F_v) shall be multiplied by a notch factor, K_N, determined per CSA O86-09, Clause 6.5.7.2.2.

(7) The compression perpendicular to grain strength values (F_{cpx}) shall be permitted to be adjusted by a size factor for bearing, K_{Zcp}, per CSA O86-09, Clause 6.5.9.2.

(8) The tabulated apparent E values already include a 5% shear deflection. For column stability calculations, E_{05} shall be determined by multiplying the tabulated apparent modulus of elasticity by 0.87.

(9) Design of glulam members shall be in accordance to CSA O86-09 Standard.

Refer to Nordic Lam Design and Construction Guide for more information.
Nordic Lam products are listed in APA Product Report PR-L294C and CCMC Evaluation Report 13216-R.

NORDIC ENGINEERED WOOD

Sustainable Wood Solutions

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N-C235 / June 2013
Printed in Canada on recycled paper