art massif

- wood structure -

TECHNICAL SHEET

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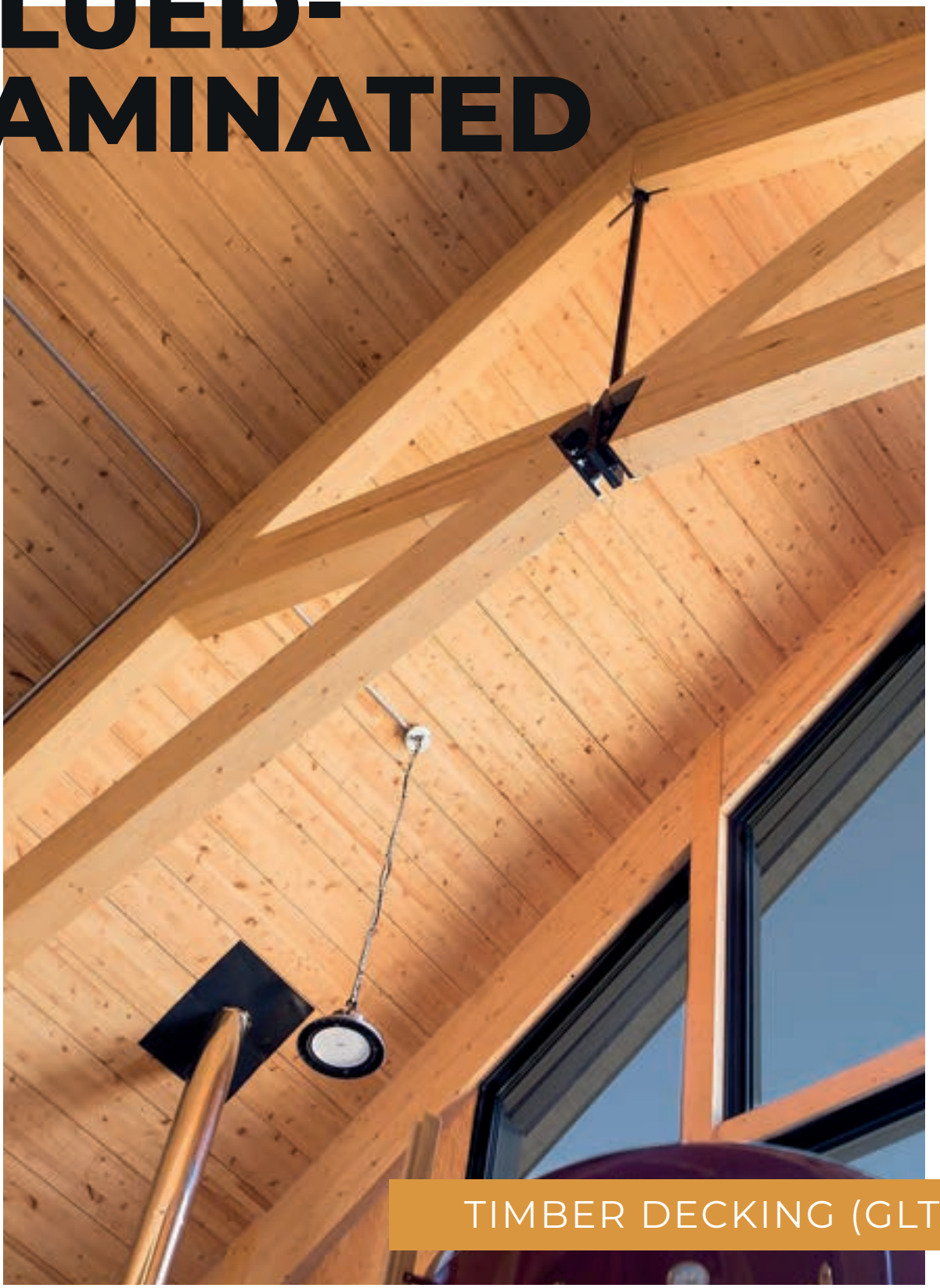
GLUED-LAMINATED



TIMBER DECKING (GLT)

GLUED-LAMINATED TIMBER DECKING (GLT)

Spruce, Pine, Fir (EPS). t

TECHNICAL DATA

Species
Spruce, Pine, Fir (EPS).
Contains approximately 90% spruce.

Grade
SPF no.2 & better

Applications
Decking or roofing

Appearance grade
Architectural

Wood moisture content
12% +- 2%

Thicknesses
1 1/2", 2 3/8", 3 1/8", 5 1/8"
38 mm, 60 mm, 80 mm, 130 mm

Lengths
Up to 32' (9.75 m)

Relative density
G = 0.44

* This decking alone cannot be used as a diaphragm. Plywood must be added to act as the diaphragm.

TECHNICAL PROFILES

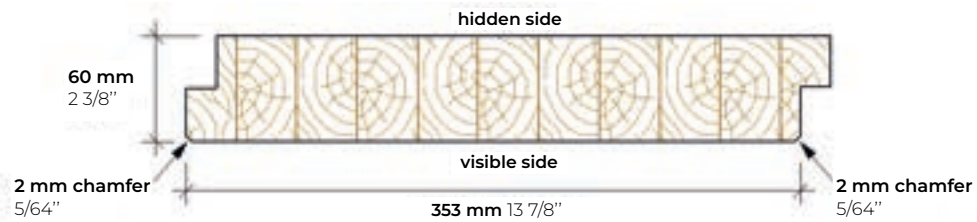
Thickness
38 mm . 1 1/2''

Coverage width
363 mm . 14 5/16''

TECHNICAL PROFILES

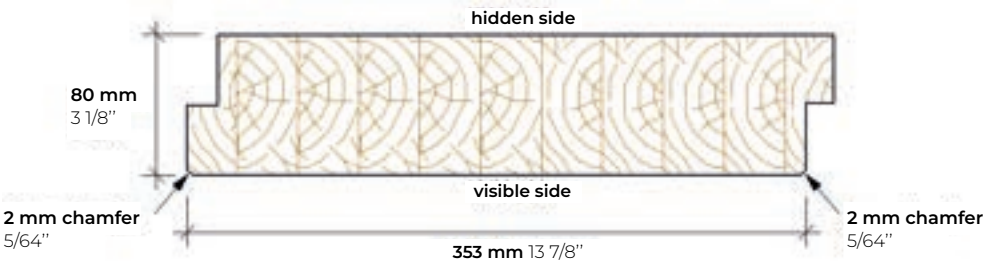
Thickness
60 mm . 2 3/8''

Coverage width
353 mm . 13 7/8''



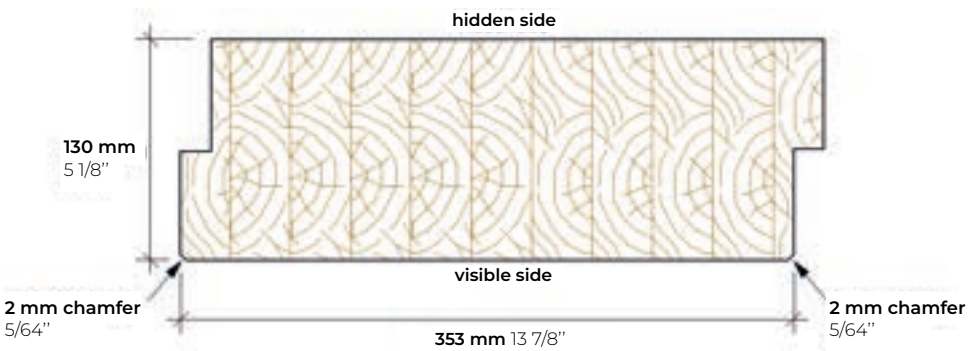
Thickness
80 mm . 3 1/8''

Coverage width
353 mm . 13 7/8''



Thickness
130 mm . 5 1/8''

Coverage width
353 mm . 13 7/8''



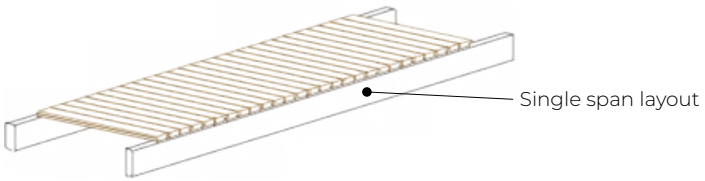
GLT DECKING

SPAN TABLE

SPAN TABLE
GLT DECKING

SINGLE SPAN LAYOUT

Glued timber - No.2 and better
Spans calculated under National Building Code of Canada 2015 load combinations and CSA 086-14 design methods. kPa and m converted into psf and ft.



FLOORING
Deflection criteria: L/360 under live loads
L/240 under full loads
Dead loads: D = 21 psf

Thickness	1 1/2" (38 mm)	2 3/8" (60 mm)	3 1/8" (80 mm)	5 1/8" (130 mm)
L = 40 psf	5.25 ft	8.5 ft	11.5 ft	18.7 ft
L = 50 psf	5 ft	7.8 ft	10.5 ft	17.4 ft
L = 100 psf	4 ft	6.2 ft	8.5 ft	13.8 ft

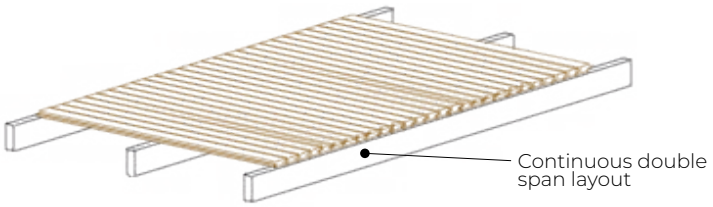
ROOFING
Deflection criteria: L/240 under live loads
L/180 under full loads
Dead loads: D = 21 psf

Thickness	1 1/2" (38 mm)	2 3/8" (60 mm)	3 1/8" (80 mm)	5 1/8" (130 mm)
S = 52 psf	5.6 ft	8.9 ft	12.1 ft	19.7 ft
S = 73 psf	5.25 ft	8.2 ft	11.1 ft	18 ft
S = 94 psf	4.6 ft	7.5 ft	10.1 ft	16.7 ft

SPAN TABLE
GLT DECKING

CONTINUOUS DOUBLE SPAN LAYOUT

Glued timber - No.2 and better
Spans calculated under National Building Code of Canada 2015 load combinations and CSA 086-14 design methods. kPa and m converted into psf and ft.



FLOORING

Deflection criteria: L/360 under live loads
tL/240 under full loads
Dead loads: D = 21 psf

Thickness	1 1/2" (38 mm)	2 3/8" (60 mm)	3 1/8" (80 mm)	5 1/8" (130 mm)
L = 40 psf	6.9 ft	11.1 ft	15 ft	25 ft
L = 50 psf	6.5 ft	10.5 ft	14.1 ft	23.3 ft
L = 100 psf	5.25 ft	8.2 ft	11.1 ft	18.4 ft

ROOFING

Deflection criteria: L/240 under live loads
L/180 under full loads
Dead loads: D = 21 psf

Thickness	1 1/2" (38 mm)	2 3/8" (60 mm)	3 1/8" (80 mm)	5 1/8" (130 mm)
S = 52 psf	7.5 ft	11.8 ft	16 ft	26.25 ft
S = 73 psf	6.9 ft	10.8 ft	14.8 ft	24.3 ft
S = 94 psf	6.2 ft	9.85 ft	13.4 ft	22 ft

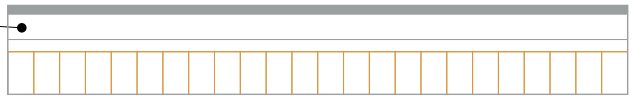
This table should be used as a guide only. The values provided give an estimate of possible ranges. Refer to an engineer for full verification based on the actual conditions of the project being designed.

FLOORING AND ROOFING COMPOSITION

DIAGRAM

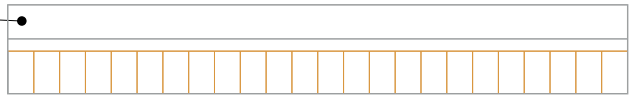
DIAGRAM FOR **FLOORING AND ROOFING COMPOSITION**

Roof composition by architect
E.g., vapour barrier, insulation, roof covering

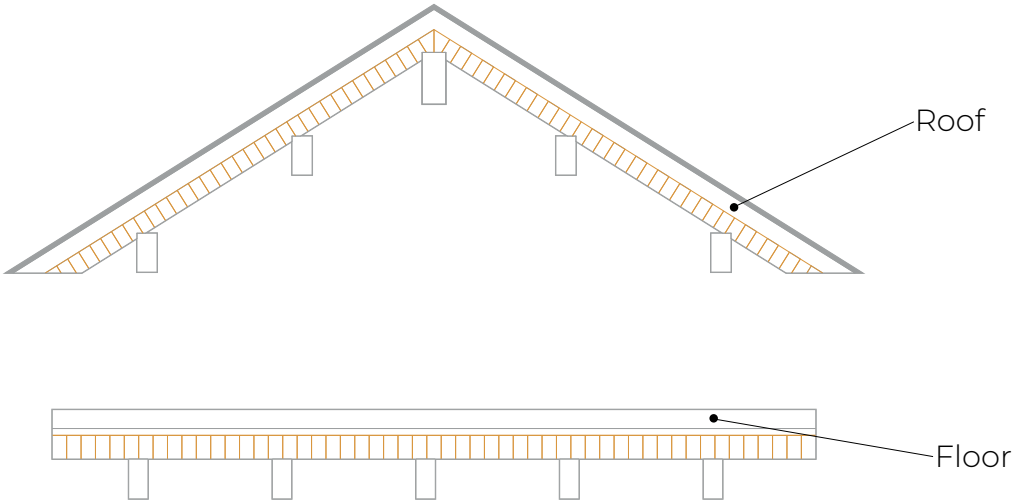


- **Plywood 1/2'' minimum**
- **Art Massif wood decking**

Floor composition by architect
E.g., insulation, acoustic membrane, concrete/screed/plywood, floor covering



- **Plywood 1/2'' minimum**
- **Art Massif wood decking**

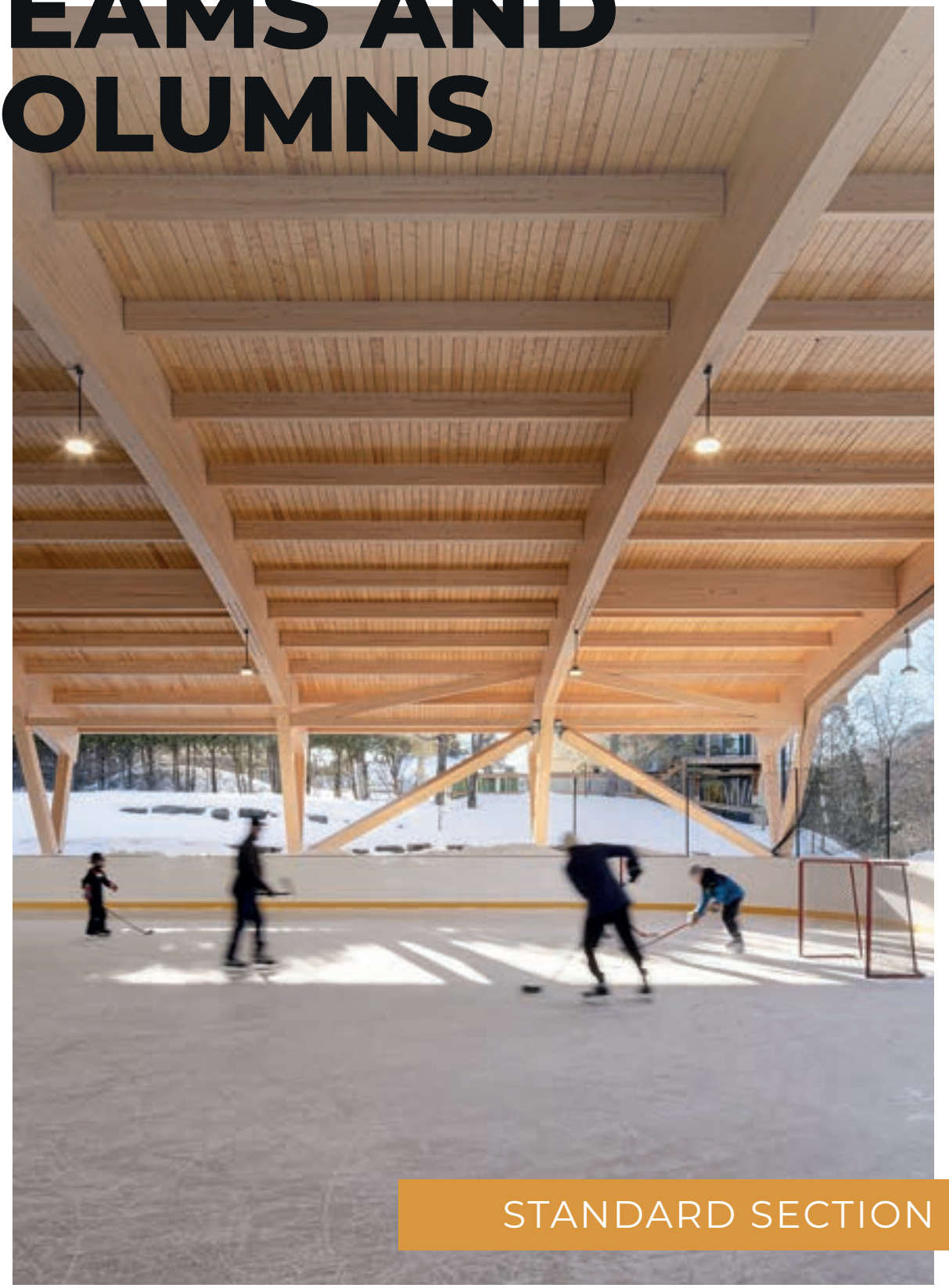


1. The architect must comply with National Building Code of Canada requirements for floor and roof compositions.

2. Plywood of at least 1/2'' in thickness must be applied over the decking to take the diaphragm forces and create a uniform surface. Design of the diaphragm must be done by the structural engineer.

3. It is a good idea to leave the decking visible under the floor or roof to add architectural interest and to save on materials.

BEAMS AND COLUMNS



STANDARD SECTION

BEAMS
AND COLUMNS

TECHNICAL DATA

Species
Black spruce and jack pine (SP) containing 90% black spruce

Strength grade
20f-EX, 12c-E

Appearance grade
Architectural

Manufacturing
Products CSA O122-76 certified
Plant CSA O177-06 certified
Adhesive CSA O112.9 certified

Inspection agency
APA plant no. 1104

Wood moisture content
12% +- 2%

Lamella thickness
1 3/8“ (34.7 mm)

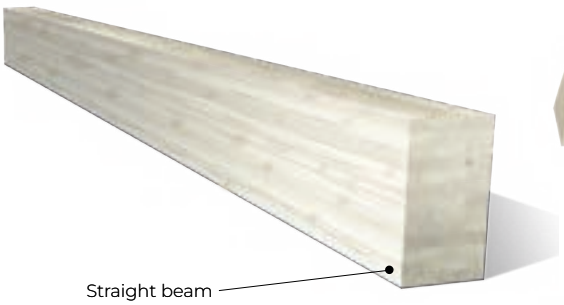
Widths
3 1/8" 5 1/8" 6 7/8" 8 7/16" 10 7/16" 12 3/8" 14 3/8“
80 mm, 130 mm, 175 mm, 215 mm, 265 mm, 315 mm, 365 mm

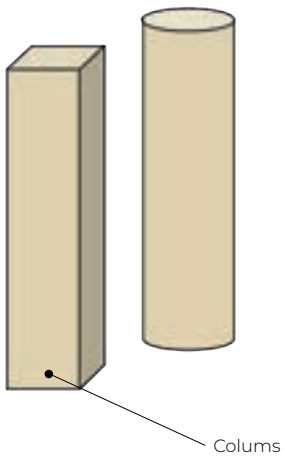
Heights
From 4 1/8” to 49 3/16” (104 mm → 1,249 mm)
in 34.7 mm increments
* Additional heights available on request

Lenghts
Continuous elements without joints: up to 68’ (20.7 m)

Dimensional tolerances
Width +- 2 mm
Height +-0.4 mm per lamella for a max of +- 6 mm

Relative density
G = 0.44





STANDARD SECTION
BEAMS AND COLUMNS

Width	in. (mm)	3 1/8" (80 mm)	5 1/8" (130 mm)	6 7/8" (175 mm)	8 7/16" (215 mm)	10 7/16" (265 mm)	12 3/8" (315 mm)	14 3/8" (365 mm)
Height (in.)	Height (mm)							
4 1/8"	104	X						
5 1/2"	139	X	X					
6 7/8"	174	X	X	X				
8 3/16"	208	X	X	X	X			
9 9/16"	243	X	X	X	X	X		
10 15/16"	278	X	X	X	X	X		
12 5/16"	312	X	X	X	X	X	X	X
13 11/16"	347	X	X	X	X	X	X	X
15 1/16"	382	X	X	X	X	X	X	X
16 3/8"	416	X	X	X	X	X	X	X
17 3/4"	451	X	X	X	X	X	X	X
19 1/8"	486	X	X	X	X	X	X	X
20 1/2"	521	X	X	X	X	X	X	X
21 7/8"	555	X	X	X	X	X	X	X
23 1/4"	590	X	X	X	X	X	X	X
24 5/8"	625	X	X	X	X	X	X	X
25 15/16"	659	X	X	X	X	X	X	X
27 5/16"	694	X	X	X	X	X	X	X
28 11/16"	729	X	X	X	X	X	X	X
30 1/16"	763	X	X	X	X	X	X	X
31 7/16"	798	X	X	X	X	X	X	X
32 13/16"	833	X	X	X	X	X	X	X
34 3/16"	868	X	X	X	X	X	X	X
35 1/2"	902	X	X	X	X	X	X	X
36 7/8"	937	X	X	X	X	X	X	X
38 1/4"	972	X	X	X	X	X	X	X

STANDARD SECTION
BEAMS AND COLUMNS
continued

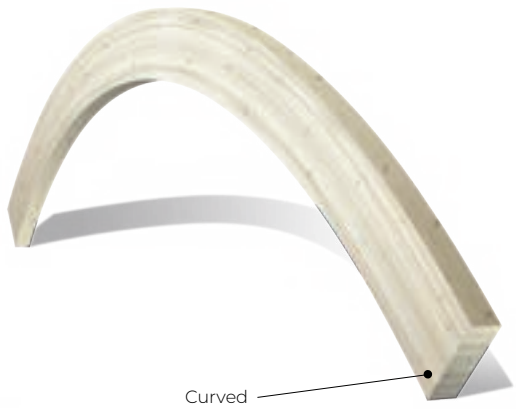
Width	in. (mm)	3 1/8" (80 mm)	5 1/8" (130 mm)	6 7/8" (175 mm)	8 7/16" (215 mm)	10 7/16" (265 mm)	12 3/8" (315 mm)	14 3/8" (365 mm)
Height (in.)	Height (mm)							
39 5/8"	1006		X	X	X	X	X	X
41"	1041		X	X	X	X	X	X
42 3/8"	1076		X	X	X	X	X	X
43 11/16"	1110		X	X	X	X	X	X
45 1/16"	1145		X	X	X	X	X	X
46 7/16"	1180		X	X	X	X	X	X
47 13/16"	1215		X	X	X	X	X	X
49 3/16"	1249		X	X	X	X	X	X

ROUND
COLUMNS

Diameters
5" to 14"
125 mm to 355 mm

Lengths
Up to 32' (9.75 m)
Up to 16' (4.88 m) for small diameters (Ø5")

CURVED BEAMS

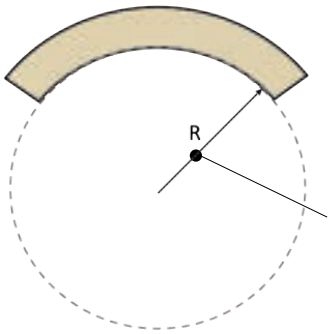


Section heights and widths
Same as for beams and columns

Radii of curvature
Minimum radius of 72” (1,829 mm)

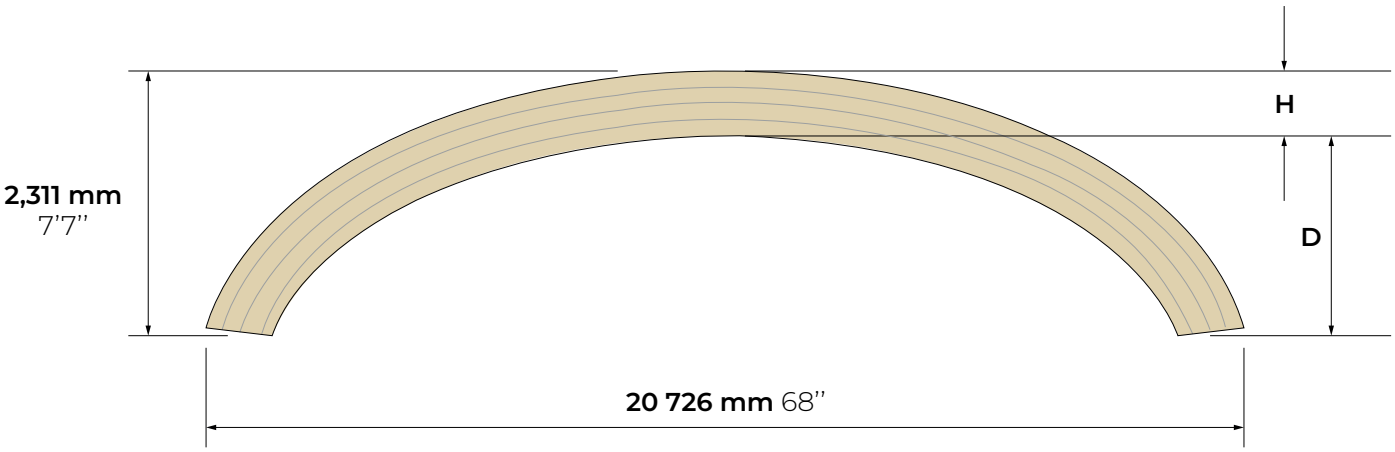
TABLE 1
Lamella thickness based on radii of curvature

Radii of curvature (R)*		Lamella thickness
(mm)	**(in.)**	**(mm)**
9,500+	374+	34.7
6,200-9,499	244-374	25
2,200-6,199	87-244	13
1,829-2,199	72-87	6



***R :** Radius of curvature on the inner surface (intrados).

Curved dimensions
The overall dimensions of the curved beam (a continuous section) must fall within the rectangle below to meet manufacturing limits. For other dimensions that fall outside this range, please contact us.



Clearance : $d = R - \sqrt{R^2 + D^2}$

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info@artmassif.ca | artmassif.ca | 418 358-0712