

TRANSCO MILLS LTD.

DOUGLAS
FIR

WESTERN
RED
CEDAR

SPF



TONGUE & GROOVE ROOF DECKING

TONGUE AND GROOVE DECKING

Transco Mills Decking provides a solid permanent roof deck with good insulating properties and a handsome, ready-to-finish interior ceiling. Roof decking is especially suited for use with post and beam timbers or glue laminated beams where application is quick and easy. It serves as an excellent base for any roofing material. It is available in species, grade and sizes suitable for both residential and commercial construction. Transco Mills Select decking is ideally suited for exposed ceiling areas in homes, schools, churches, motels and restaurants, wherever attractive surface appearance is important. Transco Mills Commercial decking is suitable for use in warehouses, service stations and other structures where appearance is not a prime factor. Transco Mills Roof Decking may also be used in solid wall construction and is especially popular for summer cabins.

GRADES

SELECT: Lumber of this grade is recommended for high class construction where strength and fine appearance is required. Knots and other characteristics which add to the decorative character of the piece are permitted. Transco Mills Select Decking is graded under para. 127b of National Lumber Grades Authority (NLGA) rules (equivalent to WCLB 16 Rules) and conforms to the requirements of the Canadian National Building Code for heavy timber decking as well as the AITC "Standards for Tongue and Groove Heavy Timber Roof Decking".

The following characteristics and limiting provisions may apply to the exposed face (except where noted) although all of the permissible characteristics of the grade are never present in maximum size or number in any one piece. Any piece with an unusual combination of characteristics which seriously affects normal serviceability is excluded from the grade.

Bark pockets: Medium
 Checks: Medium
 Crook: Light, occasional piece
 Holes: Equivalent to chipped knots
 Pitch: Light or equivalent, very small streak
 Pitch pockets: Very small, dry
 Rate of growth: Medium grain, Douglas Fir only
 Skips: Very light, maximum 10% of face in occasional pieces
 Slope of grain: 1 in 10
 Splits: Short, occasional piece
 Stained wood: Medium
 Torn or raised grain: Medium
 Tongue: 1/16" scant, occasional piece
 Twist: Very light, occasional piece
 Knots: Sound and tight on exposed face, well spaced

	2 x 6	3 & 4 x 6
Width	Knot Size	Knot Size
6"	2-3/8"	2-1/2"
	both faces	both faces

Spike and narrow face knots equivalent. In occasional pieces, firm and tight knots not exceeding 1 1/2" in diameter are permitted if not through the piece and limited to 2 per 12 lineal feet or equivalent smaller.

Knots may contain chipped or unsound spots approximately 3/4" in diameter not through, 2 per 12 lineal feet or equivalent smaller.

Back and unexposed edges - hit and miss skips. Wane approximately 1/3 face and other characteristics which do not affect the end use. In cedar peck is permitted on back and unexposed edges in narrow streaks well scattered which do not affect the strength more than other characteristics allowed.

COMMERCIAL: Decking of this grade is recommended and customarily used for the same purposes as the higher (Select) grade when appearance and strength requirements are not as critical.

Transco Mills Commercial Decking is graded under para 127c of National Lumber Grades Authority (NLGA) rules (equivalent to WCLIB 16 Rules) and conforms to the requirements of the Canadian National Building Code for heavy timber decking as well as to AITC "Standards for Tongue and Groove Heavy Timber Roof Decking".

The characteristics and limiting provisions are listed below. Any piece with an unusual combination of characteristics which seriously affects normal serviceability is excluded from the grade.

Checks

Crook: Medium, occasional piece
 Holes: 1
 Pitch: Streaks
 Pockets: Bark or pitch
 Rate of Growth: Medium grain in Douglas Fir
 Shake: Not serious
 Skips: Hit and miss
 Slope of grain: 1 in 8
 Splits: 1/6 length
 Torn grain
 Tongue: 1/16" scant
 Twist: Very light, occasional piece
 Unsound wood: In small spots or streaks up to 1" wide on any face. In cedar spots or streaks of peck 1/3 of any face
 Wane: 1/16 face width
 White speck: 1/3 width or equivalent
 Knots: Well spaced

	2 x 6	3 & 4 x 6
Width	Knot Size	Knot Size
6"	2-7/8"	3"
	both faces	both faces

Spike or narrow face knots: Equivalent

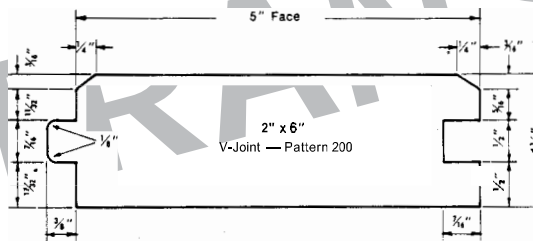
Chipped and/or broken out knots approximately 1 1/2" in diameter not through

Back and unexposed edges: Wane approximately 1/3 face and other characteristics not affecting intended end use.

PATTERNS

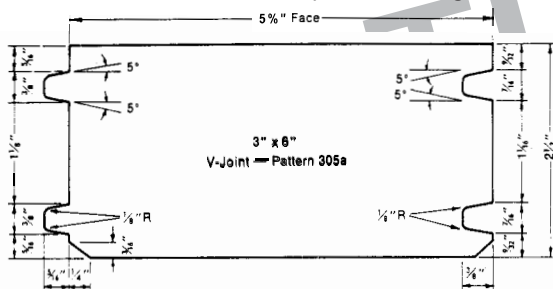
All patterns illustrated are as specified in NLGA Rules.

Nominal Size 2" x 6"
Finished Size 1 7/16" x 5" (plus 3/8" tongue)



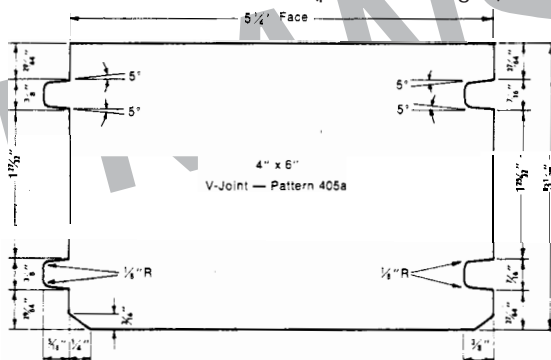
Single Tongue and Groove

Nominal Size 3" x 6"
Finished Size 2 1/2" x 5 1/4" (plus 3/8" tongue)



Double Tongue and Groove
Drilled 30" O/C

Nominal Size 4" x 6"
Finished Size 3 1/2" x 5 1/4" (plus 3/8" tongue)



Double Tongue and Groove
Drilled 30" O/C

LENGTHS

Transco Mills Select Roof Decking is normally shipped in random lengths of 6' to 14' or longer (odd and even).

Length specifications shall be as follows: For orders 5,000 FBM or over:

2" Select Decking:

Approximately 85% 10' and longer

Approximately 25% 14' and longer

3" and 4" Select Decking:

Approximately 40% 14' and longer

Approximately 85% 10' and longer

Not over 5% 6' - 7'

Transco Mills Commercial Roof Decking is normally shipped in random lengths of 6' to 14' or longer (odd and even).

Specified lengths may be supplied by negotiation.

INSULATING FACTOR

Transco Mills Roof Decking has excellent insulating properties. Decking itself, especially if 3" or 4" thick, may be sufficient insulation in many areas. Where there is a combination of warmth and high humidity inside and low temperature outside a building, the moisture vapour inside tends to move outward through walls and ceilings. Under these conditions a vapour barrier should be placed on the deck followed by appropriate insulation. (See U values, Table 4). Accumulation of condensation is minimized because of a gradual temperature gradient.

Table 2. Conductance and Resistance of Western Red Cedar Decking

Nominal Thickness	Conductance (C)	Resistance (R = 1/C)
2"	0.49	2.04
3"	0.30	3.33
4"	0.21	4.75

Table 3: Conductance and Resistance of Douglas Fir Decking

Nominal Thickness	Conductance (C)	Resistance (R = 1/C)
2"	0.53	1.89
3"	0.32	3.12
4"	0.23	4.35

Table 4: U Values for Typical Roof Assemblies

Deck	Deck & Western Red Cedar Shingles	Deck & Built-up Roofing	Deck, Built-up Roofing & 1/2" Rigid Insulation	Deck, Built-up Roofing & 1" Rigid Insulation
2"	0.28	0.34	0.22	0.16
3"	0.21	0.23	0.17	0.14
4"	0.16	0.18	0.14	0.11

A rougher head face can be put on all patterns and grades. This makes a rough face which gives a rustic appearance.

HANDLING

Transco Mills Roof Decking is air dried to an average 19% moisture content before being carefully machined. It is then inventoried in our large covered warehouse facilities. Roof Decking requires dry storage and careful handling en route to and at the job site.

APPLICATION

Transco Mills Roof Decking in 3" and 4" thickness is supplied pre-drilled 30" on centre for concealed lateral nailing. These starter holes are 1/4" in diameter and are drilled in the centre of the piece from the tongue side. They are designed to speed lay-up time, guide proper nailing procedures and prevent splitting of the piece.

Application principles for 2" Tongue and Groove Decking are the same as for 3" and 4" decking except that 2" decking is not pre-drilled, the lateral nailing of one piece to another is replaced by toenailing approximately every 30" through the backs of the pieces with 2 1/2" common nails. Each piece should also be fastened directly to the supporting beams or purlins with 3" or 3 1/2" nails.

On sloping roofs install decking with tongues toward the peak of the roof; on flat roofs install with tongues away from the applicator. For nailing to supports, bright common nails may be used but hot

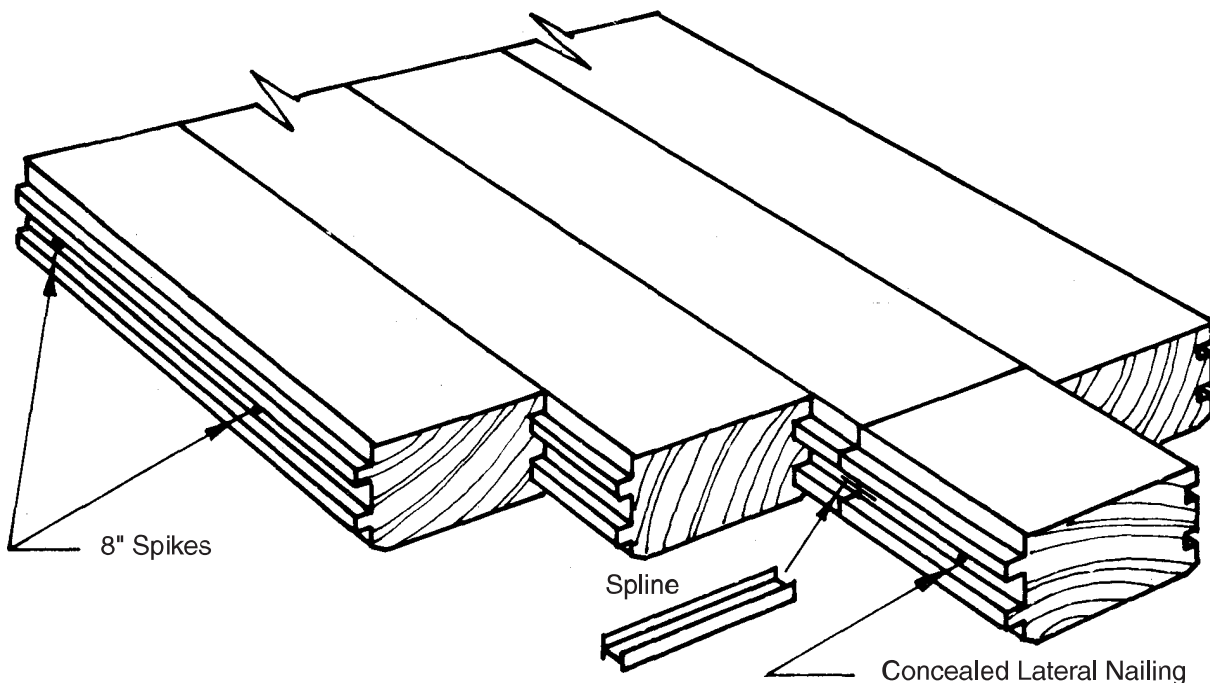
dipped galvanized common nails have better holding power and reduce the hazard of rust streaks. If there are three or more supports for the decking a "Controlled Random" laying pattern may be used. This is an economical pattern because it makes use of the random length planks, but the following rules must be observed.

1. Stagger end joints in adjacent planks as widely as possible and not less than two feet.
2. Separate joints in the same general line by at least two intervening courses.
3. Minimize joints in the middle third of all spans.
4. Make each plank bear on at least one support.
5. Minimize joints in the end span.

For better alignment, appearance and strength where 3" and 4" material is used, metal splines are required.

Fasten decking at each support with common nails twice as long as nominal plank thicknesses using one toe-nail and one face nail. Side nail 3" and 4" decking through the pre-drilled holes with 8" spiral decking spikes. (At end joints not over a support a side nail should be within 10" of each plank end.)

Transco Mills inventories all the spikes and splines required for proper application.



MAXIMUM SPANS FOR WESTERN RED CEDAR DECKING

Table 5. Simple Span — Deflection / Span Ratio 1/240

Nominal Thickness (in.)	Grade of Decking	Total Load (psf)				
		20	30	40	50	60
		Maximum Span (ft. in.)				
2	Select*	7-8	6-8	6-1	5-8	5-4
	Commercial**	7-5	6-5	5-10	5-5	5-1
3	Select*	12-9	11-2	10-2	9-5	8-10
	Commercial**	12-4	10-9	9-9	9-1	8-6
4	Select*	17-11	15-8	14-2	13-2	12-5
	Commercial**	17-3	15-1	13-8	12-8	11-11

NOTE: Correction factors for other deflection/span ratios:
 For 1/180 multiply by 1.10
 For 1/300 multiply by 0.93
 For 1/360 multiply by 0.874

* Modules of Elasticity $E = 1,210,000$
 ** Modules of Elasticity $E = 1,080,000$

MAXIMUM SPANS FOR DOUGLAS FIR DECKING

Table 6. Simple Span — Deflection / Span Ratio 1/240

Nominal Thickness (in.)	Grade of Decking	Total Load (psf)				
		20	30	40	50	60
		Maximum Span (ft. in.)				
2	Select*	9-0	7-10	7-1	6-7	6-3
	Commercial**	8-8	7-7	6-10	6-5	6-0
3	Select*	14-11	13-1	11-10	11-0	10-4
	Commercial**	14-5	12-7	11-5	10-8	10-0
4	Select*	20-11	18-3	16-7	15-5	14-6
	Commercial**	20-3	17-8	16-1	14-11	14-0

NOTE: Correction factors for other deflection/span ratios:
 For 1/180 multiply by 1.10
 For 1/300 multiply by 0.93
 For 1/360 multiply by 0.874

* Modules of Elasticity $E = 1,930,000$
 ** Modules of Elasticity $E = 1,740,000$

MAXIMUM SPANS FOR SPF DECKING

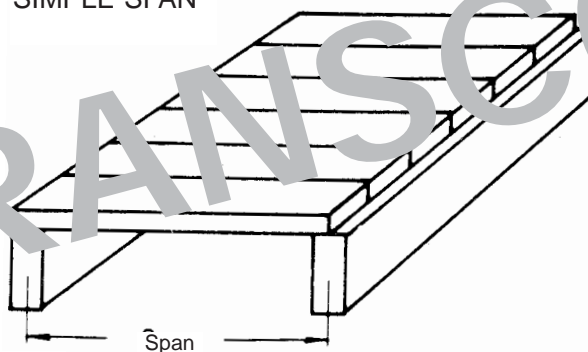
Table 7. Simple Span — Deflection / Span Ratio 1/240

Nominal Thickness (in.)	Grade of Decking	Total Load (psf)				
		20	30	40	50	60
		Maximum Span (ft. in.)				
2	Select*	8-0	7-0	6-4	5-10	5-6
	Commercial**	7-8	6-9	6-1	5-8	5-4
3	Select*	13-3	11-7	10-6	9-9	9-2
	Commercial**	12-10	11-3	10-2	9-5	8-11
4	Select*	18-7	16-3	14-9	13-8	12-11
	Commercial**	18-0	15-8	14-3	13-3	12-6

NOTE: Correction factors for other deflection/span ratios:
 For 1/180 multiply by 1.10
 For 1/300 multiply by 0.93
 For 1/360 multiply by 0.874

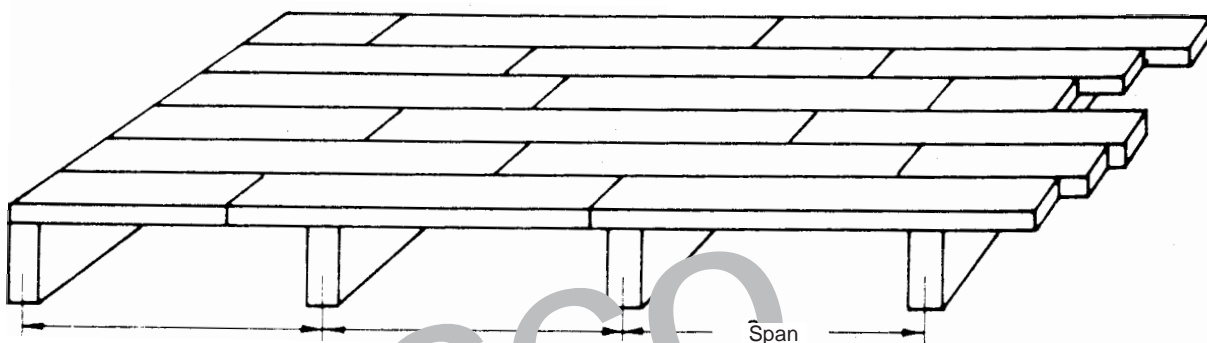
* Modules of Elasticity $E = 1,350,000$
 ** Modules of Elasticity $E = 1,220,000$

SIMPLE SPAN

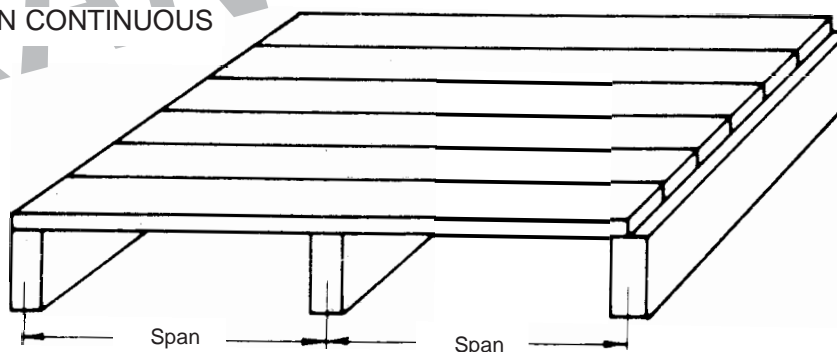


CONTROLLED RANDOM PATTERN

Multiple Span



TWO SPAN CONTINUOUS



CALCULATING QUANTITIES

To calculate the quantities in foot board measure (FBM) multiply the square footage to be covered by the approximate factors as follows. Please note that these factors make no allowance for waste.

- For 2" x 6" Decking multiply by 2.40
- For 3" x 6" Decking multiply by 3.43
- For 4" x 6" Decking multiply by 4.57

STANDARDS AND APPROVALS

Transco Mills Roof Decking is graded according to rules published by the National Lumber Grading Authority (NLGA) and West Coast Lumber Inspection Bureau (WCLIB).

These grading rules are approved by the Canadian Lumber Standards Administrative Board (CLS), the Council of Forest Industries of British Columbia (COFI) and the American Institute of Timber Construction (AITC).

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Transco Mills Ltd. would like to thank the Council of Forest Industries of British Columbia for supplying technical information and tables.

Although every effort has been made to insure that all data in this brochure is accurate, Transco Mills Ltd. shall not be responsible for injury, damage or loss, however caused, arising from the use of information contained herein.

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