

Structural Light Framing, Joists and Planks - All Species

2" to 4" thick, 2" and wider

Pertinent Extracts From NLGA Para. 124

Paragraph No.	124a	124b	124c	124d												
Grade	Select Structural	No.1	No. 2	No. 3												
Man. Standard	E	E	F	F												
Pkt & Pitch Str	+	+	+	+												
Shakes & Checks (Go to Pg. 5-7)	Surface up to 2' long None through	Surface up to 2' long None through	Not through 3' L or 1/4 L (greater). Through 2' long. Through to edge 3/4 T	Not through full length. 1/3L through Through edge (3 face), equal to split Deepest penetration equiv. to hole												
Skips	Hit & Miss 1/16"x4' (10% of the pieces)	Hit & Miss 1/16"x4' (10% of the pieces)	Hit or Miss or Heavy (1/8") skip 2'L or less in length (5% of the pieces)	Heavy Skips (1/8" F/L) (10% of the pieces)												
Splits (nom.)	Width of piece	Width of piece	1 1/2 x Width	1/6 the length												
Slope of Grain	1 in 12 (more 7)	1 in 10 (more 7)	1 in 8 (more 7)	1 in 4 (more 7)												
Stain	Sapstain (+), Heartstain (10% vol.)	+	+	+												
Wane. Good wood chart (More-5), 750 wane (pg 5-8)	1/4 T x 1/4 W full length or equivalent, provided that wane not exceed *1/2 T x 1/3 W (*maximum equivalencies). If wane exceeds 1/2 T x 1/3 W, check Para. 750.	1/4 T x 1/4 W full length or equivalent, provided that wane not exceed *1/2 T x 1/3 W (*maximum equivalencies). If wane exceeds 1/2 T x 1/3 W, check Para. 750.	1/3 T x 1/3 W full length or equivalent, provided that wane not exceed *2/3 T x 1/2 W (*maximum equivalencies). If wane exceeds 2/3 T x 1/2 W, check Para. 750.	1/2 T x 1/2 W full length or equivalent, provided that wane not exceed *7/8 T x 3/4 W (*maximum equivalencies). If wane exceeds 7/8 T x 3/4 W, check Para. 750.												
Pin Hole	48 per 1" of knot hole	48 per 1" of knot hole	48 per 1" of knot hole	48 per 1" of knot hole												
Grub Holes	12 per 1" of knot hole	12 per 1" of knot hole	12 per 1" of knot hole	12 per 1" of knot hole												
Warp	1/2 Medium	1/2 Medium	Light	Medium												
White Specks	-	-	Firm, 1/3 the volume	Firm +												
Honeycomb	-	-	1/6 the width	Firm +												
Unsound Wood	-	-	1/12 W x 2" L or equivalent smaller, 2" T only Spot cannot exceed width or length	Spots and streaks, 1/3 <u>cross section</u> If through, through portion 1/6L Must not destroy nailing edge (7/8T)												
Knots	F & T		UNS, NFF & Holes		F & T		UNS, NFF & Holes		Any Quality		Holes		Any Quality		Holes	
	Edge of Wide Face	Centre of Wide Face	Holes, 1 or equiv. per 4 linear feet	Edge of Wide Face	Centre of Wide Face	Holes, 1 or equiv. per 3 linear feet	Edge of Wide Face	Centre of Wide Face	Holes, 1 or equiv. per 2 linear feet	Edge of Wide Face	Centre of Wide Face	Holes, 1 or equiv. per 1 linear foot				
3"	1/2"	1/2"	1/2"	3/4"	3/4"	3/4"	7/8"	7/8"	7/8"	1 1/4"	1 1/4"	1 1/4"				
4"	3/4"	7/8"	3/4"	1"	1 1/2"	1"	1 1/4"	2"	1 1/4"	1 3/4"	2 1/2"	1 3/4"				
5"	1"	1 1/2"	7/8"	1 1/4"	1 7/8"	1 1/8"	1 5/8"	2 3/8"	1 3/8"	2 1/4"	3"	1 7/8"				
6"	1 1/8"	1 7/8"	1"	1 1/2"	2 1/4"	1 1/4"	1 7/8"	2 7/8"	1 1/2"	2 3/4"	3 3/4"	2"				
8"	1 1/2"	2 1/4"	1 1/4"	2"	2 3/4"	1 1/2"	2 1/2"	3 1/2"	2"	3 1/2"	4 1/2"	2 1/2"				
10"	1 7/8"	2 5/8"	1 1/4"	2 1/2"	3 1/4"	1 1/2"	3 1/4"	4 1/4"	2 1/2"	4 1/2"	5 1/2"	3"				
12"	2 1/4"	3"	1 1/4"	3"	3 3/4"	1 1/2"	3 3/4"	4 3/4"	3"	5 1/2"	6 1/2"	3 1/2"				
Spike Knots	Equal to Round Edge Knots - For 2" only (ends of knot) x (length of the knot) x (1/3)															
Notes	Saw cuts are generally not permitted in select structural or No.1. For Economy grade use NGLA para. 122e. Treat soft honeycomb as unsound wood.															

Studs - All Species

2" to 4" thick, 2" and wider

Pertinent Extracts From NLGA Para. 121

Paragraph Number	121c		
Grade	Stud		
Manufacturing Standard	F		
Pockets	+		
Pitch Streaks	+		
Shakes & Checks	Not through full length 1/3 L through Through the edge (3 face) 1/3 L (Different from #3) Deepest penetration equivalent to hole		
Skips	Hit or miss on any face (1/16") Heavy skip (1/8") on wide faces only		
Splits (nominal)	Twice the width of the piece		
Slope of Grain	1 in 4		
Stain	+		
Wane See good wood chart (More-5). See Para. 750 wane (page 5-8).	1/3 T x 1/2 W full length or equivalent, provided that wane not exceed *1/2 T x 3/4 W (*maximum equivalencies). If wane does exceed the maximum equivalencies, check Para. 750.		
Pin Hole	48 per 1" of knot hole		
Grub Holes	12 per 1" of knot hole		
Warp	1/2 Medium		
White Specks	Firm +		
Honeycomb	Firm +		
Unsound Wood	Spots and streaks limited to 1/3 cross section If through, through portion 1/6 L Must not destroy nailing edge – Para 710e (wane 1/2 T max)		
Knots	Any Quality		Holes
	Edge of Wide Face	Centre of Wide Face	Holes, 1 or equivalent per 1 linear foot
3"	1 1/4"	1 1/4"	1 1/4"
4"	1 3/4"	2 1/2"	1 1/2"
5"	2 1/4"	3"	1 3/4"
6"	2 3/4"	3 3/4"	2"
8"	3 1/2"	4 1/2"	2 1/2"
10"	4 1/2"	5 1/2"	3"
12"	5 1/2"	6 1/2"	3 1/2"
All Spike Knots	Equal to Round Edge Knots: For 2" only (ends of knot) x (length of the knot) x (1/3)		
Notes	For Economy grade use NGLA para. 122e. Treat soft honeycomb as unsound wood. Studs are graded similar to No. 3 Structural.		

Common Boards - All Species

Pertinent Extracts From NLGA Para. 113

Paragraph No.	113b	113c	113d	113e								
Grade	No. 2 Common	No. 3 Common	No. 4 Common	No. 5 Common								
Checks	2 Medium or equivalent	Medium	+	+								
Roller Checks	Light on the back 1/4 L	1 – 3' on the face Medium for 2/3 L on the back	Medium 2/3 L on the face Full length on the back	+								
Crook	Table 810b	Table 810b	Table 810b	+								
Cup	Light	Medium	Heavy	+								
Pin Hole	12 scattered in 1" x 8" x 12'	30 per square foot	+	+								
Grub Holes	–	4 grub holes in a 1" x 8" x 12'	+	+								
Pockets	3 Small dry (1/4" x 2")	Medium (3/8 x 4")	Large	+								
Pitch Streaks	2 Very Small (3/8" x 15")	2 Small (1/12 W x 1/6 L)	+	+								
Shakes	Light 1/6 L	Light to Medium scattered full length	Heavy	+								
Skips	Medium (1/16") on the back 1/4 L Medium (1/16") on the edge 1/3 L	1 Medium on the face Hit & Miss on back 2/3L 1 edge 1/8" scant 1/2 L, or 1/16" F/L	Hit & Miss on Face. 1/16" scant F/L if 1 side surfaced or 1/8" scant 2' L in highline pcs. 1 edge 1/4" scant 1/2 L or 1/8" scant full length	Scant 1/4" in thickness and 1/2" in width (#3 common type pieces) Scant 1/8" in thickness and 1/2" in width (#4 or #5 common type pieces)								
Splits (on face)	Short – one on each end	1/6 L – one on each end	1/3 L – one on each end	1/2 L – one on each end								
Stain	Medium + if otherwise highline	+	+	+								
Torn Grain	Light (1/32"), Patches 4" X 6"	Medium (1/16")	Heavy	+								
Wane (Guideline)	On the back – 1/2 T, 1/6 W, 1/3 L	On the back – 2/3 T, 1/4 W, 1/2 L or equivalent	1/2 T, 1/8 W, 1/6 L on face. Heavy on back. If through edge, equivalent to holes. Across the back equivalent to skip, 2 x width in length	Through wane equivalent to holes Reverse side – 1/8" deep								
Unsound Wood	–	–	Spots equal to fixed knot size, total area not to exceed 1/4 face area	Spots and patches								
Honeycomb	–	–	Firm +	Firm +								
White Specks	–	1/8 the face area	Firm +	Firm +								
Knots	S & T Red	1 S & T Black	Fixed	S & T Red	S & T Black	Loose, UNS, Fixed, Holes	Fixed F & T	Loose, Knot Holes Unsound	Any Quality and Knot Holes			
	3"	1 1/4"	1/2"	2 small or one 3/4" slough	1 1/2"	2/3 size of red 2 per 12'	5/8"	Fixed 2 per 12'. Holes & loose 1/pc.	1 3/4"	1"	Holes &/or loose knots 3 per 12'	Huge
	4"	2"	3/4"		2 1/2"		3/4"		3"	1 1/2"		
	6"	2 1/2"	1"		3"		1 1/4"		3 1/2"	2"		
	8"	3"	1 1/4"		3 1/2"		1 1/2"		2/3W	2 1/2"		
	10"	3 1/4"	1 3/8"		4"		1 3/4"		2/3W	3"		
	12"	3 3/4"	1 1/2"		4 1/2"		2 1/4"		2/3W	3 1/2"		
Spike Knots	Spike knots are permitted. They should have no more effect than other knots.											
Notes	Unless stated, the number of knots is not restricted. No. 2 Common black knots are listed for 16' pieces. The grade is based on a 1" x 8" x 12' piece. Common Boards are graded on the face, unless otherwise noted. The back of a piece can be one grade lower when not specified in the grade description. The rule for No. 1 Commons (NLGA para. 113a) is rarely used and so is not covered in this chart.											