

# BEAMS AND STRINGERS ALL WEST COAST SPECIES

## ROUGH OR SURFACED

5" and Thicker, Rectangular  
width more than 2" greater than thickness

**130.** There are five grades of Beams and Stringers: "SELECT STRUCTURAL," "NO. 1 STRUCTURAL," "STANDARD," "NO. 2 STRUCTURAL" and "UTILITY." Three of these grades, "SELECT STRUCTURAL," "NO. 1 STRUCTURAL" and "NO. 2 STRUCTURAL" are stress grades with working stress values assigned. In Douglas fir only, both "SELECT STRUCTURAL" and "NO. 1 STRUCTURAL" may be obtained with an additional specification for density. For design values, see Table 10, Para. 200, and Para. 200-g.

Pieces 5"x5" and larger, with the width not more than 2" greater than the thickness, may be graded under this paragraph provided all faces are graded as narrow faces. Pieces so graded will have a fiber stress similar to that of the following grades. If grade stamped, they will be stamped with stamps showing only the appropriate fiber stress in bending "f."

In addition to the following specific provisions applicable to Beams and Stringers, the appropriate provisions in all other paragraphs in the rules apply. For measurement of knots see Para. 201-c.

**130-aa. "DENSE SELECT STRUCTURAL" - BEAMS and STRINGERS** (Douglas fir only). Conforms to all the grade provisions of Para. 130-a with the additional requirement of density as defined in Para. 204-c.

**130-a. "SELECT STRUCTURAL" - BEAMS and STRINGERS.** Timbers of this grade have very high strength properties and are of finest appearance. They are recommended for use in bridges, docks, warehouses and heavy construction of all kinds where superior strength is required. They are also recommended for exposed framing where fine appearance is demanded. Because of their size they are highly fire resistive. These timbers are graded primarily for members stressed in bending but may also be used as tension and compression members. Appropriate working stresses for all these uses are assigned to the grade.

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Characteristics and limiting provisions are:

Stained sapwood.

Firm heart stain - 10% of width or equivalent.

Splits approximately 1/2 the width or equivalent of end checks.

Seasoning checks in areas at ends, single or opposite each other, are limited to a sum total of 1/4 the thickness.

Limited pin holes.

Heavy torn grain.

Pitch Streaks.

Medium grain (Douglas fir only).

Slope of grain in middle 1/3 of length not to exceed 1 in 15, balance of piece may be 1 in 12.

Occasional skips, 1/16"x2' or equivalent.

Medium pitch pockets.

Wane 1/8 of any face or equivalent slightly more for a short distance.

Shake approximately 1/6 the thickness on end.

Knots, sound, tight and well spaced, may be present in the following approximate sizes:

Nominal Face Width	On Narrow Face and Edge of Wide Face in Middle 1/3 of Length	At Ends and Along Centerline of Wide Face
5"	1-1/4"	
6"	1-1/2"	
8"	1-7/8"	2"
10"	2"	2-5/8"
12"	2-1/4"	3-1/8"
14"	2-3/8"	3-3/8"
16"		3-5/8"
18"		3-5/8"

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Increase in knot sizes:

The size of knots permitted on the narrow face and at edge of wide face are the same and are determined by the width of the narrow face. These may be increased proportionately from the size permitted in the middle 1/3 of the length to twice that size at the ends of the piece, except that the size of no knot shall exceed the size permitted at the center of the wide face.

On the wide faces, the sizes of knots are proportionate from the sizes at edges of the face to the permissible size along the centerline of the wide face.

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**130-bb. "DENSE NO. 1 STRUCTURAL" - BEAMS and STRINGERS** (Douglas fir only). Conforms to all the grade provisions of Para. 130-b with the additional requirement of density as defined in Para. 204-c.

**130-b. "No. 1 STRUCTURAL" - BEAMS and STRINGERS.** Timbers of this grade are in great demand because of their excellent strength and appearance.

In these respects they rank only slightly below the "SELECT STRUCTURAL" grade and are recommended for similar uses wherever appearance is a less exacting factor but high strength is a requirement. Like the "SELECT STRUCTURAL" grade, these timbers are graded primarily for members stressed in bending, but may also be used as tension and compression members. Appropriate working stresses for all these uses are assigned to the grade.

Characteristics and limiting provisions are:

Stained sapwood.

Firm stained heartwood.

Splits approximately equal to the width or equivalent end checks.

Seasoning checks in areas at ends, single or opposite each other, are limited to a sum total of 1/4 the thickness.

Pin holes limited.

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Heavy torn grain.

Medium grain (Douglas fir only).

Slope of grain in middle 1/3 of length not to exceed  
1 in 10, balance of piece may be 1 in 8.

Pitch streaks.

Occasional skips 1/8" deep and 2' long  
are permitted.

Pitch pockets.

Wane 1/4 any face or equivalent slightly more for  
short distance.

Shake approximately 1/6 the thickness on end.

Knots, sound, tight and well spaced, may be present  
in the following approximate sizes:

Nominal Face Width	On Narrow Face and Edge of Wide Face in Middle 1/3 of Length	At Ends and Along Centerline of Wide Face
5"	1-7/8"	
6"	2-1/4"	
8"	2-5/8"	3"
10"	2-7/8"	3-3/4"
12"	3-1/4"	4-1/2"
14"	3-1/2"	5"
16"		5-1/4"
18"		5-5/8"

In cedar species, holes from any cause 1/2 the size of allowable knots are permitted.

Increase in knot sizes:

The sizes of knots permitted on the narrow face and at edge of wide face are the same and are determined by the width of the narrow face.

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These may be increased proportionately from the size permitted in the middle 1/3 of the length to twice that size at the ends of the piece, except that the size of no knot shall exceed the size permitted at the center of the wide face.

On wide faces, the sizes of knots are proportionate from the sizes at edges of the face to the permissible size along the centerline of the wide face.

**130-c. "STANDARD" - BEAMS and STRINGERS.**  
Graded under Para. 131-c.

**130-cc. "NO. 2 STRUCTURAL" - BEAMS and STRINGERS.** Timbers of this grade are for use in general construction where higher strength properties are not needed and where serviceability is important. Appropriate working stresses are assigned.

Characteristics and limiting provisions are:

Stained wood.

Splits, medium or equivalent end checks.

Seasoning checks.

Torn grain.

Pitch streaks.

Slope of grain 1 in 6 full length.

Skips, 1/8" deep and 2' in length or 1/16" scant full length.

Pitch or bark pockets.

Wane 1/3 of any face or equivalent, slightly more for a short distance.

Firm white specks, 1/3 width or equivalent.

Shake, 1/2 length, 1/2 thickness. If through at ends, limited as splits.

Small spots of unsound wood, well scattered, 1/6 the face width.

**BEAMS AND STRINGERS  
ALL WEST COAST SPECIES**

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Knots, sound, not firmly fixed or holes, well spaced,  
may be present in the following approximate  
sizes:

Nominal Face Width	On Narrow Face and Edge of Wide Face in Middle 1/3 of Length	At Ends and Along Centerline of Wide Face
5"	2-5/8"	
6"	3-1/4"	
8"	4-1/2"	4-1/2"
10"	5-5/8"	5-5/8"
12"	6-7/8"	6-7/8"
14"	7-1/2"	7-1/2"
16"		8-1/8"
18"		8-5/8"

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Unsound knots are limited to 1/2 the size of other knots.

Increase in knot sizes:

The size of knots permitted on the narrow face and edge of wide face are the same and are determined by the width of the narrow face. These may be increased proportionately from the size permitted in the middle 1/3 of the length to twice that size at the ends of the piece, except that the size of no knot shall exceed the size permitted at the center of the wide face.

On wide faces, the size of knots are proportionate from the sizes at the edges of the face to the permissible size along the centerline of the wide face.

**130-d. "UTILITY" - BEAMS and STRINGERS.**  
Graded under Para. 131-d.

# ALTERNATIVE BEAMS AND STRINGERS GRADES

## ALL SPECIES

5" and Thicker

Width more than 2" greater than thickness

**ALT 130.** Some manufacturers of timber products from species listed in this grade rule prefer to grade the material under the provisions of the Beams and Stringers rule of the Western Wood Products Association which is published here. There are three grades: SELECT STRUCTURAL, NO. 1, and NO. 2. All are graded full length. Knots appearing on narrow faces are limited to the same displacement as knots specified at edges of wide faces. The Select Structural, No.1 and No. 2 grades are assigned design values as shown in Table 10.

5 Pieces 5" x 5" and larger, with the width not more than 2" greater than the thickness, may be graded under this paragraph provided all faces are graded as narrow faces. Pieces so graded will have a fiber stress similar to that of the following grades. If grade stamped, they will be stamped with stamps showing only the appropriate fiber stress in bending "f."

In addition to the following specific provisions applicable to Beams and Stringers, the appropriate provisions in all other paragraphs in the rules apply. For measurement of knots, see Paragraph 201-b.

### **ALT 130-aa "DENSE SELECT STRUCTURAL" – BEAMS and STRINGERS (Douglas fir only)**

Conforms to all the grade provisions in Paragraph ALT 130-a with the additional requirement of density as defined in Paragraph 204-c.

### **ALT 130-a "SELECT STRUCTURAL" – BEAMS and STRINGERS**

Timber of this grade have very high strength properties and are of finest appearance. They are recommended for use in bridges, docks, warehouses and heavy construction of all kinds where superior strength is required. They are also recommended for exposed framing where fine appearance is demanded. Because of their size they are highly fire resistive. These timbers are graded primarily for members stressed in bending but may also be used as tension and compression members. Appropriate working stresses for all these uses are assigned to the grade.

## ALTERNATIVE BEAMS AND STRINGERS GRADES

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Characteristics and limiting provisions are:

Checks — Seasoning checks, single or opposite each other with a sum total equal to 1/4 the thickness.

Grain — Medium. See Paragraph 204-a (Douglas fir only).

Knots — Sound, tight and well-spaced, are permitted in sizes not to exceed the following or equivalent displacement: Nominal

Nominal Width	At Edge Wide Face	Centerline Wide Face
8"	1-7/8"	2"
10"	2"	2-5/8"
12"	2-1/8"	3-1/8"
14"	2-3/8"	3-3/8"
16"	2-1/2"	3-5/8"
18"	2-3/4"	3-5/8"
20"	2-7/8"	3-7/8"
22"	3"	4"
24"	3-1/8"	4-1/4"

The size of knots on wide faces may be increased proportionately from the size permitted at the edge to the size permitted at the centerline.

Pin Holes — Limited.

Pitch Streaks.

Pockets — Medium pitch pockets.

Shake — 1/6 the thickness on end.

Skips — Occasional Skips 1/16" deep, 2' in length.

Slope of Grain — 1 in 14.

Splits — Splits equal in length to 1/2 the width of the piece or equivalent of end checks.

Stain — Stained sapwood. Firm heart stain, 10% of width or equivalent.

Torn Grain — Heavy.

Wane — 1/8 of any face, or equivalent slightly more for a short distance.



## ALTERNATIVE BEAMS AND STRINGERS GRADES

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### **ALT 130-bb “DENSE NO. 1 STRUCTURAL” – BEAMS and STRINGERS (Douglas fir only)**

Conforms to all the grade provisions in Paragraph ALT 130-b with the additional requirement of density as defined in Paragraph 204-c.

### **ALT 130-b. “No. 1 STRUCTURAL” – BEAMS and STRINGERS.**

Timbers of this grade are in great demand because of their excellent strength and appearance.

In these respects they rank only slightly below the “SELECT STRUCTURAL” grade and are recommended for similar uses wherever appearance is less exacting factor but high strength is a requirement. Like the “SELECT STRUCTURAL” grade, these timbers are graded primarily for members stressed in bending, but may also be used as tension and compression members. Appropriate working stresses for all these uses are assigned the grade.

Characteristics and limiting provisions are:

Checks — Seasoning checks, single or opposite each other with a sum total equal to 1/4 the thickness.

Grain — Medium. See Paragraph 204-a (Douglas fir only).

Holes — In Cedar species, holes from any cause 1/2 the size of allowable knots are permitted.

Knots — Sound, tight and well-spaced, are permitted in sizes not to exceed the following or equivalent displacement:

## ALTERNATIVE BEAMS AND STRINGERS GRADES

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Nominal Width	At Edge Wide Face	Centerline Wide Face
8"	2-5/8"	3"
10"	2-7/8"	3-3/4"
12"	3-1/4"	4-1/2"
14"	3-1/2"	5"
16"	3-3/4"	5-1/4"
18"	3-7/8"	5-5/8"
20"	4-1/8"	5-7/8"
22"	4-3/8"	6-1/4"
24"	4-1/2"	6-1/2"

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The size of knots on wide faces may be increased proportionately from the size permitted at the edge to the size permitted at the centerline.

Pin Holes - Limited. Pitch Streaks.

Pockets — Pitch pockets.

Shake — 1/6 the thickness on end.

Skip — Occasional skips 1/8" deep, 2' in length.

Slope of Grain — 1 in 10.

Splits — Equal in length to the width of the piece or equivalent of end checks.

Stain — Stained sapwood. Firm stained heartwood.

Torn Grain—Heavy.

Wane — 1/4 of any face, or equivalent slightly more for a short distance.

## ALTERNATIVE BEAMS AND STRINGERS GRADES

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### ALT 130cc. "No. 2 STRUCTURAL – BEAMS and STRINGERS

Timbers of this grade are for use in general construction where higher strength properties are not needed and where serviceability is important. Appropriate working stresses are assigned.

Characteristics and limiting provisions are:

Checks — Seasoning checks.

Grain — Medium. See Paragraph 204-a (Douglas fir only).

Knots — Sound, not firmly fixed or holes, well-spaced, are permitted in sizes not to exceed the following or equivalent displacement:

Nominal Width	Anywhere on Wide Face
8"	4-1/2"
10"	5-5/8"
12"	6-7/8"
14"	7-1/2"
16"	8-1/8"
18"	8-5/8"
20"	9-1/8"
22"	9-1/2"
24"	10"

Unsound knots are limited to 1/2 the size of other knots.

Pitch Streaks.

Pockets — Pitch or bark pockets.

Shake — 1/2 length, 1/2 thickness. If through at ends, limited as splits. Skips — 1/8 " deep, 2' in length, or 1/16" skip full length.

Slope of Grain — 1 in 6.

Splits — Medium or equivalent end checks.

Stain — Stained wood.

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Torn Grain.

Unsound Wood — Small spots of unsound wood, well scattered,  $1/6$  the face width.

Wane —  $1/3$  of any face, or equivalent slightly more for a short distance.

White Specks — Firm,  $1/3$  width, or equivalent.

# POSTS AND TIMBERS ALL WEST COAST SPECIES

## ROUGH OR SURFACED

5" x 5" and Larger

Width not more than 2" greater than thickness

**131.** There are five grades of Posts and Timbers: "SELECT STRUCTURAL," "NO. 1 STRUCTURAL," "STANDARD," "NO. 2 STRUCTURAL" and "UTILITY." Three of these grades, "SELECT STRUCTURAL," "NO. 1 STRUCTURAL" and "NO. 2 STRUCTURAL" are stress graded with working stress values assigned. In Douglas fir, both "SELECT STRUCTURAL" and "NO. 1 STRUCTURAL" may be obtained with an additional specification for density. For design values, see Table 11, Para. 200.

5 In addition to the following specific provisions applicable to Posts and Timbers, the appropriate provisions in all other paragraphs of the rules apply. For measurement of knots, see Para. 201-d.

**131-aa. "DENSE SELECT STRUCTURAL" - POSTS and TIMBERS** (Douglas fir only). Conforms to all the grade provisions of Para. 131-a with the additional requirement of density as defined in Para. 204-c.

**131-a. "SELECT STRUCTURAL" - POSTS and TIMBERS.** Timbers of this grade have very high strength properties and are of finest appearance. They are recommended for columns, posts and struts in heavy construction such as warehouses, docks, and other large structures where superior strength is required. They are also recommended for exposed framing where fine appearance is demanded. Because of their size they are highly fire resistive. These timbers are graded primarily for compression parallel to the grain but may also be used for members stressed in tension or bending. Appropriate working stresses for these uses are assigned to the grade.

Characteristics and limiting provisions are:

Stained sapwood.

Firm heart stain - 10% of width or equivalent.

Splits equal to 3/4 the thickness or equivalent end checks.

Seasoning checks in areas at ends, single or opposite each other, are limited to a sum total of 1/2 the thickness.

## POSTS AND TIMBERS ALL WEST COAST SPECIES

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Limited pin holes.

Heavy torn grain.

Medium grain (Douglas fir only).

Slope of grain full length not to exceed 1 in 12.

Pitch streaks.

Medium pitch pocket.

Occasional skips 1/16" deep and 2' long or equivalent.

Wane approximately 1/8 of any face or equivalent slightly more for short distance.

Shake approximately 1/3 the thickness on end.

Knots are sound, tight and well spaced. They may be present anywhere in the piece in the following approximate sizes:

Nominal Width	Approx. Knot Size	Nominal Width	Approx. Knot Size
5"	1"	12"	2-3/8"
6"	1-1/4"	14"	2-1/2"
8"	1-5/8"	16"	2-3/4"
10"	2"	18"	3"

In rectangular sizes the wider face determines the size of knots. Proportionately larger knots are permitted in sizes 20" and wider or thicker.

Assigned stress values do not apply to pieces 20" and larger or 50' and longer.

**131-bb. "DENSE NO. 1 STRUCTURAL" - POSTS and TIMBERS** (Douglas fir only). Conforms to all the grade provisions of Para. 131-b with the additional requirement of density as defined in Para. 204-c.

**131-b. "NO. 1 STRUCTURAL" - POSTS and TIMBERS.** Timbers of this grade are in great demand because of their excellent strength and appearance. In these respects they rank only slightly below the "SELECT STRUCTURAL" grade and are recommended for similar uses wherever appearance is a less exacting factor but high strength is a requirement. Like the "SELECT STRUCTURAL" grade, these timbers are graded primarily for compression parallel

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to the grain but may also be used for members stressed in tension or bending. Appropriate working stresses for these uses are assigned to the grade.

Characteristics and limiting provisions are:

Stained sapwood.

Firm stained heartwood.

Short splits or equivalent end checks.

Seasoning checks in areas at ends, single or opposite each other, are limited to a sum of 1/2 the thickness.

Pin holes - limited.

Heavy torn grain.

Medium grain (Douglas fir only).

Slope of grain full length not to exceed 1 in 10.

Occasional skips 1/8" deep and 2' long or equivalent are permitted.

Pitch streaks.

Pitch pockets.

Wane approximately 1/4 of any face or equivalent slightly more for short distance.

Shake approximately 1/3 the thickness on end.

Knots are sound, tight and well spaced. They may be present anywhere in the piece in the following approximate sizes:

Nominal Width	Approx. Knot Size	Nominal Width	Approx. Knot Size
5"	1-1/2"	12"	3-3/4"
6"	1-7/8"	14"	4"
8"	2-1/2"	16"	4-1/4"
10"	3-1/8"	18"	4-1/2"

*\*In rectangular sizes 8" x 10" nominal and smaller, the wide face determines the size of knots. Larger sizes, knot size is determined for each face width.*

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In cedar species, holes from any cause  $1/2$  the size of allowable sound and tight knots are permitted.

Proportionately larger knots are permitted in sizes 20" and wider or thicker.

Assigned stress values do not apply to pieces 20" and larger or 50' and longer.

**131-c. "STANDARD" - POSTS and TIMBERS (NO. 1 MINING).** Timbers of this grade are recommended for general construction. Where they occur, the natural characteristics of lumber are so limited that each piece of this grade may be used in the form in which it is shipped.

Pieces of this grade may have:

Stained wood.

Medium splits or equivalent end checks.

Seasoning checks.

Torn grain.

Pitch streaks.

Skips  $1/8$ " deep and 2' in length or  $1/16$ " scant full length.

Pitch or bark pockets.

Wane  $1/3$  of any face or equivalent slightly more for short distance.

Firm white specks,  $1/3$  width or equivalent.

Shake,  $1/2$  length,  $1/2$  thickness. If through at ends, limited as splits.

Small spots of unsound wood, well scattered,  $1/4$  the face width.

Knots, unsound, not firmly fixed, or holes not larger than approximately  $1/2$  the width of the face.

All or nearly 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.



## POSTS AND TIMBERS ALL WEST COAST SPECIES

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**131-cc. "NO. 2 STRUCTURAL" - POSTS and TIMBERS.** Timbers of this grade are for use in general construction where higher strength properties are not needed and where serviceability is important. Appropriate working stresses are assigned.

Characteristics and limiting provisions are:

Stained wood.

Splits, medium or equivalent end checks.

Seasoning checks.

Torn grain.

Pitch streaks.

Slope of grain 1 in 6 full length.

Skips, 1/8" deep and 2' in length or 1/16" scant full length.

Pitch or bark pockets.

Wane 1/3 of any face or equivalent, slightly more for a short distance.

Firm white specks, 1/3 width or equivalent.

Shake, 1/2 length, 1/2 thickness. If through at ends, limited as splits.

Small spots of unsound wood, well scattered, 1/6 the face width.

Knots sound, not firmly fixed or holes, well spaced  
They may be present anywhere in the piece in the following approximate sizes:

Nominal Width	Approx. Knot Size	Nominal Width	Approx. Knot Size
5"	2-1/2"	12"	6"
6"	3"	14"	6-1/2"
8"	3-3/4"	16"	7"
10"	5"	18"	7-1/2"

Unsound knots are limited to 1/2 the size of other knots. In rectangular sizes the wider face determines the size of knots.

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**131-d. "UTILITY" - POSTS and TIMBERS (NO. 2 MINING)** Timbers of this grade are recommended for rough general construction. Where they occur, the natural characteristics of lumber are so limited that each piece of this grade may be used in the form in which it is shipped.

Pieces of this grade may have:

Stained wood.

Splits approximately 1/4 the length.

Seasoning checks.

Torn grain.

Pitch streaks.

Approximately 1/8" scant in both width and thickness if surfaced, or approximately 1/2" if rough.

Pitch or bark pockets.

Wane approximately 1/3 of any face.

White specks and firm honeycomb.

Shake full length if not continuous.

Unsound wood, scattered.

Knots, large, unsound or not firmly fixed, or holes from any cause, not larger than approximately 3/4 the width of the face.

All or nearly 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.

# ALTERNATIVE POSTS AND TIMBERS GRADES

## ALL SPECIES

5" x 5" and Larger

Width not more than 2" greater than thickness

**ALT 131.** Some manufacturers of timber products from species listed in this grade rule prefer to grade the material under the provisions of Posts and Timbers rule of the Western Woods Products Association which is published here. There are three grades: "SELECT STRUCTURAL", "NO. 1 STRUCTURAL", and "NO. 2 STRUCTURAL". In Douglas fir, both "SELECT STRUCTURAL" and "NO. 1 STRUCTURAL" may be obtained with an additional specification for density. For design values, See Table 11, Paragraph 200.

All are graded full length except as provided in the grade descriptions, knots appearing on narrow faces are limited to the same displacement as knots specified for the wide face.

In addition to the following specific provisions applicable to Posts and Timbers, the appropriate provisions in all other paragraphs in the rules apply. For measurement of knots, see Paragraph 201-b.

### **ALT 131-aa. "DENSE SELECT STRUCTURAL" – POSTS and TIMBERS (Douglas fir only).**

Conforms to all the grade provisions in Paragraph ALT 131-a with the additional requirement of density as defined in Paragraph 204-c.

### **ALT 131-a. "SELECT STRUCTURAL" – POSTS and TIMBERS.**

Timbers of this grade have very high strength properties and are of finest appearance. They are recommended for columns, posts, and struts in heavy construction such as warehouses, docks, and other large structures where superior strength is required. They are also recommended for exposed framing where fine appearance is demanded. Because of their size they are highly fire resistive. These timbers are graded primarily for compression parallel to the grain but may also be used for members stressed in tension or bending. Appropriate working stresses for these uses are assigned to the grade.

## ALTERNATIVE POSTS AND TIMBERS GRADES

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Characteristics and limiting provisions are:

Checks — Seasoning checks, single or opposite each other with a sum total equal to 1/2 the thickness of the piece.

Grain — Medium. See Paragraph 204-a (Douglas fir only).

Knots — Sound, tight and well-spaced. Knot size limitations are permitted in the following sizes or their equivalent displacement:

Nominal Width	Anywhere on Wide Face
5"	1"
6"	1-1/4"
8"	1-5/8"
10"	2"
12"	2-3/8"
14"	2-1/2"
16"	2-3/4"
18"	3"

Pin Holes — Limited. Pitch Streaks.

Pockets — Medium pitch pockets.

Shake — 1/3 the thickness on end.

Skip — Occasional skips 1/16" deep, 2' in length.

Slope of Grain — 1 in 12.

Splits — Splits equal in length to 3/4 the thickness of the piece or equivalent of end checks.

Stains — Stained sapwood. Firm heart stain, 10% of width or equivalent.

Torn Grain — Heavy.

Wane — 1/8 of any face, or equivalent slightly more for a short distance.

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### **ALT 131-bb. “DENSE NO. 1 STRUCTURAL” – POSTS and TIMBERS (Douglas fir only)**

Conforms to all the grade provisions in Paragraph ALT 131-b with the additional requirement of density as defined in Paragraph 204-c.

### **ALT 131-b. “NO. 1 STRUCTURAL” – POSTS and TIMBERS**

Timbers of this grade are in great demand because of their excellent strength and appearance. In these respects they rank only slightly below the “SELECT STRUCTURAL” grade and are recommended for similar uses wherever appearance is a less exacting factor but high strength is a requirement. Like the “SELECT STRUCTURAL” grade, these timbers are graded primarily for compression parallel to the grain but may also be used for members stressed in tension or bending. Appropriate working stresses for these uses are assigned to the grade.

Characteristics and limiting provisions are:

Checks — Seasoning checks, single or opposite each other with a sum total equal to 1/2 the thickness.

Grain — Medium. See Paragraph 204-a (Douglas fir only).

Holes — In Cedar species, holes from any cause 1/2 the allowable knot size are permitted.

Knots — Sound, tight and well-spaced. Knot size limitations are permitted in the following sizes or their equivalent displacement:

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Nominal Width	Anywhere on Wide Face
5"	1-1/2"
6"	1-7/8"
8"	2-1/2"
10"	3-1/8"
12"	3-3/4"
14"	4"
16"	4-1/4"
18"	4-1/2"

Pin Holes — Limited.

Pitch Streaks.

Pockets — Pitch pockets.

Shake — 1/3 the thickness on end.

Skip — Occasional skips 1/8" deep, 2' in length.

Slope of Grain — 1 in 10.

Split — Splits equal in length to width of the piece or equivalent of end checks.

Stain — Stained sapwood. Firm stained heartwood.

Torn Grain — Heavy.

Wane — 1/4 of any face or equivalent slightly more for a short distance.

## ALTERNATIVE POSTS AND TIMBERS GRADES

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### ALT 131-cc. "NO. 2 STRUCTURAL" – POSTS and TIMBERS

Timbers of this grade are for use in general construction where higher strength properties are not needed and where serviceability is important. Appropriate working stresses are assigned.

Characteristics and limiting provisions are:

Checks — Seasoning checks.

Grain — Medium. See Paragraph 204-a (Douglas fir only).

Knots — Sound, not firmly fixed, or holes, well-spaced. Knot size limitations are permitted in the following sizes or their equivalent displacement:

Nominal Width	Anywhere on Wide Face
5"	2-1/2"
6"	3"
8"	3-3/4"
10"	5"
12"	6"
14"	6-1/2"
16"	7"
18"	7-1/2"

Unsound knots are limited to 1/2 the size of other knots.

Pitch Streaks.

Pockets — Pitch or bark pockets.

Shake — 1/2 length, 1/2 thickness. If through at ends, limited as splits. Skips — 1/8" deep, 2' in length, or 1/16" skip full length.

Slope of Grain — 1 in 6.

Splits — Medium or equivalent end checks.

Stain — Stained wood.

## ALTERNATIVE POSTS AND TIMBERS GRADES

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Torn Grain.

Unsound Wood — Small spots of unsound wood, well scattered,  $\frac{1}{6}$  the face width.

Wane —  $\frac{1}{3}$  of any face, or equivalent slightly more for a short distance.

White Speck — Firm white specks,  $\frac{1}{3}$  width or equivalent.