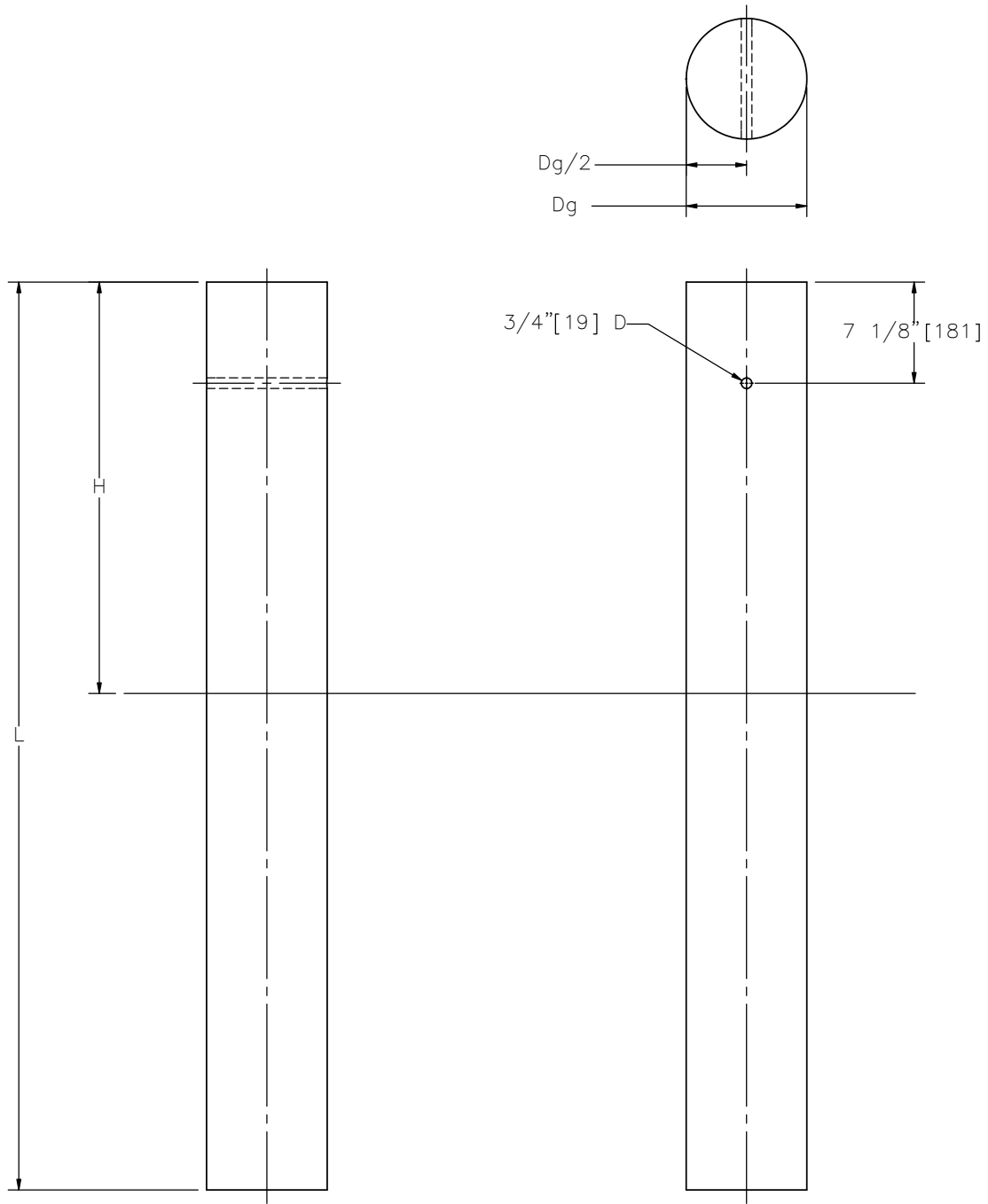


Designator	System	Wood Type	Minimum Groundline Diameter, $D_g$	Maximum Groundline Diameter, $D_g$	Length, L	Post Height, H
PDE21	SGR04e	Ponderosa Pine	8 1/2" [216]	9" [229]	64" [1626]	29" [737]
PDE22	SGR04d	Ponderosa Pine	8 5/8" [219]	9 1/8" [232]	65" [1651]	28 3/4" [730]



ROUND POST FOR G4(2W) GUARDRAIL SYSTEM



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## SPECIFICATIONS

The Ponderosa Pine (PP) round post is for use in G4(2W) W-beam guardrail systems and shall be manufactured of material that conforms to the guidelines shown below.

### General:

All posts shall meet the current quality requirements of the American National Standards Institute (ANSI) 05.1, Wood Poles, except as supplemented herein:

### Manufacture:

All posts shall be smooth-shaved by machine. No ringing of the posts, as caused by improperly adjusted peeling machine, is permitted. All outer and inner bark shall be removed during the shaving process. All knots and knobs shall be trimmed smooth and flush with the surface of the posts. The use of peeler cores is prohibited. See the table on Sheet 1 for diameters and lengths.

### Groundline:

The groundline, for the purpose of applying these restrictions of ANSI 05.1 that reference the groundline, shall be defined as being located 35" [889] and 36" [914] from the butt end of each post for PDE21 and PDE22, respectively.

### Size:

The size of the posts shall be classified based on their diameter at the groundline and their length. The groundline diameter shall be specified by diameter in 1/8" [3] breaks. The length shall be specified in 1" [25] breaks. Dimension shall apply to fully seasoned posts. When measured between their extreme ends, the post shall be no shorter than the specified lengths but may be up to 3" [76] longer. See the table on Sheet 1 for minimum and maximum diameters.

### Scars:

Scars are permitted in the middle third as defined in ANSI 05.1, provided that the depth of the trimmed scar is not more than 1" [25].

### Shape and Straightness:

All PP timber posts shall be nominally round in cross section. A straight line drawn from the centerline of the top to the center of the butt of any post shall not deviate from the centerline of the post more than 1 1/4" [32] at any point. Posts shall be free from reverse bends.

### Splits, Checks, and Shakes:

Splits or ring shakes are not permitted in the top two thirds of the post. Checks are not permitted in the top two thirds of the post if wider than one third of the diameter if dry and wider than three eighths of the diameter if not dry. Splits exceeding the diameter in length are not permitted in the bottom one third of the post. A shake or check is permitted in the bottom one third of the post as long as it is not wider than one half of the butt diameter. (Note - check size is determined as the average measured penetration over its length.)

### Knots:

Knot diameter for Ponderosa Pine posts shall be limited to 3 1/2" [89] or smaller.

### Treatment:

Treating - American Wood-Preservers' Association (AWPA) - Book of Standards (BOS) U1-05. Use category system UCS: user specification for treated wood; commodity specification B; Posts; Wood for Highway Construction must be met using the methods outlined in AWPA BOS T1-05 Section 8.2. Each treated post shall have a minimum sapwood depth of 3/4" [19], as determined by examination of the tops and butts of each post. Material that has been air dried or kiln dried shall be inspected for moisture content in accordance with AWPA standard M2 prior to treatment. Tests of representative pieces shall be conducted. The lot shall be considered acceptable when the average moisture content does not exceed 25 percent. Pieces exceeding 29 percent moisture content shall be rejected and removed from the lot.

### Decay:

Allowed in knots only.

### Holes:

Pin holes 1/16" [1] or less are not restricted.

### Slope of Grain:

1 in 10.

### Compression Wood:

Not allowed in the outer 1" [25] or if exceeding one quarter of the radius.

### Ring Density:

Ring density shall be at least 6 rings-per-inch, as measured over a 3" [76] distance.

## ROUND POST FOR G4(2W) GUARDRAIL SYSTEM



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The posts shall have cross sectional properties as shown below:

Component	Post Material	Groundline Diameter, Dg	Area	I <sub>x</sub>	I <sub>y</sub>	S <sub>x</sub>	S <sub>y</sub>
		in. [mm]	in. <sup>2</sup> [10 <sup>3</sup> mm <sup>2</sup> ]	in. <sup>4</sup> [10 <sup>6</sup> mm <sup>4</sup> ]	in. <sup>4</sup> [10 <sup>6</sup> mm <sup>4</sup> ]	in. <sup>3</sup> [10 <sup>3</sup> mm <sup>3</sup> ]	in. <sup>3</sup> [10 <sup>3</sup> mm <sup>3</sup> ]
PDE21	Ponderosa	8 1/2	56.7	256.2	256.2	60.3	60.3
	Pine	[216]	[36.6]	[106.7]	[106.7]	[988]	[988]
PDE22	Ponderosa	8 5/8	58.4	271.6	271.6	63.0	63.0
	Pine	[219]	[37.7]	[113.1]	[113.1]	[1032]	[1032]

Dimensional tolerances not shown or implied are intended to be those consistent with the proper functioning of the part, including its appearance and accepted manufacturing practices.

### INTENDED USE

This Ponderosa Pine round post may be used in the G4(2W) Guardrail System (SGR04d or SGR04e). The PDE21 round post is used with the PDB23 timber block. The PDE22 round post is used with the PDB24 timber block. The round post (PDE21 and PDE22) and the timber block (PDB23 and PDB24) are attached to the RMW02a guardrail using a FBB04 guardrail bolt and nut with a FWC16a washer under the nut.

### CONTACT INFORMATION

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## ROUND POST FOR G4(2W) GUARDRAIL SYSTEM



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