



The genus *Abies* (True Firs) is composed of about 40 species native to North America [9], Central America [7], Africa [2], Europe [1] and Eurasia [25]. *Abies* is the classical Latin name of silver fir (*Abies alba* Mill.) of Europe. The word *procera* means tall.

Other Common Names: Abeto blanco americano, Amerikaanse nobel-den, amerikansk adel-gran, bracted fir, bracted red fir, California red fir, feather-cone fir, feather-coned red fir, kaskadgran, noble fir, noble red fir, red fir, sapin noble d'Amerique, tuck-tuck, white fir.

Distribution: Noble fir is native to the Cascade Mountains and high peaks of the Coast Range (3,000 to 5,000 feet) from western Washington through western Oregon to northwest California.

The Tree: Noble fir trees reach heights of 175 feet, with diameters of 5 feet. A record tree was 278 feet tall with a diameter of 9 feet.

General Wood Characteristics: The wood of Noble fir ranges from nearly white to reddish brown. The sapwood is indistinguishable from the heartwood. It has a medium to coarse texture and is generally straight grained. It is easy to work and is dimensionally stable when dried. It is moderate to moderately low in strength, stiffness, shock resistance and in nail withdrawal resistance. It dries easily, but may have problems with wetwood, a bacterial infection. It has good paint holding ability and is easily glued. The heartwood is not durable and is considered difficult to penetrate with preservatives.

Mechanical Properties (2-inch standard)

	Specific gravity	MOE x10 ⁶ lbf/in ²	MOR lbf/in ²	Compression		WML ^a in-lbf/in ³	Hardness lbf	Shear lbf/in ²
				Parallel lbf/in ²	Perpendicular lbf/in ²			
Green	0.37	1.38	6200	3010	270	6.0	290	800
Dry	0.40	1.72	10700	6100	520	8.8	410	1050

^aWML = Work to maximum load.
Reference (56).

Drying and Shrinkage

Type of shrinkage	Percentage of shrinkage (green to final moisture content)		
	0% MC	6% MC	20% MC
Tangential	8.3	6.6	2.7
Radial	4.3	3.6	1.5
Volumetric	12.4	11.0	4.6

References: (185, 56, 192).

Kiln Drying Schedules^a

Conventional temperature/moisture content-controlled schedules^a

4/4, 5/4	6/4	8/4	10/4	12/4	British schedule
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Condition	stock	stock	stock	stock	stock	4/4 stock
Standard	T12-A5	T11-A4	T10-A3	T5-A2	T5-A2	L

^aReference (28, 185, 74).

Conventional temperature/time-controlled schedules^a

Condition	Lower grades			Upper grades			
	4/4, 5/4 stock	6/4 stock	8/4 stock	4/4, 5/4 stock	6/4 stock	8/4 stock	12/4, 16/4 stock
Standard	291	291	291	294	294	294	288

^aReferences (28, 185).

High temperature^a

Condition	4/4, 5/4 stock	6/4 stock	8/4 stock	Other products
Standard	400	400	400	NA

^aReferences (28, 184).

Working Properties: Noble fir is easy to work, is moderately low in nail withdrawal resistance, is good in paint holding properties and is easily glued.

Durability: It is rated as slightly or nonresistant to heartwood decay.

Preservation: Noble fir is resistant to preservative treatment (6).

Uses: Lumber, plywood, pulp for paper, framing, sheathing, subflooring, concrete forms, decking, planking, beams, posts, siding, paneling, millwork, prefabricated buildings and structural members, industrial crating and shook, furniture parts, mobile homes, fresh fruit and vegetable containers.

Toxicity: In other species of fir, the fresh wood may cause contact dermatitis (5, 9 & 14)

Additional Reading and References Cited (in parentheses)

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Abbreviations