



**Arbutus spp.**

**Family: Ericaceae**

**Madrone**

The genus *Arbutus* contains about 15 species with 5 in North America and about 10 in Europe and western Asia.

*Arbutus arizonica*-**Arizona Madrone** Arizona Madrono, Madrona

*Arbutus menziesii*\*-Arbuti Tree, Coast Madrone, Laurel, Laurelwood, Madrona, Madrona Burr, Madrone, Madrone Laurel, Madrone Tree, Madrono, Madrona, Manzanita, **Pacific Madrone**, Strawberry-tree

*Arbutus texana*-Laurel, Madrona, Madrone, Madrone Tree, Manzanita, **Texas Madrone**, Texas Madrono

*Arbutus unedo*-**Strawberry Tree** (Europe)

\*commercial species

The following data is for *Arbutus menziesii*:

**Distribution**

Southwestern British Columbia and southward through Washington, Oregon and California in the coastal mountains.

**The Tree**

Pacific Madrone grows to 80 feet tall, with diameters of 2 to 3 feet. It has orange branches with shiny leaves, small white flowers in clusters and orange red fruits.

**The Wood**

**General**

Pacific Madrone sapwood is a pinkish-cream color, while the heartwood is light pink to red-brown with patches of deep red. It resembles fruit woods in color and texture.

**Mechanical Properties (2-inch standard)**

|       | Specific gravity | MOE<br>x10 <sup>6</sup> lbf/in <sup>2</sup> | MOR<br>lbf/in <sup>2</sup> | Compression                     |                                      | WML <sup>a</sup><br>in-lbf/in <sup>3</sup> | Hardness<br>lbf | Shear<br>lbf/in <sup>2</sup> |
|-------|------------------|---|----------------------------|---------------------------------|--------------------------------------|--|-----------------|------------------------------|
|       |                  |   |                            | Parallel<br>lbf/in <sup>2</sup> | Perpendicular<br>lbf/in <sup>2</sup> |  |                 |                              |
| Green | 0.58             | 0.88  | 7,600                      | 3,320                           | 780                                  | 11.2                                       | 940             | 1,420                        |
| Dry   | 0.65             | 1.23  | 10,400                     | 6,880                           | 1,620                                | 8.8  | 1,460           | 1,810                        |

<sup>a</sup>WML = Work to maximum load.  
Reference (9).

## Drying and Shrinkage

| Type of shrinkage | Percentage of shrinkage<br>(green to final moisture content) |       |        |
|-------------------|--|-------|--------|
|                   | 0% MC  | 6% MC | 20% MC |
| Tangential        | 12.4   | 9.9   | 4.1    |
| Radial            | 5.6  | 4.5   | 1.9    |
| Volumetric        | 18.1   | 14.5  | 6.0    |

Reference (17)  
Pacific Madrone is difficult to season, as it warps and checks easily. Schedules for drying the wood green from the saw have been published (6 & 18). Smith (16) suggests air drying followed by kiln drying.

## Kiln Drying Schedules<sup>a</sup>

| Condition | Stock         |       |      |      |      |
|-----------|---------------|-------|------|------|------|
|           | 4/4, 5/4, 6/4 | 8/4   | 10/4 | 12/4 | 16/4 |
| Standard  | T4-B2         | T3-B1 | –    | –    | –    |

<sup>a</sup>References (2,15).

**Working Properties:** Pacific Madrone works well with all tools and polishes well, but is not easily glued. The wood is easily worked with tools and compares with hard maple and eastern white oak in ease of machining (3). Work at FPL (14) indicates that rotary cutting of veneer is feasible.

**Durability:** The wood is not very durable, fence posts had an average service life of 6 years on the untreated condition (7).

**Preservation:** No information available at this time.

**Uses:** Turnery, bowls, novelties, souvenirs, tool handles, mathematical instruments, furniture and bowls. Burls are used for pipes and decorative veneers. Charcoal for gunpowder.

**Toxicity:** No information available at this time.

## Additional Reading and References Cited (in parentheses)

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