8. EASTERN WHITE PINE (*Pinus strobus* L.)

Sapwood: nearly white to pale yellowish white
Heartwood: distinct, light brown to reddish brown, darkening with age
Odour: piney
Basic Specific Gravity: 0.36
Earlywood/Latewood Transition: gradual, latewood band narrow and distinct
Texture: average 25-35 μm
Resin Canals: large, numerous, mostly solitary, evenly distributed
Cross-Field Pitting: fenestriform
Ray Tracheids: smooth walled, marginal and interspersed
Epithelial Cells: thin walled

11. RED PINE (*Pinus resinosa* Ait.)

Sapwood: white to yellowish
Heartwood: distinct, light red to orange or reddish-brown
Odour: piney
Basic Specific Gravity: 0.39
Earlywood/Latewood Transition: more or less abrupt, latewood band distinct
Texture: average 30-40 μm
Resin Canals: medium, numerous, mostly solitary, evenly distributed
Cross-Field Pitting: fenestriform
Ray Tracheids: shallowly dentate, marginal and intersprsed
Epithelial Cells: thin walled

36. JACK PINE (*Pinus banksiana* Lamb.)

Sapwood: nearly white
Heartwood: light orange to light brown
Odour: piney
Basic Specific Gravity: 0.42
Earlywood/Latewood Transition: abrupt, latewood band distinct
Texture: average 27-37 μm
Resin Canals: medium, numerous, mostly solitary, evenly distributed
Dimpling: sometimes present on split tangential surface, often prominent when present
Cross-Field Pitting: pinoid
Ray Tracheids: shallowly dentate, marginal, low rays frequently entirely ray tracheids
Epithelial Cells: thin walled

16. SOUTHERN YELLOW PINE

Sapwood: nearly white to yellowish
Heartwood: distinct, orange to reddish brown
Odour: piney
Basic Specific Gravity: 0.45 to 0.56
Earlywood/Latewood Transition: abrupt, latewood band very distinct
Texture: average 35-45 μm
Resin Canals: large, numerous, mostly solitary, evenly distributed
Cross-Field Pitting: pinoid
Ray Tracheids: prominently dentate, marginal and interspersed
Epithelial Cells: thin walled

32. EASTERN SPRUCE (includes *Picea mariana* and *Picea glauca*)

Sapwood: nearly white to pale yellowish brown, lustrous
Heartwood: indistinct from sapwood
Odour: none
Basic Specific Gravity: 0.38
Earlywood/Latewood Transition: gradual, latewood band distinct
Texture: average 25-30 μm
Resin Canals: small, relatively few, variable in distribution, solitary or up to several in tangential groups
Cross-Field Pitting: piceoid
Ray Tracheids: smooth walled, marginal
Epithelial Cells: thick walled
Fusiform Rays: 2-3 seriate

7. SITKA SPRUCE (*Picea sitchensis* (Bong.) Carr.)

Sapwood: creamy white to light yellow, grading into darker heartwood, lustrous
Heartwood: light pinkish yellow to medium pinkish brown, lustrous
Odour: none
Basic Specific Gravity: 0.34
Earlywood/Latewood Transition: gradual, latewood band somewhat indistinct
Texture: average 35-45 μm
Resin Canals: medium, sparse to numerous, variable in distribution, solitary or up to several in tangential groups
Dimpling: frequent dimpling on tangential surface, but not prominent
Cross-Field Pitting: piceoid
Ray Tracheids: smooth walled, marginal
Epithelial Cells: thick walled
Fusiform Rays: 3-5 seriate

37. DOUGLAS-FIR (*Pseudotsuga menziesii* (Mirb.) Franco)

Sapwood: pale yellowish to reddish white
Heartwood: pale reddish yellow to orange-red to deep red
Odour: characteristic, unique
Basic Specific Gravity: 0.45
Earlywood/Latewood Transition: generally abrupt, latewood band distinct
Texture: average 35-45 μm
Resin Canals: medium to small, relatively few and variable in distribution, solitary or up to several in tangential groups
Cross-Field Pitting: piceoid
Ray Tracheids: nondentate, marginal and rarely interspersed
Epithelial Cells: thick walled
Spiral Thickening: present
Note: wavy growth rings are present in slow grown trees

43. TAMARACK (*Larix laricina* (DuRoi) K. Koch)

Sapwood: whitish
Heartwood: distinct, yellowish to olive-brown to russet
Odour: none
Basic Specific Gravity: 0.49, tough to cut
Earlywood/Latewood Transition: abrupt
Texture: average 28-35 μm
Resin Canals: small, relatively few and variable in distribution, solitary or up to several in tangential groups
Cross-Field Pitting: piceoid
Ray Tracheids: nondentate, marginal and rarely interspersed
Epithelial Cells: thick walled

14. EASTERN RED CEDAR (*Juniperus virginiana* L.)

Sapwood: nearly white, narrow
Heartwood: very distinct, purplish red aging to reddish brown
Odour: "cedar-chest" or "hampster-cage wood-shavings" odour
Basic Specific Gravity: 0.44
Earlywood/Latewood Transition: gradual to quite abrupt, narrow band of latewood
Texture: average 15-20 μm
Resin Canals: absent
Cross-Field Pitting: cupressoid
Ray Tracheids: absent
Ray Parenchyma End Walls: nodular

33. EASTERN WHITE CEDAR (*Thuja occidentalis* L.)

Sapwood: nearly white, narrow
Heartwood: more or less distinct, light to medium straw brown
Odour: mild cedary odour (elusive)
Basic Specific Gravity: 0.30
Earlywood/Latewood Transition: more or less gradual, latewood band not distinct
Texture: average 20-30 μm
Resin Canals: absent
Cross-Field Pitting: taxodioid
Ray Tracheids: absent
Ray Parenchyma End Walls: smooth
Bordered Pits: very rarely paired on radial walls

6. WESTERN RED CEDAR (*Thuja plicata* Donn)

Sapwood: nearly white, narrow
Heartwood: distinct, reddish or pinkish brown to dull brown
Odour: sweet cedary odour (often strong)
Basic Specific Gravity: 0.31
Earlywood/Latewood Transition: more or less abrupt, latewood band not distinct
Texture: average 30-40 μm
Resin Canals: absent
Cross-Field Pitting: taxodioid
Ray Tracheids: usually absent, form a more or less continuous marginal row when present
Ray Parenchyma End Walls: smooth
Bordered Pits: often paired on radial walls

2. YELLOW CYPRESS (*Chamaecyparis nootkatensis* (D. Don) Spach))

Sapwood: nearly white to yellowish white, very narrow
Heartwood: bright clear yellow, darkening upon exposure, no distinct figure
Odour: distinct, like raw potatoes
Basic Specific Gravity: 0.42
Earlywood/Latewood Transition: more or less abrupt, latewood zone narrow and indistinct
Texture: average 25-35 μm
Resin Canals: absent
Cross-Field Pitting: cupressoid
Ray Tracheids: low rays frequently made up entirely of ray tracheids, other rays made up entirely of ray parenchyma
Ray Parenchyma End Walls: smooth or fairly nodular

38. EASTERN HEMLOCK (*Tsuga canadensis* (L.) Carr.)

Sapwood: buff to light brown
Heartwood: indistinct
Odour: absent
Basic Specific Gravity: 0.40
Earlywood/Latewood Transition: fairly abrupt to gradual
Texture: average 28-40 μm
Resin Canals: absent
Cross-Field Pitting: piceoid/cupressoid
Ray Tracheids: often very narrow and inconspicuous
Ray Parenchyma End Walls: nodular
Note: latewood very tough to cut

41. WESTERN HEMLOCK (*Tsuga heterophylla* (Raf.) Sarg.)

Sapwood: whitish to light yellowish brown, lustrous
Heartwood: indistinct
Odour: absent
Basic Specific Gravity: 0.41
Earlywood/Latewood Transition: usually gradual
Texture: average 30-40 μm
Resin Canals: absent
Cross-Field Pitting: pieoid/cupressoid
Ray Tracheids: usually very narrow and inconspicuous
Ray Parenchyma End Walls: nodular

34. BALSAM FIR (*Abies balsamea* (L.) Mill.)

Sapwood: whitish to creamy white or pale brown
Heartwood: indistinct
Odour: absent
Basic Specific Gravity: 0.34
Earlywood/Latewood Transition: gradual
Texture: average 30-40 μm
Resin Canals: absent
Cross-Field Pitting: taxodioid
Ray Tracheids: absent
Ray Parenchyma End Walls: nodular
Note: sometimes with salty taste

17. BALDCYPRESS (*Taxodium distichum* (L.) Rich.)

Sapwood: pale yellowish white
Heartwood: yellowish to light or dark brown, reddish brown, or almost black
Odour: absent
Basic Specific Gravity: 0.42
Feel: slightly greasy
Earlywood/Latewood Transition: abrupt; earlywood medium yellow brown, latewood amber to dark brown, growth ring width variable
Texture: average 45-60 μm
Resin Canals: absent
Cross-Field Pitting: cupressoid/taxodioid
Ray Tracheids: absent
Ray Parenchyma End Walls: smooth
Bordered Pits: occasionally 3+ across on radial walls
Longitudinal Parenchyma: abundant, diffuse, end walls strongly nodular, visible with lens on split longitudinal surfaces

24. REDWOOD (*Sequoia sempervirens* (D. Donn) Endl.)

Sapwood: nearly white, narrow
Heartwood: clear light red to deep reddish brown, distinct
Odour: absent
Basic Specific Gravity: 0.38
Earlywood/Latewood Transition: abrupt
Texture: average 50-65 μm
Resin Canals: absent
Cross-Field Pitting: taxodioid (large)
Ray Tracheids: absent
Ray Parenchyma End Walls: usually smooth
Bordered Pits: occasionally 3+ across on radial walls
Longitudinal Parenchyma: abundant, diffuse, end walls usually smooth, visible with lens on split longitudinal surfaces