Urban Wood: Species Characteristics

Ed Thomas
USDA Forest Service
Forest Products Laboratory
Hard Maple

- Includes sugar and black maple.
- Fine uniform texture.
- Heavy, hard, strong, resistant to shock.
- High shrinkage rate.
- Commonly used in furniture, veneer, flooring, cabinets, cutting boards, pianos, novelties, and bowling allies.
- Not decay resistant.
Soft Maple

- Includes red maple, silver maple, and box elder.
- Heartwood and sapwood similar in appearance to hard maple. But not as heavy hard or strong.
- Commonly used to make railroad crossties, pallets, crates, furniture, veneer, and novelties.
- Not decay resistant.
Elm

- Includes American, slippery, and rock elms.

- Dutch Elm and phloem necrosis has killed hundreds of thousands of trees.

- Historically, elm was used for boxes, baskets, crates, furniture, ag. supplies, caskets, and vehicle wood components.

- Hard elms (rock) preferred where strength is needed.
Buckeye (Horse Chestnut)

- Includes yellow and Ohio buckeye.
- Wood is soft, straight-grained, light weight, and low in shock resistance.
- Poor machining characteristics (gets fuzzy)
- Very low decay resistance.
- Suitable for pulping for paper, furniture, boxes, crates, and novelties.
White Ash

- Includes American white ash and green ash.
- Brown heartwood with nearly white sapwood.
- Wood is heavy, hard, stiff, and highly resistant to shock.
- Primarily used in tool handles, bats, oars, veneer, cabinets, and furniture.
- Not decay or insect resistant.
Black Ash

- Wood is lighter in weight compared to white ash and not as strong.

- Heartwood is darker brown than white ash and sapwood is nearly white.

- Not decay or insect resistant.

- Machines, glues and stains well.

- Commonly used for flooring, millwork, boxes/crates, baseball bats, and tool handles.
Birch

- Includes yellow birch, sweet birch, and paper birch.
- High shrinkage rate.
- Paper birch not as strong as yellow or sweet birch.
- Yellow & sweet commonly used for furniture, cooperage, moulding, doors, cabinets, and aircraft.
- Paper commonly used for toothpicks, ice cream sticks, tongue depressors, small handles and toys.
Red Oaks

- Includes northern red, southern red, black, and pin oaks.
- Heartwood is brown to reddish in color.
- Northern oaks more valuable than southern oaks due to slower growth.
- Poor insect decay resistance
- Common uses, furniture, flooring, veneer, millwork, boxes, & caskets.
White Oaks

- Includes white oak, chestnut oak.
- Impenetrable to liquids commonly used in cooperage.
- Highly decay resistant.
- Other common uses are flooring, furniture, rail cars, boats, veneer.