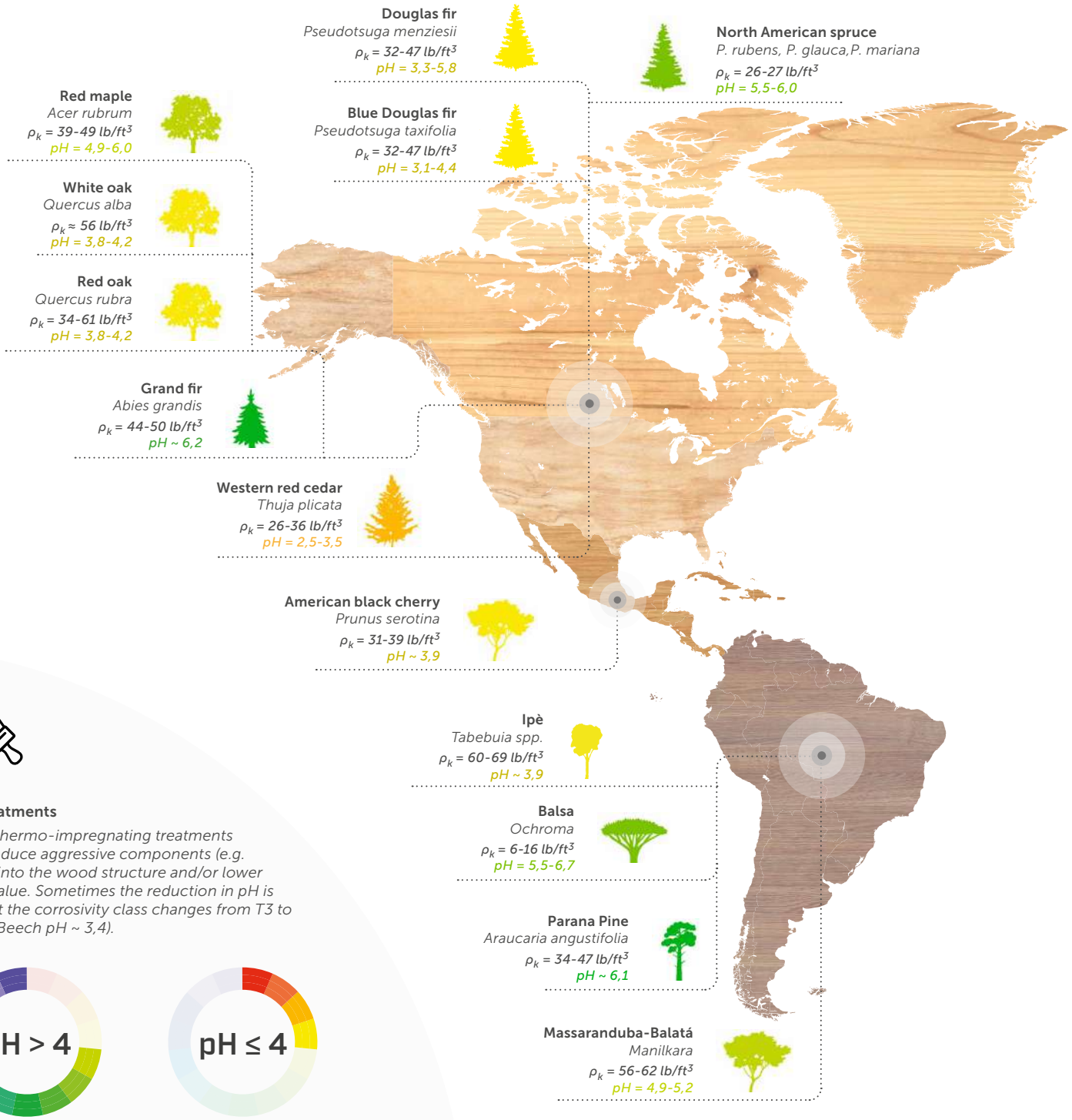
WOOD SPECIES | pH and density

Each wood species has unique characteristics that influence its stability and strength to weathering, mould, fungus and pests. Where the density of the material is such that the functionality of the connector is compromised (ρ_k > 31 lb/ft^3), pre-drilling is required prior to screwing. The limiting density depends on the type of connector chosen.

The pH of each wood is an indication of the presence of acetic acid, a corrosive agent for various types of metal in contact with wood, especially when the latter is in exposure condition EC3. The classification of wood for average moisture contents between 16 and 20% timber corrosivity classes T3 or T4 and consequently the type of connectors to be used depends on the pH value.

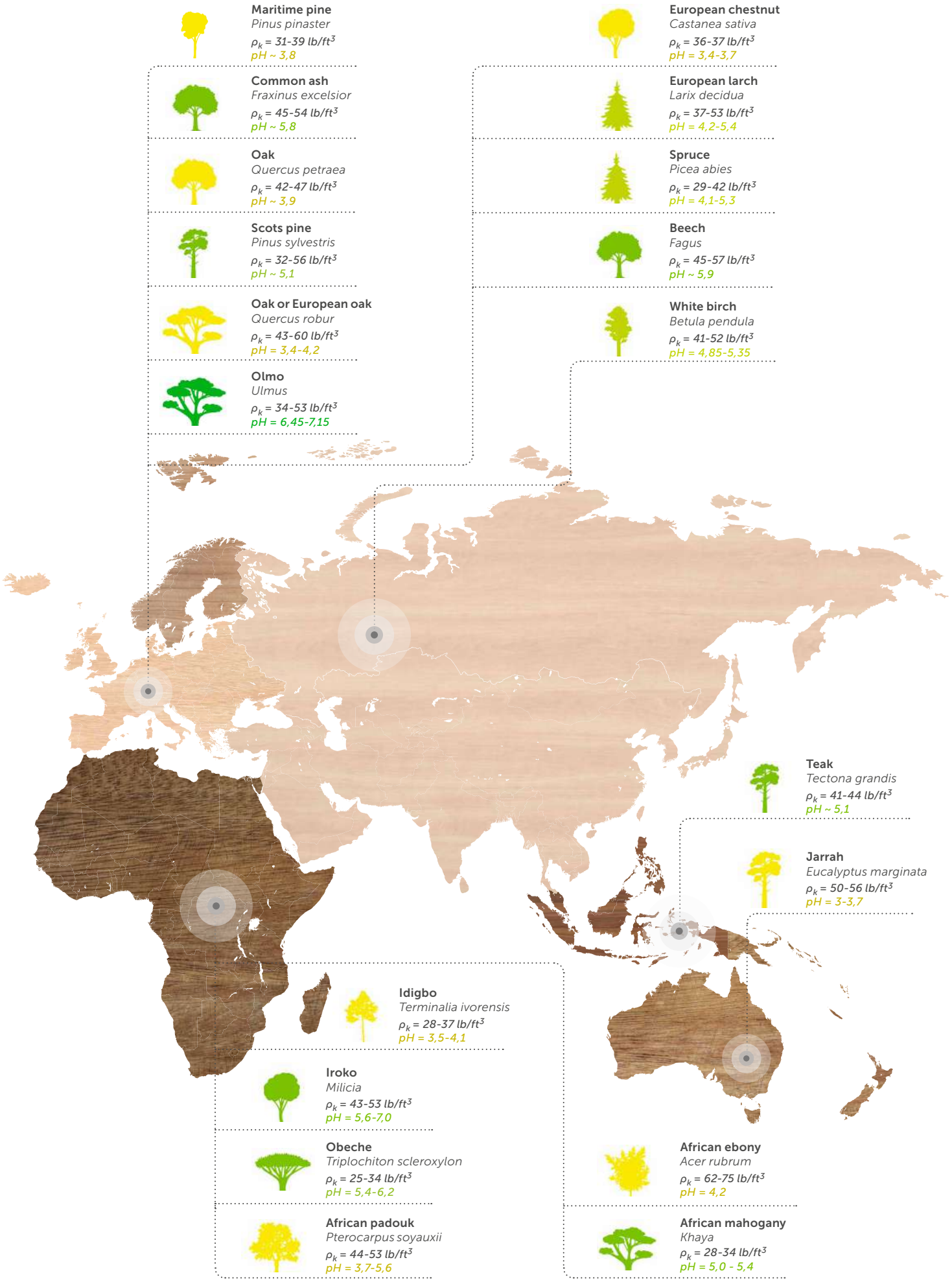


Heat treatments

Heat or thermo-impregnating treatments can introduce aggressive components (e.g. copper) into the wood structure and/or lower the pH value. Sometimes the reduction in pH is such that the corrosivity class changes from T3 to T4. (e.g. Beech pH ~ 3,4).

"standard" timbers low acidity

"aggressive" woods high acidity



Density and pH taken from: "Wagenführ R; Wagenführ A. Holzatlas (2022)" and from "Canadian Conservation Institute Jean Tetreault, Coatings for Display and Storage in Museums (January 1999)".