



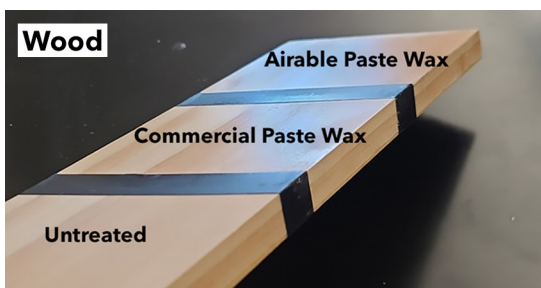
## Paste Wax

Airable Research Lab has synthesized a soy-based wax that can replace carnauba wax in formulations. Carnauba wax is sourced from the carnauba palm tree, which grows only in Brazil. Carnauba has useful properties such as a high melting point, UV ray protection, water resistance, and extreme density, making this source material popular across multiple industries. However, today's supply chain issues encourage the use of local sources. In addition, harvesting and transporting the raw material has a history of environmental and social implications within Brazil. Furthermore, the very density that makes the raw material attractive also necessitates that synthetic chemicals (usually petroleum-based) be added to form a wax paste that can be easily applied.

With these challenges in mind, the Airable team produced a bio-based, locally and ethically sourced wax to replace carnauba wax. The Airable product can be used for home DIY products and industrial applications.

### THE TECHNOLOGY

Soybean oil is functionalized to increase its molecular weight, melting point, and crystallinity, yielding a soy-based wax. The wax can then be formulated into a usable product that provides a durable, water-repellant wax coating that can be polished into a glossy finish. Airable has developed and demonstrated final products that are derived largely from biological substances, with a composition of over 90% plant oils on a solids basis.



Left: A wood plank was treated with the Airable paste wax and a commercial product. Right: Two strips of leather treated with Airable paste wax (clear and black dyed polish) are shown against a background of untreated leather.

### BENEFITS

- Free of carnauba wax
- Free of petroleum-based paraffins
- Bio-based
- Hard
- Durable
- High-melting
- Water-repellant
- Raw materials sourced within the United States

Gloss is measured by projecting light onto a surface and measuring how much light is reflected at an equal but opposite angle. Surface gloss can be influenced by several factors, including the smoothness achieved during polishing.

