

Sonowood Maple (*Acer Pseudoplatanus*)

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|--|-----------------------------|
| Density [kg/m ³] | 1'200 – 1'400 |
| Brinell Hardness ^{a)} [N/mm ²] | > 80 |
| Colour | Mocha |
| Dimensional Stability (Diff. swelling [% per % moisture content change]) | Height ~ 0.7 Width ~ 0.3 |
| Sound Velocity ^{b)} [m/s] | > 4'400 |
| Damping (Log. decrement) | ~ 0.053 |
| Elastic Modulus ^{c)} [N/mm ²] | > 23'000 |

Sonowood Spruce (*Picea Abies*)

| | |
|--|-------------------------------|
| Density [kg/m ³] | 1'300 – 1'400 |
| Brinell Hardness ^{a)} [N/mm ²] | > 100 |
| Colour | Caramel |
| Dimensional Stability (Diff. swelling [% per % moisture content change]) | Height ~ 0.75 Width ~ 0.33 |
| Sound Velocity ^{b)} [m/s] | > 5'500 |
| Damping (Log. Dekrement) | ~ 0.04 |
| Elastic Modulus ^{c)} [N/mm ²] | > 39'000 |

Comparison values of Ebony

| | |
|---|---------------|
| Density [kg/m ³] | 1'100 – 1'200 |
| Brinell Hardness ^{a)} [N/mm ²] | ~ 84 |
| Sound Velocity ^{b)} [m/s] | ~ 4'500 |

a) perpendicular to grain direction b) in grain direction
c) determined via sound velocity

swiss **wood** solutions

Swiss Wood Solutions was founded in 2016 as a spin-off from ETH Zurich and Empa. Our interdisciplinary team of scientists and wood technologists have developed novel wood modification technologies to improve domestic woods in their properties, thus meeting contemporary as well as future needs.

In the musical instrument market, we offer the innovative product **Sonowood** from sustainable sources to substitute endangered tropical woods. **Sonowood** matches the favourable properties of tropical woods and even outperforms them in terms of hardness and sound quality.

We thank our project partner Wilhelm Geigenbau AG, the Gebert Rüt foundation and the EU research and innovation programme Horizon 2020 for their valuable support in development and marketing of **Sonowood**.

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Sonowood

Overexploitation of tropical woods has led to the need for an alternative wood material with competitive properties. Swiss wood solutions has developed a completely sustainable substitute: **Sonowood**.

In a two-step physicochemical process, various domestic woods such as spruce, maple and others are modified.

Sonowood offers a range of **advantages** and is suited ideally for the manufacturing of musical instruments:

- natural wood (no composite)
- high density
- high hardness
- dimensional stability
- good processability
- scratch resistance
- **superior sound characteristics**
(high sound velocity, low damping)
- sustainable production
- no trade and travel restrictions
- various wood species



Violin with the full set of Sonowood Maple (fingerboard, pegs, tailpiece and chin rest).

Our product range

Our current **Sonowood** products are made of maple and spruce. Products from maple feature a mocha colour, whereas spruce is available in caramel.

Fingerboards: Currently, we offer square timbers for manufacturing of violin, viola and cello fingerboards in maple and spruce.

Pegs: Square timbers for pegs are provided for violin, viola and cello in maple mocha.

Tailpiece: Square timbers for the manufacturing of tailpieces are available for violin, viola, cello and double bass. They are available in maple mocha and spruce caramel.

Chinrest: We offer chinrests moulding in maple.

Full Set: We offer a full set of violin parts out of Sonowood maple.

No matter which property matters to you – surface hardness, density, sound velocity or colour – you will surely find the product of your choice.

For sales and further information, please don't hesitate to contact us: info@swisswoodsolutions.ch

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Caramel colour fingerboard made of Sonowood Spruce



Mocha pegs made of Sonowood Maple



Mocha tailpiece and chinrest made of Sonowood Maple

