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**Step 1: Computing the anhydrous mass**   
Using the density conversion factor per 1% change in moisture content defined by Sallenave (1955), we compute , the anhydrous density: . Because , we obtain (Eq. A1).  
   
**Step 2: Computing the saturated volume**   
Sallenave (1955) defined as the volumetric shrinkage coefficient (in %/%) using as the reference volume: . We use this definition to derive (Eq. A2)  
   
**Step 3: Computing the basic wood density**   
Basic wood density is defined as . Using Eq. A1 and Eq. A2, can be written . This demonstrates that Sallenave’s formula is true only if .

1

Sallenave, P. (1955) Propriétés physiques et mécaniques des bois tropicaux de l’Union française. <https://doi.org/10.18167/agritrop/00359>. Technical report, Nogent-sur-Marne, France.

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