

Article

Preparation, Surface Characterization, and Water Resistance of Silicate and Sol-Silicate Inorganic–Organic Hybrid Dispersion Coatings for Wood

Arnaud Maxime Cheumani Yona ^{1,2,*}, Jure Žigon ¹, Alexis Ngueteu Kamlo ², Matjaž Pavlič ¹, Sebastian Dahle ¹, and Marko Petrič ¹

¹ Department of Wood Science and Technology, Biotechnical Faculty, University of Ljubljana, Jamnikarjeva ulica 101, SI-1000 Ljubljana, Slovenia; jure.zigon@bf.uni-lj.si (J.Ž.);

Matjaz.Pavlic@bf.uni-lj.si (M.P.); Sebastian.Dahle@bf.uni-lj.si (S.D.); marko.petric@bf.uni-lj.si (M.P.)

² Macromolecular Research Team, Faculty of Science, University of Yaoundé 1, Yaoundé P.O. 812, Cameroon; akngueteu@yahoo.fr

* Correspondence: ArnaudMaximeCheumani.Yona@bf.uni-lj.si

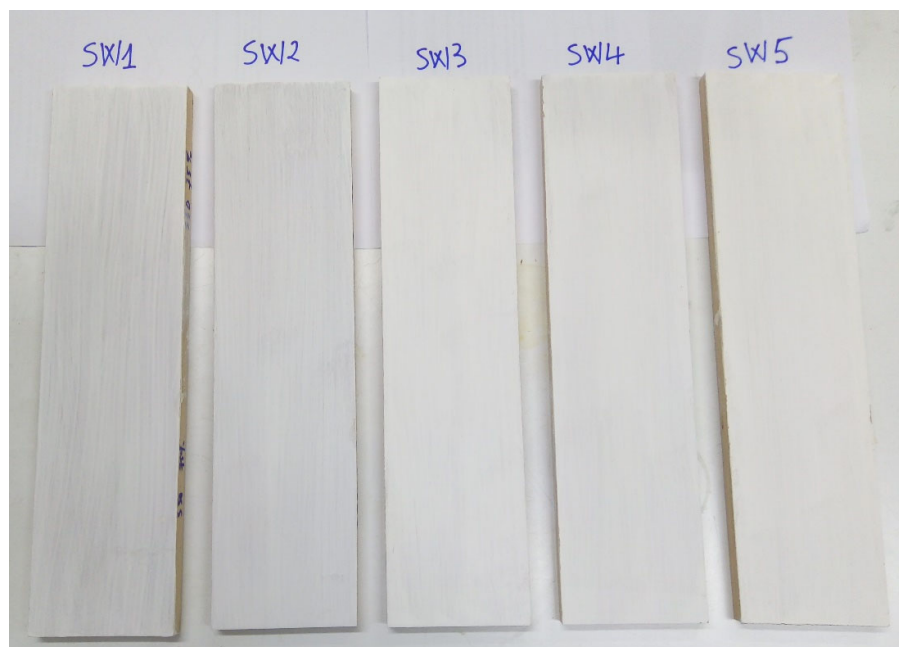


Figure S1. A photograph of the coatings at the surface of wood (application rate 220 kg m⁻²).

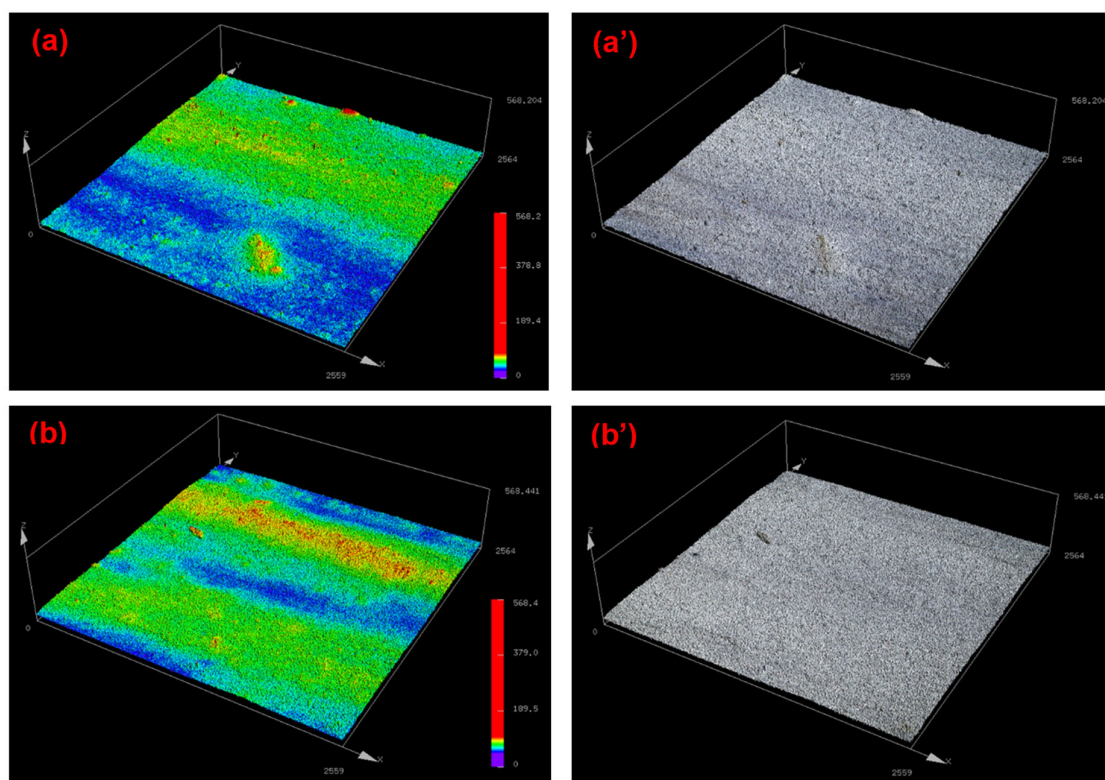


Figure S2. 3D micrographs at magnification 5× of a silicate coating SW1 (a, a') and a sol-silicate SW4 (b, b') illustrating typical features of the coatings at this magnification.

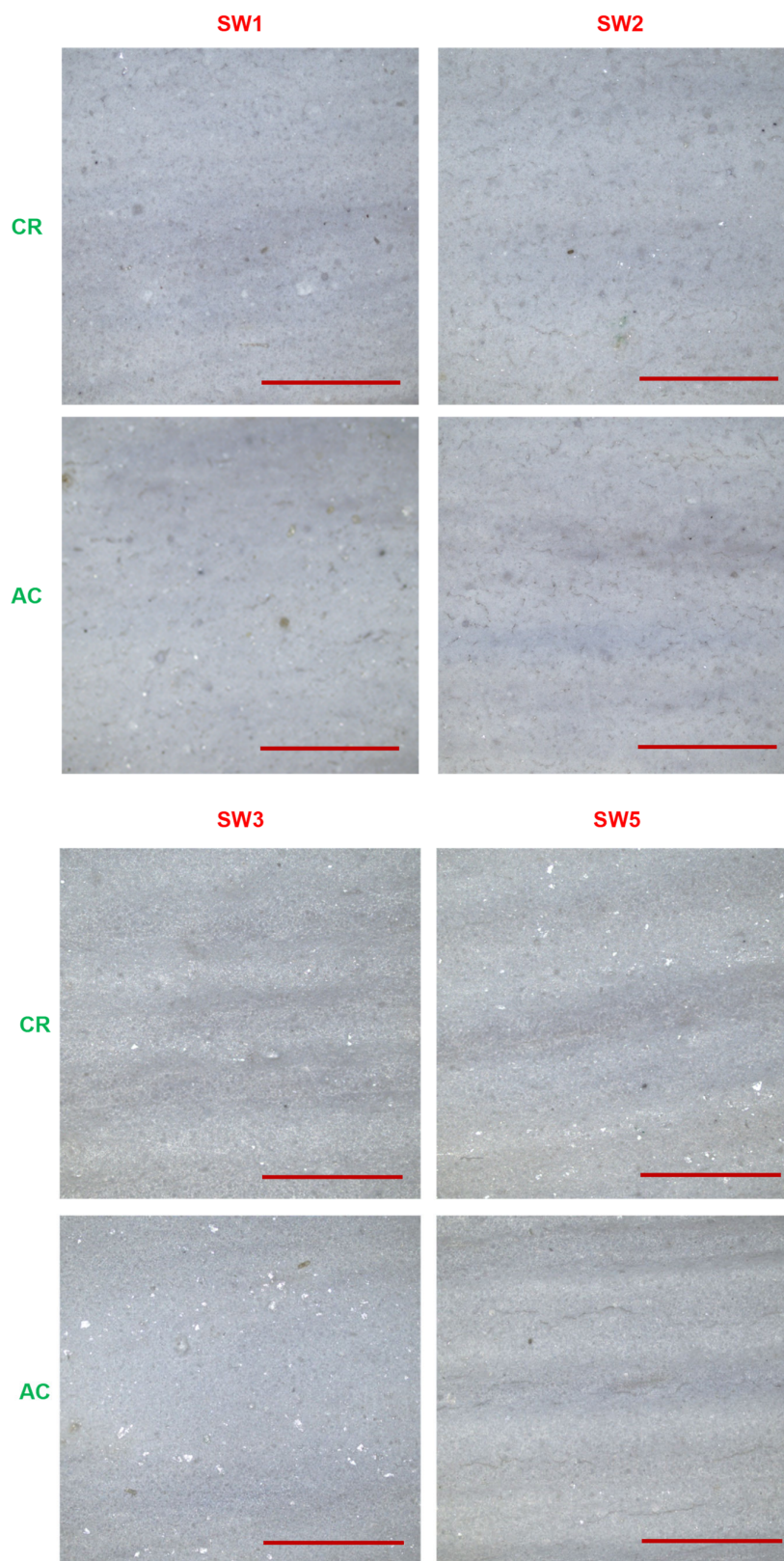


Figure S3. 2D micrographs of the surface of the coatings cured in CR and AC at magnification 5 \times (The scale bars represent 1 mm). CR: Climate room ((23 \pm 3) $^{\circ}$ C and (75 \pm 2) % relative humidity)); AC: ambient conditions ((23 \pm 3) $^{\circ}$ C and (25 \pm 5) % relative humidity)).

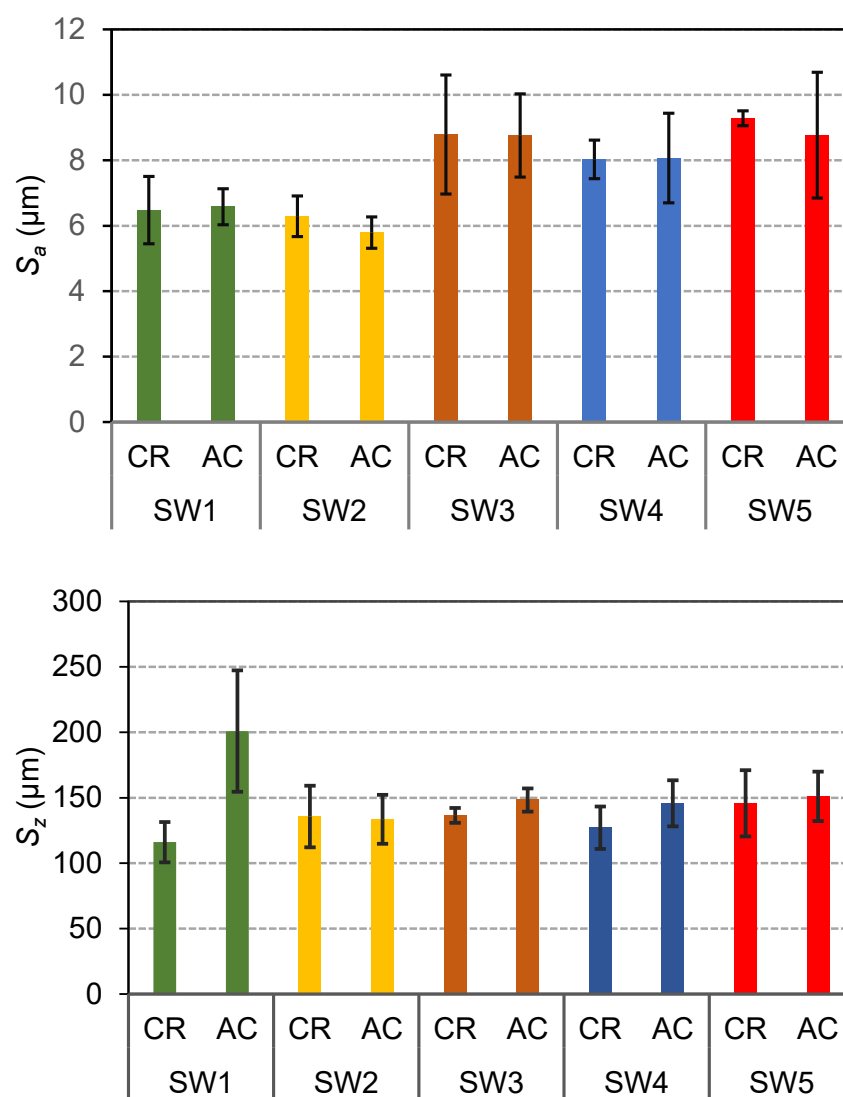


Figure S4. Comparison of S_a and S_z surface roughness parameters of the coatings cured in CR and AC at magnification 5 \times . CR: Climate room ((23 \pm 3) $^{\circ}\text{C}$ and (75 \pm 2) % relative humidity)); AC: ambient conditions ((23 \pm 3) $^{\circ}\text{C}$ and (25 \pm 5) % relative humidity)).