

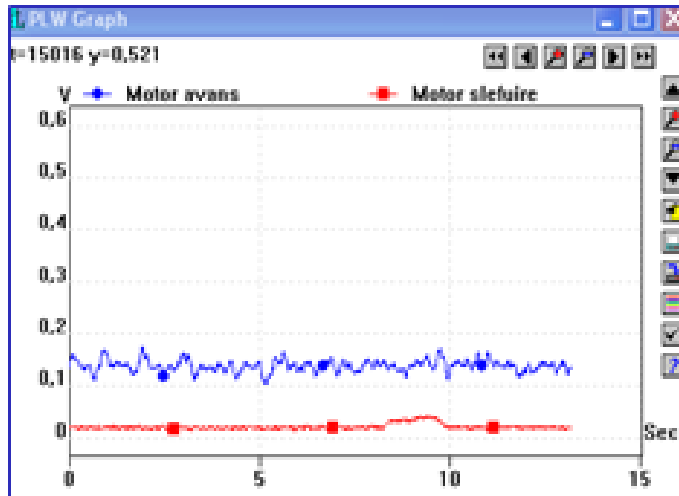


Surface Roughness and Power Consumption – Two Criteria for Wood Processing Optimization in Furniture Industry

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Material and method



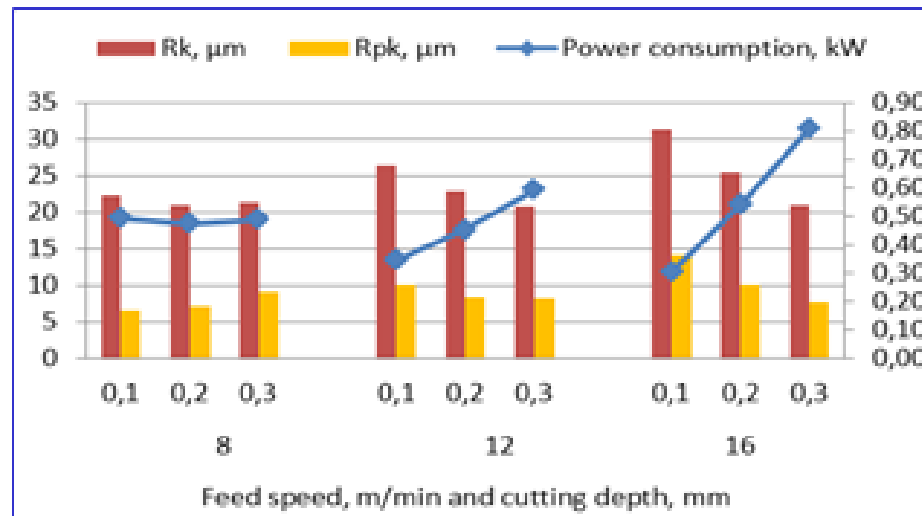
Display of power (P) recordings during sanding (blue/feeding and red/sanding)

- Defect free samples of *Alnus glutinosa* L. having 8% MC and dimensions of 300 by 95 by 16 mm were used
- A wide belt sander and 3 grit sizes (60,100,120) were used
- Sanding was applied at 45° angle to the wood grain
- Cutting schedule:
 - Sanding speed of 16 m/s and pressure of 4.5 bar
 - Feed speeds: 8, 12, and 16 m/min
 - Cutting depths: 0.1, 0.2, and 0.3 mm
- Power (P) for sanding was determined
- Effective $P = \text{Recorded } P - \text{idle running } P$
- Roughness parameters (R_k and R_{pk}) were evaluated (ISO 13565-2: 1996)



MicroProf FRT roughness device

Results and conclusions



Variation of the surface roughness and power consumption during sanding as a function of cutting parameters

Acknowledgements

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Thank you for your attention!