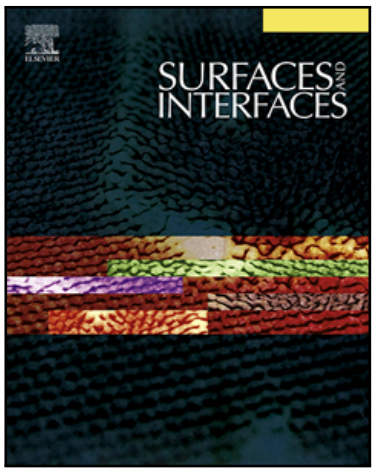


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# Contact angle as function of surface roughness of different wood species

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## Abstract

In this study values of contact angle of distilled water on differently rough beech (*Fagus sylvatica* L.), birch (*Betula pendula*), sessile oak (*Quercus petraea*) and spruce (*Picea abies*) surfaces have been investigated in order to find the trend of their relation. Samples have been sanded with sandpaper of 13 different grit sizes: 60, 80, 100, 120, 150, 180, 220, 240, 280, 320, 400, 500 and 600. After sanding, contact angle measurements have been performed on the freshly prepared wood surfaces using sessile drop method. Exponential relation has been found between the contact angle of differently rough spruce, beech, birch and sessile oak surfaces and the grit size of the sanding paper. Based on the upper relation, three well distinguishable portions of surface roughness have been identified with decreasing, stagnating and increasing values of the contact angle.

**Keywords:** beech, birch, sessile oak, spruce, surface roughness, contact angle