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# Surface characterisation and wetting properties of single basalt fibres

Monica Francesca Pucci<sup>a</sup>, Maria Carolina Seghini<sup>b</sup>, Pierre-Jacques Liotier<sup>a,\*</sup>, Fabrizio Sarasini<sup>b</sup>, Jacopo Tirilló<sup>b</sup>, Sylvain Drapier<sup>a</sup>,

<sup>a</sup>*Mechanics and Materials Processing dept, Lab. G. Friedel UMR CNRS 5307, Mines Saint-Étienne, 158 Cours Fauriel  
CS 62362 42023 Saint-Étienne, France*

<sup>b</sup>*Chemical Engineering Materials Environment dept, Sapienza Università di Roma,  
Via Eudossiana 18 00184 Rome, Italy*

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## Abstract

Basalt fibres are claimed to show better high temperature resistance compared to glass fibres, suggesting better prospects to survive an end-of-life composite thermal recycling process while preserving an adequate reinforcing efficiency. It is well known that sizing agents affect impregnation of fibre reinforcements during composite manufacturing, which influences the overall mechanical behaviour of the resulting composites. However, with the exception of some studies about coupling agent effects on the adhesion between basalt fibres and matrix, no information are present in literature on the wetting characteristics of basalt fibres. The main contribution of this study is the analysis of the surface properties and wetting behaviour of basalt fibres with sizing optimised for both thermoset and thermoplastic matrices. Measure-

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\*Corresponding author

*Email address:* liotier@emse.fr (Pierre-Jacques Liotier)

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