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Guillermo H Goldsztein* (ggold@math.gatech.edu), School of Mathematics, Georgia Institute of Technology, 686 Cherry Street, Atlanta, GA 30332-0160. *Ideally plastic composites.*

We consider fiber reinforced composites where both the matrix and the fibers are ideally plastic materials. We restrict our attention to microstructures and applied stresses that lead to both microscopic and macroscopic antiplane shear deformations. We discuss a bound on the yield set of the composite in terms of the shape of the fibers, their volume fraction, and the yield set of the matrix. We construct examples of composites showing that this bound is essentially optimal. (Received September 11, 2013)