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Existence results for the static contact problem with Coulomb friction. (English)

Zbl 0907.73052

Math. Models Methods Appl. Sci. 8, No. 3, 445-468 (1998).

We prove the existence of solutions to the static contact problem with Coulomb friction, provided that the friction coefficient is small enough. The proof employs the penalty method and a certain smoothing procedure for the friction functional. Using optimal trace estimates for the solutions of the Lamé equations, we calculate an upper bound for the admissible friction coefficient.

MSC:

74A55 Theories of friction (tribology)

74M15 Contact in solid mechanics

Cited in **28** Documents

Keywords:

penalty method; smoothing procedure; friction functional; optimal trace estimates; Lamé equations; upper bound

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