

Abstract Submitted
for the MAR14 Meeting of
The American Physical Society

Friction in the peeling test SUOMI PONCE, PMMH. ESPCI. UPMC, JOSE BICO, PMMH. ESPCI, BENOIT ROMAN, CNRS. PMMH, ESPCI — Peeling tests are commonly used to probe adhesives. We are interested in the adhesion of soft elastomers on rigid substrates through van der Waals interactions. Such elastomers are prone to slide when sheared and exhibit a characteristic friction stress. We show how the classical relation from Kendall fails to predict the peeling force for such systems for low values of the peeling angle (the actual force being largely underestimated). We propose an implement to Kendall's approach that accounts for friction. In the limit of zero angle this description provides a maximum force proportional to the adhered area in agreement with our experimental observations.

Suomi Ponce
PMMH. ESPCI. UPMC

Date submitted: 15 Nov 2013

Electronic form version 1.4