

## **Friction of textile-skin contacts**

A. Ramalho, P. Szekeres and E. Fernandes; CEMUC; Department of Mechanical Engineering; University of Coimbra; Portugal

Our skin is the largest organ of the body - a complex and dynamic system that is vitally important to our health. The skin is also the outermost part of our sensitive system, and when in interaction with the surrounding objects, skin acts both as a force transmitter and a sensor. The friction between the skin and the counter-contact surfaces reflects this double role, limiting the tangential force transfer and reporting about the counter-surface texture, through pleasant and unpleasant feelings. Therefore, the investigation of friction behaviour of the skin has an important role in both technical and health points of view. However, human skin spends most of its time in close contact with clothing and garments made up of different fibers. Therefore, measuring the friction coefficient between human skin sliding against different type of fabrics has important role in scientific field and in research and development of sport and medical materials.

This work describes the current research work on University of Coimbra on skin textile contacts. Results on the effect of the humidity and the body region will be analyzed. The friction coefficient of textiles measured against skin will be compared with the values assessed against different counter-materials (natural and artificial leather and a NBR rubber).