

Abstract

The aim of this PhD work is to provide indications on comfort in the case of the Man-Machine interface and to guarantee all the tools for evaluating them.

In order to analyze comfort, it was necessary to carry out a bibliographic survey on ergonomics and subsequently on comfort, identifying the shortcomings and all the aspects not considered. After these studies, a model of comfort perception was created that summarizes the concept that comfort and discomfort are the measure of the degree of appreciation linked to expectations and to the interaction between the person and the environment. Since comfort and discomfort related to the sitting are widely studied in the automotive field, the model of comfort perception has been applied to this case, identifying all the elements of the model that participate in the comfort / discomfort experiences.

The expectation factor was also analyzed, in order to understand the mechanism of the influence of the expectation on general comfort; to prove it, an experimental test was carried out using the "placebo" effect.

In the final phase of the discussion, attention was focused on two aspects that influence comfort in the Man-Object interaction, that is, the temperature and the pressure distribution at the interface.

For both factors (temperature and pressure) we started from a deep bibliographic research in order to identify the most significant variables, extrapolated from pressure distributions and the temperature of the skin to the body-object interface, which must be considered when wants to evaluate how pressure and temperature at the interface affect perceived comfort.

Subsequently, through case studies it was possible to verify all the significant correlations that these variables have with the level of perceived comfort by the subjects who participated in the tests.