

Case Study at the 3rd European DOE User Meeting in Lucerne

„A successful real-life less standard application of Design of Experiments in the Research & Development department of AkzoNobel Car Refinishes: Analyzing the influence of spraygun variations on the spraygun paint flow“

(06.01.2010 – 11:00 to 11:20 by NIELS DEKKER, AkzoNobel Car Refinishes)

Abstract

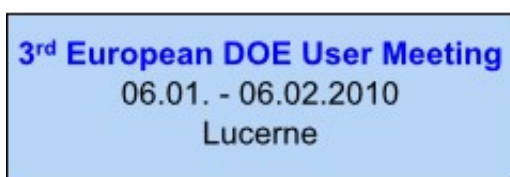
In AkzoNobel Car Refinishes the usage of Design of Experiments (DoE) within the research and development department is numerous. Screening and optimization studies into the properties of the different paint systems using response surface and mixture designs have become standard practice. However these examples of product optimizations are well known by most DoE practitioners. Therefore this presentation discusses a less standard usage of DoE for the optimization of an existing product.

Quality control of our paint production batches requires spraying of the paint on panels. The color of the resulting paint film is then measured and compared against a predefined standard. For the spraying of a specific product, a new setup of the spraygun was introduced. This new setup improves the ease and duration of cleaning of the spraygun. During parallel quality control of this product, color differences were found which could be due to the settings of the spraygun.

Within a continuous improvement project an experiment was designed to analyze the impact of different possible variations in the setup of the spraygun on the paint flow. This presentation starts with a short introduction after which the not self-evident setup of this response surface design is discussed. Next the results are analyzed which showed some unexpected significant interactions. The presented conclusions reflect these findings in terms of strict quality control requirements for the spraygun settings.

Presenter: Niels Dekker, Statistician AkzoNobel Car Refinishes

NIELS DEKKER received a M.Sc. degree in Business and Industrial Statistics from the University of Amsterdam, The Netherlands. After working as a researcher in the oil and gas industry for 6 years, he joined Akzo Nobel Car Refinishes in 2006 as a statistician. He supports the design and analysis of experiments and other usage of statistics in the operations and research, development, and innovation departments.



June 1st to June 2nd 2010 in Lucern / Switzerland

The registration fee is 420,- Euro excl. of VAT

All lectures are given in English

For more information please have a look at the conference page (english / german)

http://www.statcon.de/dxusermeeting_63_en.html