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ABSTRACTS

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FUNCTIONALITY OF WORK WEAR CLOTHING BASED ON DIMENSIONING SILHOUETTES AND USERS PREFERENCES

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Abstract

The correct selection of work clothing should be supported by the knowledge of working conditions, working conditions, taking into account the existing threats and the nature of the activities performed. Knowledge of the intended use of workwear for specific working conditions and the basics of programming constructional, technological and material features of clothing are important elements of the activities of the creators of new clothing solutions.

In ergonomic design, human anthropometric data must be taken into account to maintain proper proportions between body dimensions and optimal dimensions of the work area. In order to achieve optimal functionality and comfort of using work clothes while designing workwear, the preferences of end users should also be taken into account.

The article presents the process of improving the comfort of using work clothing and its functionality based on dimensioning of end users' profiles using the latest human body 3D scanning technologies, surveys of their preferences and analysis of the producer's clothing size table. There were selected one model of work wear clothing, produced by Krystian company. Then the end users – employees of the construction company were chosen. The working group has been subjected to non-contact measurement using a 3D body scanner as well as questionnaire surveys. Information was obtained the size of work clothing and preferences regarding construction and functionality changes. The obtained data was analysed along with measurement data of the scanned builders. The conformity of the work clothing dimensions to the manufacturer's size table was examined.

An analysis of the questionnaires regarding the comfort of using the clothing gave a chance to increase the comfort of work, and the results obtained from the measurement data, allowed the introduction of structural changes in both the sweatshirt and in the dungarees of work clothes. On the basis of obtained results of measurement, benchmarking and preferential, designed construction and technological solutions were illustrated in the clothing parts, increasing the comfort of use and the functionality of workwear, by fitting clothing to build the users' profiles, including the range of movements resulting from the specificity of the work, like changing the size of the mobile phone pocket due to their larger size this days or construction changes of a bib in dungarees. Structurally modified products were tested by end users for fitting.

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