

Press information

XLplus men's fashion

New data on garment sizes and thermoregulation in plus-size men

08-Dec-2015 | 666-EN

BOENNIGHEIM (cka) As part of a research project on "Plus-size men" (IGF No. 17460 N), scientists at the Hohenstein Institute have analysed the special body shapes and thermophysiological characteristics of men whose waist size and weight are above standard garment sizes. They have developed new sizing charts for plus sizes, identified specific body shapes, optimised basic patterns and made some interesting findings on clothing physiology. These will assist the clothing industry in developing products for this target group in future.

Lack of physical data for developing clothing in plus sizes

The demand from retailers for plus-size fashion is growing all the time. The proportion of large menswear on the market has increased significantly. This can be seen by comparing the 1980 survey on menswear with SizeGERMANY 2009.* However, the clothing industry struggles to develop suitable products, because the relevant sizing charts do not exist. In order to find a solution for the German clothing industry, the Hohenstein Institute initiated the "Plus-size men" research project. This follows on from the "Plus-size woman" project (IGF No. 15144 BG) which they carried out in 2009. That project was designed to solve the same sizing problem for women and since then has been supplying the industry with important physical data to make garment sizes more consistent.

New: sizing chart for menswear, sizes 60 to 78

As part of the research project, the experts at Hohenstein carried out a size survey using modern 3D scanner technology. For the first time, the clothing industry can now benefit from knowing the typical body dimensions of plus-size men. Building on the survey, the scientists have developed a sizing chart for menswear covering five sizes. Furthermore, they have defined the body types for sizes 60 to 78. The work was based on the sizing system used in SizeGERMANY, in order to achieve the widest possible acceptance on the market. This time, target-group-specific measurements have fed into the study, such as waist circumference.

Improved: 3D body models and basic patterns that fit

On the basis of the new body measurements, the researchers have developed average-sized virtual 3D body models. These show the average body shapes, especially the stomach shape, for the individual sizes. The clothing industry can use the results in developing tailor's dummies, 3D designs and simulations. The textile

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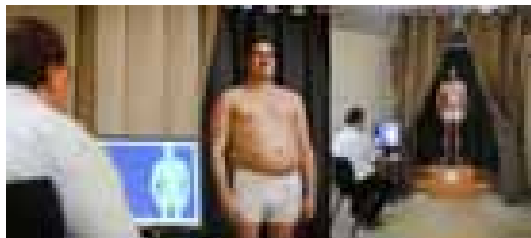
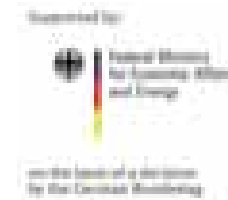
experts have produced new and optimised basic patterns for trousers and jackets, using a new 3D approach.

Clothing physiology findings

With a view to identifying ways in which wearing comfort could perhaps be optimised, the project also looked at thermoregulation in plus-size men. Wearing tests performed in the climate chamber enabled the researchers to identify for the first time the differences between the physiological behaviour of "standard-size" men and plus-size men. The results of the research show that the latter sweat more and sooner. However, there were big differences between the volunteers and so more tests will be needed to assess plus-size men properly.

*Comparing the results of the 1980 survey on menswear with SizeGERMANY 2009 shows that the proportion of plus-size men has increased significantly in recent years.

We are grateful to the Research Association the Textile Research Council, Reinhardtstraße 12 - 14, 10117 Berlin for its financial support for IGF project 17460 N, which was provided via the AIF as part of the programme to support "Industrial Community Research and Development" (IGF), with funds from the Federal Ministry of Economics and Technology (BMWi) following an Order by the German Federal Parliament.



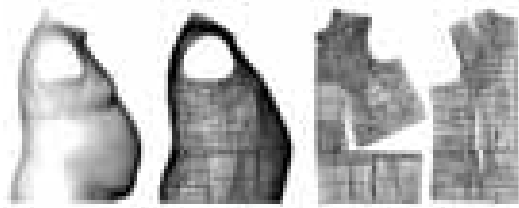
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As part of the "Plus-size men" research project, the researchers at Hohenstein used the latest 3D scanner technology to carry out a size survey.



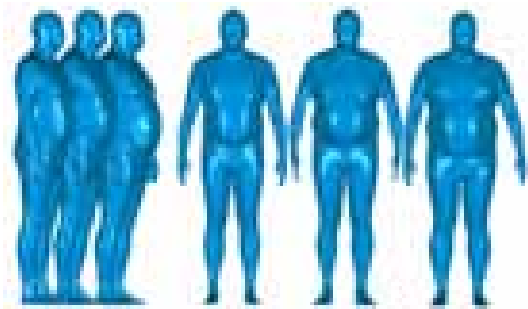
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Comparing the surveys of menswear from 1980 and 2009 show a shift in garment sizes towards larger sizes.



Reproducing and transforming 3D body data into 2D makes it possible to develop basic patterns that really fit specific body shapes.

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Virtual 3D body models in sizes 62, 66 and 70 are used to develop patterns that really fit, based on 3D.

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