

着心地評価のための上半身 可動性被服圧計測用ダミーの試作

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New Measuring System of Clothing Pressure Using a Movable Body Dummy for Evaluating of Clothing Comfort

by

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ABSTRACT

For designing comfortable men's suits, the measuring points and pressure levels of men's suit were investigated by using 10 subjects and 15 samples of suit. Furthermore, we made three movable dummies of the upper half body instead of the human body. The validities of these dummies were investigated with the values of the clothing pressure on dummies and subjects on 6 measuring points (shoulder, front and back armscye, scapular, front upper arm, elbow). The results are as follows.

- 1) There was significant correlation between the total comfort and mobility ($p < 0.01$). And, total comfort were correlated to the compressive sensation of each part of body on normal standing and flexing upper limbs 90° postures ($p < 0.01$).
- 2) The relationship between total comfort and clothing pressure of the back armscye and front upper arm were significant on flexing upper limbs 90° posture. These regression values were $r=0.725$ and $r=0.710$, respectively. Moreover, the suit of high total comfort can be obtained with low clothing pressure, and vice versa.
- 3) The clothing pressure on D2 and D3 of dummies was correlated to the subject's ones of the back armscye and front upper arm on flexing upper limbs 90° postures.
- 4) The dummy having the approximate compressibility of human body's was better for the dummy of measuring clothing pressure.

要 旨

着用感のよい男性用スーツ上衣を設計するために、10名の被験者と15着のスーツから着用感を左右する部位およびその被服圧を検討した。さらに、人体に代わる上半身可動性ダミーを製作し、その使用性を6部位（肩先部、前後腕付け根部、肩甲部、前上腕部、肘部）のダミーと被験者の被服圧から検討し、以下の成果を得た。

- 1) 総合的着用感は、動きやすさと高い相関があり、各部位の圧迫感とも立位正常姿勢、前挙 90° 姿勢のいずれにおいても、危険率1%以下で有意な相関が認められた。
- 2) 各部位の被服圧と総合的着用感との相関係数は、前挙 90° 姿勢で高く、後腕付け根部 $r = 0.725$ 、前上腕部 $r = 0.710$ であった。また、総

合的着用感の良いものの被服圧は低く、悪いものは高い。

- 3) 前挙 90° 姿勢時、D2とD3のダミーの被服圧は、後腕付け根部と前上腕部において被験者の被服圧と相関が高い。
- 4) 人体に近い圧縮特性のダミーほど被服圧測定用ダミーとして有効である。