

調湿建材の使用が室内環境及び人体に与える影響調査に関する研究

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Study on effects of building materials to regulate an indoor humidity on indoor environment and psycho-physiologic conditions

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要 旨

室内湿度変動抑制効果を持つ調湿建材を内装に使用した場合の室内環境及び人体への影響を検討した。実験は岐阜大学病院の個室で行い、被験者は内装を調湿建材で改修した部屋と既存の石膏ボードの部屋の両方に24時間滞在し、滞在中は室内環境、アンケート調査(状態・特性不安検査(STAI))による心理的な測定や体温、心拍数等の生理的な測定を実施した。内装に調湿建材を使用すると、調湿作用によって室内の湿度変動幅が小さくなることが確認された。また、時間帯によっては体温、心拍数が低くなる傾向が見られた。調湿建材の直接的な物理的影響とは断定出来ないが、何らかの影響を与えている可能性はあると考えられた。

Abstract

This study examined the effects of building materials to regulate an indoor humidity on indoor environment and psycho-physiologic conditions of the occupants. Individuals were allowed to stay in two different Gifu University Hospital single-occupancy rooms for 24 hours, respectively. One of the rooms had its interior refurbished with building materials to regulate an indoor humidity and the other conventional room had interior walls finished with gypsum wallboards. The indoor environment was monitored during the occupancies. The individuals were asked to self-evaluate their psychological parameters using a questionnaire (State-trait anxiety inventory). Several physiological parameters including body temperature and heart rates were also measured. The results demonstrated that the variations in indoor humidity were reduced inside the room finished with the materials by virtue of their humidity-regulating property and that there was also a tendency to reduce body temperature and heart rates during some part of the stay in the same room. Although no direct causation was determined, the findings suggested possible effects of the materials on psycho-physiologic conditions of the refurbished room occupants.

Key words: 調湿建材 (Building materials to regulate an indoor humidity), 室内環境 (Indoor environment)