

資料

空調設備を利用した室内空气中化学物質の 低減に関する実態調査

北村裕一, 大谷雅弘, 岡田真人, 大村正美, 門名嘉則

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Examination of the Reduction of Indoor Chemical Pollutants using Air Conditioners

Yuichi KITAMURA, Masahiro OTANI, Masato OKADA, Masami OMURA and Yoshinori MONNA

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要 旨

浜松市内の改築あるいは新築された公共施設3施設において、竣工後12日間にわたり、空調設備を利用して、簡易的な間欠式ベイクアウト法を実施し、室内空气中化学物質の低減効果について調査した。調査期間中に、測定項目7物質(アルデヒド類2物質, VOCs 5物質)のうち、アセトアルデヒドが3施設全てで、トルエンが新築の1施設で室内濃度指針値を超えたが、本ベイクアウト法により室内濃度指針値以下に低減化させることができた。アセトアルデヒドの削減率は、66.2~71.6%, トルエンが77.8~91.0%と高い削減率であった。今回実施した間欠式ベイクアウト法は、新築又は改築施設における低減化策として、職員の勤務時間帯に合わせて職員が容易に対応できる実用的な方法であると確認できた。

Abstract

The effect of intermittent bake-outs on the reduction of chemical pollutants in indoor air was studied in three public institutions in Hamamatsu. Using air conditioners the buildings were intermittently baked out over a two-week period following renovations or new construction. Among the seven substances measured, the concentration of acetaldehyde in all three buildings and of toluene in a newly-built building exceed the guideline values for indoor air established by the Ministry of Health, Labour and Welfare. However, the concentrations were reduced below the guideline values using the bake-out process. Acetaldehyde was reduced by 66.2% - 71.6% and toluene by 77.8%-91.0%. We think that intermittent bake-out is a practical process for reducing indoor air pollutants in newly-built and remodeled buildings, one which the staffs of public institutions can carry out easily during office hours.

Key words: Indoor chemical pollutants, bake-out, guideline values, aldehydes, VOCs