

Development of a Set of Residential Buildings for IAQ Analysis

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The objective of this project is to develop a statistically representative collection of residential buildings and to develop models of these buildings within the CONTAM indoor air quality simulation program for predicting ventilation rates and indoor air quality. NIST will analyze and categorize building data from residential building surveys including the American Housing Survey by the Census Bureau and other performed by HUD and the Department of Energy (DOE). This analysis will then be used to create a set of buildings that is statistically representative of the U.S. building stock. This analysis will consider a number of factors related to ventilation and Indoor Air Quality (IAQ), including climate, construction, appliances, size, age, and layout (single-family, duplex or multi-family). Based on a statistical analysis of the building data and these factors, a set of residential buildings will be identified that capture the building stock at large. Models of these buildings will be created within the CONTAM program to analyze ventilation and IAQ interventions that are pertinent to HUD's Healthy Homes Initiative grant program.