

Architecture 4.411
Building Technology Laboratory
Spring 2004

Assignment 7 Airflow measurement and simulation

March 17 and 18, 2004

The third week of our airflow lab focuses on simulation:

1. Prepare to use the CONTAMW airflow simulation program, installed on two working computers in lab and available free to all with Windows computers. Documentation is available in hardcopy and on a CD that you may copy.
2. Become proficient in CONTAMW by completing the provided worksheet.
3. Use CONTAMW for the following investigation of your apartment-balcony, working at full (and not model) scale:
 - a. Simulate wind-driven airflow through an apartment that consists of a completely open balcony (i.e., the gaping hole you see in the models) and leeward openings of your choice (one or more windows). No interior walls! This sets the maximum airflow you can expect.
 - b. Simulate airflows as above, but with interior walls and openings.
 - c. Simulate airflows as in step a, but openings appropriate for your balcony.
 - d. Simulate airflows as in step b, but with openings appropriate for your balcony.

Helpful information:

1. The two BT Lab computers that run CONTAMW are the left machine (user name glicks and password btboss) and the middle machine (user name wawa and password btboss).
2. The CD contains the CONTAMW download files from the National Institute of Standards and Technology (NIST); NISTIR 6921, the CONTAMW 2.0 User Manual; NISTIR 6585, Input Data for Multizone Airflow and IAQ Analysis; and COTNAMW2tutorialBTL03, which in updated form is the hardcopy worksheet provided to you.
3. If you install the software, please start by unzipping the file contamw2z.