# MATLAB isomodel

The files in this directory are MATLAB and gnu-octave compatible files for computation of building energy use using the CEN/ISO methods.

* First you need to edit and existing or generate an ism input textfile of the form of bldg.ism. Usually bldg.ism is generated from one of the script files that converts OpenStudio or EnergyPlus models
* Run the program by typing “ run\_isomodelVxx” (without the .m) from within the MATLAB or gnu-octave command prompt.

The first time you run it a gui is used to select an input and weather file and read them in. reading in and parsing the weather file takes a while (30 sec or so in octave) but subsequent runs use the saved array. To have the program reread the input files, type “Clear All” and rerun run\_isomodelVxx. To clear only the building input type “clear building”. To clear only the weather file input type “clear weather” In Octave, the gui may generate some warnings about QPixmap after the first time it is run. They can be ignored.

## Explanation of bldgcalc matlab files:

run\_isomodelVxx.m: this is a script that reads in the input file and weather file into arrays and then runs the main isomodel program

isomodelVxx.m: This is the main building energy calculation function that actually implements the CEN/ISO calculations. It takes an input cell array of building input information and a structure with weather information and outputs a structure with monthly building energy info

ismparserVxx.m: this function will read in the .ism text file and turns it into the main input structure used by isomodel.m

epwparserVxx.m: This function will read an EPW format, 8670 hour, yearly weather file and create a structure with monthly weather information suitable for eecalc to use

XYZ.ism: a text input file describing building XYZ

## XYZ.ism file format:

This file is a simple text file with variable names and value assignments.

Whitespace and comment lines are ignored. Comment lines start with a # character.

Most variable names are self explanatory or can be understood from the comments added by the .ism generator program. See the isomodelVxx.m for more details if necessary.