

HVAC system design report structure

The project must be sent to the teacher the week before the exam. The submission must be done via the moodle platform.

- Upload Final Project
 - Load course project

The submission must comprise three files:

- The project description as described below
- The Termolog input file
- Spreadsheet with the heating plant sizing

The three files must be compressed in a zip file inside a directory with the name reporting the name and surname of the student as surname-name and the zip file named surname-name.zip. For example, with Marco Manzan the directory containing the three files must be Manzan-Marco and the zip file Manzan-Marco.zip

The project must at least contain the following information:

- Description of the building and its characteristics, usable and gross surface area, gross volume, net volume
- Plan of the building and any other related drawings
- Stratigraphy of the walls used in the project
- Characteristics of the windows
- Thermal bridges
 - At least two thermal bridges must be calculated with FEM or the Lombardy region and swiss energie catalogue (Termolog or Therm)
- Heat losses per room and power required to heat the room (Termolog)
- Description of the heating system: collector, two pipes, underfloorServed rooms, number of heat terminals, and so on
- Heating system sizing, report the main outcomes from the Spreadsheet: pipe diameter, head losses, flow rates, main temperatures, main components, e.g. type of manifold, size of radiators, valves. lockshields
- Plan with the layout of the system components, in the case of a coplanar collector:
 - Generator position
 - Collector position
 - Terminal position

- Pipes between collector and terminals and between collector and generator

Some notes for the correct presentation of the report:

1. Do not use images of tables in the project, the Termolog tables must not be copied as images. Please remember that the tables present in the Termolog screen can always be saved in Excel format and imported into the calculation report. Pay maximum attention to the readability of the characters in the tables.
2. Pay attention to the number of significant figures of numbers, values such as $Q=2345678.9 \text{ J}$ are not acceptable, you can use multiples of the units e.g. $Q=2.346 \text{ MJ}$ or $Q=2.346 \text{ E6 J}$
3. If Latex is used to generate the report, the tables can be included as images, but NOT from the Termolog screen, they must be formatted with a spreadsheet ensuring the readability of the characters. I suggest to use instead packages and sites which help translating tables from spreadsheet to Latex.