Simulation of the heating load in a NZEB winery building

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**Abstract.** The study concerns a NZEB building in the agro-industrial sector. A building was designed integrating architectural and plant engineering solutions for the purpose of containing thermal requirement and obtaining low CO2 emission. In the building activities of production, aging and marketing of wine take place, and, accordingly, the building is divided into three different areas: commercial, production and seasoning. The cellar is placed underground. A model was developed for obtaining the heat load profiles of the building in winter. The software simulation was performed both in steady state UNI-TS 11300 and in dynamic hourly regime, according to UNI-EN ISO 52016. Figure 1 shows the values of the average hourly power used for the purposes of thermal heating on the coldest day of the season.



Figure 1: Average power per hour evaluated for the coldest day of the season.