



**Figure 22.27** This shopping mall in Lausanne (CH), includes a louver system with transparent modules mounted above the shop windows, which results in less reflection of sunlight in the windows, making it easier to look into the shops. Reproduced with permission by BEAR Architecten T. Reijenga



**Figure 22.28** This zero-energy project in Etten-Leur (NL) combines different sustainable energy techniques. Each house has a roof structure with 6.2 kWp BP Solar PV modules. The aesthetic integration of the PV system is a completely new concept in housing. Reproduced from Reijenga T, “Energy-Efficient And Zero-Energy Building in the Netherlands”, *Proc. International Workshop on Energy Efficiency in Buildings in China for the 21<sup>st</sup> Century*, CBEEA (Beijing, December 2000) with permission by BEAR Architecten M. van de Laan [30]

into the roof of the atrium – a central space connecting the adjacent two-storey building sections. Other PV modules are mounted on the southeast façade of the office section (Figure 2.30).

The atrium roof, incorporating the transparent PV modules, stretches out above the entrance of the building, creating a large canopy. Thus, the PV system mounted on the atrium roof is visible from the inside of the atrium as well as from the outside of the building. Mounting the PV system on the roof had a great impact on the architectural expression, the building layout and internal atmosphere of the center (Figure 22.31).