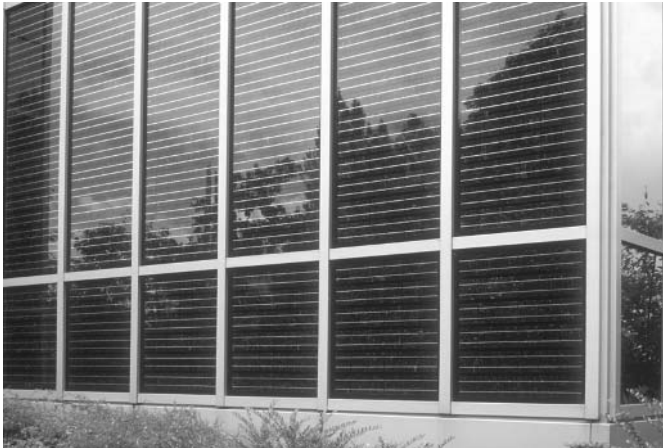




**Figure 22.36** Alwitra Evalon® roofing foil with amorphous silicon cells. Reproduced with permission by O.Ö. Energiesparverband



**Figure 22.37** Schüco 1.9 kWp roof profile system with transparent modules in the Energy Forum Center in Bad Oeyenhausen (D). This mounting system can also be used in (difficult) horizontal situations. Reproduced with permission by BEAR Architekten T. Reijenga

the electrical efficiency of a system. Typical efficiencies of today's commercially available solar modules are shown in Table 22.1.

### 22.3.2.1 Solar cell materials

There are several types of solar cell materials: monocrystalline (single crystal) silicon, polycrystalline silicon (both discussed in Chapters 6 and 7), amorphous silicon (Chapter 12), copper indium gallium diselenide ( $\text{CuInGaSe}_2$ ) (Chapter 13), and cadmium