

## Summary

The bachelor's thesis is focused on the issue of photovoltaic cells and panels. The literature search was formed from selected available literature with the purpose to characterize different types of the crystalline silicon photovoltaic cells and thin-films photovoltaic cells and describe the application of photovoltaic cells in the world and in the Czech Republic. In the next part of this thesis is a summary of current knowledge about recycling of photovoltaic cells and other utilization of layers and their possible impact on the environment.

The practical part of the thesis deals with selected samples of PV panels. A few samples of photovoltaic panels were taken for chemical analyses. Chemical analyses are performed of the five samples of the photovoltaic panels. The results of chemical analyses were compared with acquired data from the literature. The results of the multielementary analysis of selected samples was that the photovoltaic panels contain a risk elements (e. g. As, Cd, Sb, Mo). The PV panels also contain economics utilizable elements (Ag). Content of silicon is up to 78,18 % SiO<sub>2</sub>.

## Key words

Photovoltaic panel, photovoltaic cell, chemical analysis, risk elements, recycling