Abstract

A round robin for the performance of roll-to-roll coated flexible large-area polymer solar-cell modules involving 18 different laboratories in Northern America, Europe and Middle East is presented. The study involved the performance measurement of the devices at one location (Risø DTU) followed by transportation to a participating laboratory for performance measurement and return to the starting location (Risø DTU) for re-measurement of the performance. It was found possible to package polymer solar-cell modules using a flexible plastic barrier material in such a manner that degradation of the devices played a relatively small role in the experiment that has taken place over 4 months. The method of transportation followed both air-mail and surface-mail paths.

Keywords: Round robin; Inter-laboratory study; Polymer solar cells; Roll-to-roll processed; Flexible packaging