



Deliverable Report

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Executive Summary

This report provides an overview of the design and engineering activities and tooling design for rear side construction of the module, in particular the polymer components, for the small prototype module having BIPV functionality.

The overall module design as well as the individual components (“I” or “T”-beams, thermoplastic composite beam holder thermoplastic composite beam holder, module - mounting gutter interface), were further designed and optimized. It was decided to come up with a modular prototype design and consequently two matching moulds enabling production of thermoplastic composite beam holder thermoplastic composite beam holder with different module widths (3 and 4 cells width or more). The interconnection of the modular thermoplastic composite beam holder needed to be improved during the process. However, after the modification the modular system for the side part functions very well and successful production of many prototype modules, also having different sizes, has been accomplished.

The engineering of the thermoplastic composite beam holder as well as the moulds for these parts has been accomplished successfully. Prototypes of all module components for the small prototype module have been produced enabling the pilot production run of components for more than 300 modules. (Deliverable D1.6 A).

The module - mounting gutter interface (connectors) and the mounting gutter have been completely redesigned. The sliding connector, originally designed as thermoplastic (composite) component, has been changed into “click-and-go / slide-&-hook” mounting concept comparable with the closure system for a car bonnet.

In conclusion, as a result of successful completion of this Deliverable D1.5 (combined with D1.2 / D 1.4 / D1.6) the first module products for testing and demonstration have been produced. In fact the first pilot BIPV pilot project based on prototype thermoplastic composites components including smart electronics (WP2 /D2.4) has been installed on a building of the Eindhoven University of Technology in month 15th. Module properties and “Click-&-Go / Repair-&-Replace” mounting functionality have shown impressive first results however more testing is required.

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http://cordis.europa.eu/fp7/cooperation/home_en.html

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