

Highlight

Zamudio,
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Specifications and end user requirements



Figure 1: Parts of medical sector



Figure 2: Parts of appliance



Figure 3: Parts of automotive
Integrated Beam Switch Power Supply



Figure 4: Laser system
Integrated Compressor Chiller Modules

During one year, 16 partners have worked together in the WP1 to define industrial user requirements and specifications for manufactured equipments, test cases and suitable test methods. The WP1 provides the necessary basis for the development of other work packages. The result of WP1 is a guide for all partners, where they can consult the most relevant information obtained during the course of the work in terms of specification of products, processes, additives and evaluation criteria.

The main objectives achieved within WP1 are:

- Specifications of end user requirements from different manufacturing sectors (automotive, consumer goods, medical) in terms of materials, additives and product design.
- Definition of requirements related to the laser source and laser manufacturing systems.
- Specifications of test cases with representative work-pieces from different industrial sectors and applications.
- Definition of production requirements, acceptable costs, cycle times, productivity, etc.
- Definition of the test planning to validate the developed technology from product and process point of view.

Each end user has defined one or more parts (Figures 1-3) that represent their needs and objectives for this project. Their main objectives are to reduce cycle time of the process maintaining or increasing the quality of the parts. The selected technology offers high flexibility being safe and cost effective.

These objectives call for the use of different fiber and diode lasers (Figure 4) and the development of novel high brightness diode lasers at 1.7 – 1.9 μm wavelength.

Basic test samples have been defined (Figure 5) in order to analyze the interaction between laser and materials (e.g. PP, PE, PC, PA6, Pa6.6, etc) with different type of fillers (glass fibers, CaCo3, etc) and different pigments.

April 19, 2011
Page 2

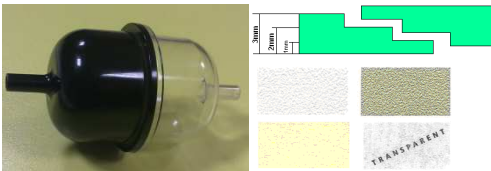


Figure 5: Basic test samples

A catalogue of current and potential future additives and colorants to be used in plastic components has been finalized.

Finally an evaluation criterion has been defined for each industrial application and a test plan (Figure 7) based on the definition of process requirements generated.

More information can be found under www.polybright.eu

For any further questions our expert will be pleased to provide you assistance:

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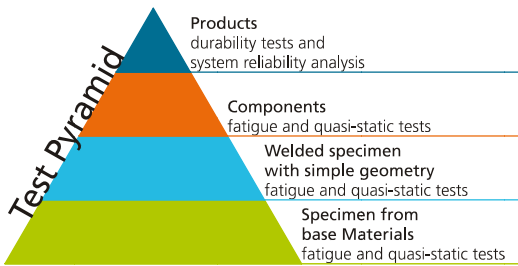


Figure 6: Test pyramid

