



FLAMINGO

Fabrication of Lightweight Aluminium Metal matrix composites and validation In Green vehicles

Deliverable D 5.1
Report on pre-mixing process

Lead Beneficiary ÖGI

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1. Publishable Executive Summary

The idea is to evaluate different methods to introduce the composite material with SiC- or Al₂O₃-nanoparticles in different ways into the melt. In the preliminary tests three different stirring methods established to introduce the composite material of the masterbatches the induction furnace, the mechanical stirring, and the ultrasound.

Additionally, another stirring method was implemented directly in the casting system the Tesla valve. The Ultrasound device and other alternative mixing methods will be used to introduce the masterbatches produced by MBN into the melt. Additionally, in the course of this work package, the parameters of the ultrasound treatment should be optimized. The target of the characterisation of the different masterbatches with the main and the recovery choice alloy was to find the most economical and efficient variant. Also, the distribution of the nanoparticle in the castings should be analysed and subsequently components with a homogeneous distribution of nanoparticles will be produced.

