EVALUATION OF BACHELOR THESIS

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The thesis investigates the analysis of NiTi powder and its feasibility for processing with cold spray technology. The aim is to benefit from the cold spray process to process shape memory alloy NiTi for various medical applications.

The thesis is very well-developed and well-written. It reads well. It includes the state of the art of cold spray deposition, reviews the significant advantages of the process over the thermal spray process, and discusses cold spray applications in different fields. It also covers a detailed explanation of shape memory alloys and the medical application of these alloys.

The second part of the thesis provides a detailed experimental analysis of the powder and coated specimens prepared to investigate the influence of composition and particle size distribution on the deformability of powder. Powder analysis and issues are well explained and compared with the deposited material.

Below you can see a few minor comments and questions:

Comment:

(a) Cold spray process is contemplated as AM process not only due to the no size limitation but also for the material's high deposition rates and deposition efficiencies.
(b) Critical velocity does not depend on the substrate; bonding will be affected by the substrate material and oxides at the substrate (page 14, para.1).

Questions:

(a) Why is it challenging to process intermetallic materials, e.g., NiTi, with the cold spray process?
(b) What was the deposition efficiency of given NiTi powder?

Overall, I rate the thesis with an **"A-grade"** and recommend it **be accepted** for oral defense.

Place: Rattenkrichen, Germany

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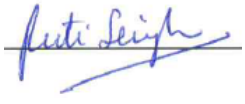

Signature: Dr. Reeti Singh