



SDI Review Form 1.6

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Journal Name:	Current Journal of Applied Science and Technology
Manuscript Number:	Ms_CJAST_46341
Title of the Manuscript:	Evaluation of Nb-Ni Influence on the Mechanical Behavior in a Cu-Al-Be Shape Memory Alloy
Type of the Article	Original Research Article

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This journal's peer review policy states that **NO** manuscript should be rejected only on the basis of '**lack of Novelty**', provided the manuscript is scientifically robust and technically sound. To know the complete guideline for Peer Review process, reviewers are requested to visit this link:

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PART 1: Review Comments

	Reviewer's comment	Author's comment (if agreed with reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)
Compulsory REVISION comments	<p>Part 1. Introduction is too short and doesn't give a background of the field. It is like unconnected short paragraphs, that does not put to the readers in the context of the research. It can be improved by adding the applications of the alloys and why is the research relevant to the research community. Moreover, there is no specific information about the references, the authors cited the papers at the final of general phases, without giving relevant information about the compositions and/or properties...related to the manuscript.</p> <p>Part 2. Material and Methods. I recommended to remove de Figure 1, it does not give extra information, so is not proper for scientific paper. The nominal compositions of the alloys should be given in a table, it would help to make the paper more visible and more conscious.</p> <p>This paragraph should be rewritten: "Subsequently, the ingots were homogenized at 850 °C for 12 hours in an electrical resistance furnace. The ingots were hot rolled and cut off into 100x10x1[mm] strips. The ingots were hot rolled into a thickness of 1mm and cut off into 100x10x1mm strips. Later, the strips were heat treated at 850°C for 1 hours followed of water quenching at 25°C to obtain the shape memory effect."</p> <p>This also should be revised: "The microstructural characterization was analyzed by microscopy optical". I suggestwas analyzed by optical microscopy (OM).</p> <p>3. Results and Discussion. In 3.1 Grain Refinement should be changed to Microstructure or Microstructure Characterization or something similar. Figure 3 does not give extra information, the values of the grain sizes are previously reported, please remove it. The study is related to microstructure and the gran refinement of the alloys and their mechanical properties. So, this part should be implemented. More images of the microstructures or graphical explication of the phases in the images, grain boundaries....</p> <p>Thermal characterization. Why only is presented the curve of alloy 3? In table 1, the mean of A_f, A_s, M_A and M_S should be defined. This can help to someone who is not expert I thermal characterization techniques.</p> <p>Conclusion. More discussion is needed. It should be matched the microstructure and the composition of the alloys with the mechanical properties. The elongation is very similar, but the strength in Alloy 6 is much higher, this should be explained, is very important.</p>	<p>Part 1. Introduction rewritten with this recommendation</p> <p>Part 2 Figure 1 was removed. The nominal compositions of the alloys given in a table.</p> <p>The paragraph was rewritten: "The alloys were cast in graphite crucible in inductive heating in an 8 KVA high frequency furnace followed of ingots manufacture using rectangular molds. Subsequently, the ingots produced were heat treated by homogenized at 850 °C for 12 hours in an electrical resistance furnace. After that the ingots were hot rolled and cut off into 100x10x1[mm] strips. The strips produced were heat treated at 850°C for 1 hour followed by water quenching at 25°C to obtain the shape memory effect"Rewritten: "The microstructural characterization was analyzed by optical microscopy (OM)."</p> <p>3. The Figure 3 give statistic information. It's important to compare the grain size values.</p> <p>The study aims to evaluate the influence of grain refinement (changes in the microstructure) on the mechanical behavior, thus the quantity of images it's enough to show the grain size.</p> <p>Thermal characterization: Sorry, but it is presented only the curve of alloy2. The name alloy3 is wrong. The behavior is similar to all alloy, so it is not necessary present all curves. The methodology to determine the temperatures transformations was described.</p> <p>the mean of A_f, A_s, M_A and M_S were defined.</p> <p>Conclusion: The conclusion was rewritten. The grain size (microstructure) is related with mechanical properties. The elongation is very similar in the rupture test, after that the alloys were submitted to equal elongation (about 6%) The strength in alloy 3 is much higher due the grain refiners seem to have a reducing effect on the ductility of this Alloy as well show in other research's, so the strength increase considerably to subject the material to the same elongation, this is in accordance with the stiffness values shown. This behavior is related with Nb precipitates presence.</p>
Minor REVISION comments	There are some grammatical typos in the paper. Hardness and tensile test are both mechanical properties. So, I recommend merging both parts in one, 3.3 Mechanical properties.	all recommendations were accepted and corrected
Optional/General comments		

PART 2:

	Reviewer's comment	Author's comment (if agreed with reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)
Are there ethical issues in this manuscript?	<i>(If yes, Kindly please write down the ethical issues here in details)</i>	There are not ethical issues