



SDI Review Form 1.6

Journal Name:	British Journal of Applied Science & Technology
Manuscript Number:	2014_BJAST_13003
Title of the Manuscript:	Development of a chewing bench for testing dental materials: first stage
Type of the Article	Original Research Article

General guideline for Peer Review process:

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 <i>(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)</i>
<u>Compulsory</u> REVISION comments	Major concern: At the current stage of development, the authors present a prototype of a chewing simulator machine. Further validation of the method is needed to show that it indeed serves its intended use. Presentation of preliminary results in different methodological designs would be of great interest to evaluate the real potential of this device. Important points to be specified: 1. More detailed description of the movements of each cycle and how far would it be from the clinical situation. 2. Velocity of each cycle simulating the speed of mastication and number of cycles needed to simulate a certain period of clinical service. 3. How will the "shock absorbing" effect of the periodontal ligament be simulated? 4. The role of the mentioned silicone on the simulation of the food bolus in terms of abrasive potential. Can slurries with different compositions and foodstuffs be employed as it is usually mentioned in the literature? 5. Chewing forces varying from 20 to 120 N are reported in the literature (Ruben et al., 2003, ref 21). A maximum force of 500N is mentioned in the manuscript but what is the minimum load that can be applied? 6. Clearance of the medium used for the simulation of the food bolus after each mastication cycle.	
<u>Minor</u> REVISION comments	1. Although the text is well written, it deserves further review. A few problems in the use of English are observed. 2. Please rephrase the purpose of the study (L. 68-70). Suggestion: The aim of this study is to present a prototype which MAY be able to reproduce the oral	



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	environment... 3. Figures are not self-explanatory. Please add more detailed legends and indicate with numbers, abbreviations or arrows the different components which should be highlighted in each figure. 4. L 169 "It corresponds perfectly to the chemicals in human food". This statement needs a reference. 5. Table 2 can be substituted by referring to the website. 6. L. 182-184. The authors state that the device "is capable of reproducing the oral environment...". Please rephrase it as no tests were presented to validate the performance of the device. 7. Please describe the "three degrees of freedom" mentioned in L. 191. 8. L 194-196. Do you mean that temperature and pH variations would compensate limitations in the mechanical aspects of chewing simulation? Please clarify using references.	
<u>Optional/General</u> comments		

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