



SDI Review Form 1.6

PART 1:

Journal Name:	<u>British Journal of Applied Science & Technology</u>
Manuscript Number:	MS: 2013_BJAST_4430
Title of the Manuscript:	High performance thermal properties of natural pumice-based bricks
Type of the Article	Research paper

General guideline for Peer Review process is available in this link:

(<http://www.sciencedomain.org/page.php?id=sdi-general-editorial-policy#Peer-Review-Guideline>)

- This form has total 7 parts. Kindly note that you should use all the parts of this review form.



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PART 2: 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>
Compulsory REVISION comments	En las conclusiones del Abstract se refiere a las buenas características acústicas del ladrillo cuando no se han estudiado dichas características en el artículo. Por otra parte, las conclusiones del Abstract no coinciden con las conclusiones del artículo. <i>In the conclusions of Abstract talks on good brick acoustic characteristics when no such features have been studied in the article. Moreover, the conclusions of the Abstract do not match the conclusions of the article.</i>	The acoustic properties were mentioned as an extra possible capacity. It's true that we talks about acoustic but these characteristics must to be taken in another context which is the reason because we decided to avoid this point. In the conclusions of the abstract was made an adjust making a better correlation between the results shown in the text and the abstract.
	En el artículo no se plantean con claridad los objetivos del mismo. <i>The aim of the paper has not been clearly raised</i>	The goals have been added in the introduction section. We decided to write the goals in a sentences inserted into the text, this was made with the objective of not to lose a closed relationship between shown ideas and the goal of this research.
	El cuerpo del artículo debería contener, al menos los siguientes apartados: Introducción, objetivos, preparación de especímenes, metodología de los ensayos, resultados obtenidos y conclusiones de los mismos. <i>The body of the article should contain at least the following sections: Introduction, objectives, specimen preparation, test methodology, results and conclusions from the results.</i>	The body of the manuscript includes the objectives in the introduction section, in order to offer to the reader a direct relation of the objectives with the theme developed. The samples preparation is pertinently exposed in each part in the methodology section. Then, the sections shown in this article are: introduction, material and methods / experimental details / methodology, results and discussion, conclusion and references.



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	El apartado 1.- Introduction es demasiado largo y contiene demasiadas generalidades, algunas de las cuales aportan muy poco al núcleo del artículo. Paragraph 1. - Introduction is too long and contains too many generalizations, some of which contribute very little to the core of the article.	The introduction section was summarized in order to become a more objective section, and the main ideas of each paragraph have been rewritten according to the references used. Also some of the main ideas were justified with the corresponding references.
	Línea 36: La referencia [5] habla del caso del hormigón que no se encuentra relación con el texto. Line 36: Reference [5] deals with the case of concrete, which is not related to the text.	As explained in the response of the first comment, we have decided to omit this reference especially because the phrase mentioned in line 35 and 36 represents an opinion.
	Línea 46: La referencia [7] habla de diferentes tipos de muros y el párrafo parece hablar sobre los sistemas de climatización. Line 46: Reference [7] deals with different types of walls and paragraph seems to talk about air conditioning systems.	The reference talks about different kind of walls to provide energy saving. The structure of this paragraph was rewritten for explained the same main idea of the reduction of energy consumption.
	Las referencias [14] y [16] no tienen relación con el texto. References [14] and [16] have no relation to the text.	The references are about new insulation materials and the paragraph take the main idea of the disadvantages of some new technology; due to main idea the rewritten paragraph takes these new materials to explain the topic.
	Líneas 81 a 88: No se justifican los costes de los que se habla en el párrafo Lines 81-88: Costs referred into paragraph are not justified.	We agree with the comment; another topic was taken in those lines and the idea about costs was omitted.
	Líneas 90 a 102: No se justifica el beneficio medioambiental comparativo. Lines 90-102: The comparative environmental benefit is not justified.	The main idea of this paragraph is important, so that two references with new information about environmental benefits was used to justify the topic taken in those lines.



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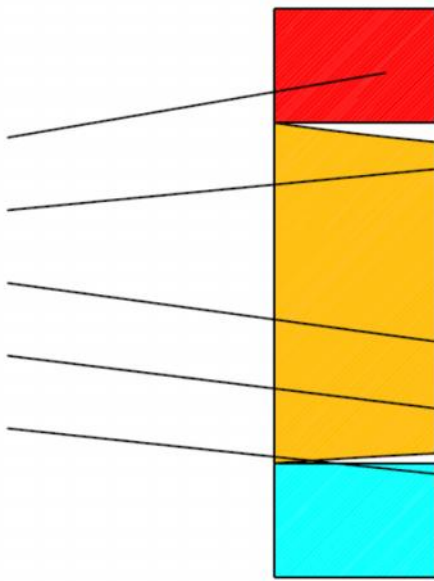
	Líneas 116 y 117: Cabe preguntarse cómo y porqué se reducen, ya que no existen valores comparativos. Lines 116 and 117: The question is how and why they are reduced, since there are no comparative values. Líneas 123 a 131: Las referencias [21] y [22] no parecen soportar el texto. Lines 123-131: References [21] and [22] do not support the text.	The main idea wasn't well developed because of that topic is not the goal of this research, attending the comment, the topic in the paragraph has been avoid and redirected to the natural material and its mechanical properties. The references take care about developed technologies with pumice which is the natural material using in this investigation. Those lines were rewritten in order to show the advantages offered by pumice as natural construction material taking from the experience of the researches shown.
	Líneas 140 y 141: No existe justificación. Lines 140 and 141: There is no justification. Líneas 212 a 222: ¿Cómo se fabrican? ¿Cómo se seleccionan? ¿Qué análisis estadístico se realiza? ¿Qué parámetros han sido controlados y cómo?, etc. Lines 212-222: How do they make? How do you select? What statistical analysis is done? What parameters are controlled and how?, Etc.	All introduction section and specifically last paragraphs were rewritten to guiding the text to an objective final presentation. The line that you mentions talks about the main objective of this research and we have rewritten the text to transmit to the reader a clearly objective. As is evident in the corrections made for this paper, a "sample preparation" section was written. But it star been explained from the "compressive strength" section and add the arguments to justify the elaborated samples.
	Líneas 245 a 266: ¿Qué influencia tienen los análisis efectuados sobre las conclusiones. No se justifica adecuadamente por qué se ha realizado los análisis de las fases cristalinas y de rayos X. Lines 245-266: What influence do they have analysis carried out on the conclusions? Why has performed the analyzes of the crystalline phases and X-ray is not enough justified.	Attending the comment, in the introduction section was mentioned the necessity of gets a characterization of pumice and also is mentioned the advantages for future research that imply pumice material.



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	Apartado 3.2: En cuanto al análisis de la tensión a compresión no se dice el número de muestras analizadas ni se aporta ningún análisis estadístico. Más bien parece que se ha analizado una sola muestra o dos lo que, desde mi punto de vista, no permite suponer la validez del resultado. Section 3.2: In the analysis of compressive stress not stated the number of samples tested neither any statistical analysis is provided. Rather, it seems that a single sample or two have been analyzed. From my point of view, this cannot suppose the validity of the results.	According with this comment, have been added accurate information about tested samples and characteristics of the material used in the elaboration of the samples. "Table 1" and "Figure 3" show this information.
	Apartado 3.3: Lo mismo se puede decir del número de muestras utilizadas para el análisis de la conductividad del ladrillo. Lo que en este caso es aún más crítico. Como los mismos autores dicen, la preparación de las muestras es un elemento fundamental. La planeidad de las muestras debe ser total para conseguir el máximo contacto entre ella y las placas caliente y fría. Por nuestra experiencia, podemos decir que es imposible conseguirlo por lo que aparecerá aire entre la muestra y las placas. Dado que la conductividad del aire es muy pequeña, esta capa distorsionará notablemente el resultado. Section 3.3: The same can be said of number of samples used for the analysis of the conductivity of the brick. What in this case is even more critical. As the authors say, the sample preparation is a key element. The flatness of the samples must be complete to get maximum contact between it and the hot and cold plates. From our experience, we can say that it is impossible to get, so it will appear air between the sample and the plates. Since the conductivity of air is very small, this layer significantly distorts the results	In the Material and method section was included the information that gives the enough support to the thermal conductivity test and explain the reason which samples were chosen and the characteristics presents in that samples. The section gives a brief explanation about the flatness characteristic of the samples and the used method for ensure this condition.

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	No se sabe con claridad cuántas muestras se han utilizado ni se da ningún análisis estadístico. <i>It is not clear how many samples have been used and any statistical analysis is done.</i>	In the corrections is mentioned the number, characteristics and qualities of the analysed samples. Also the information about test conditions is shown in Table 5 as a result of the thermal conductivity test.
	Se recomienda ver el siguiente artículo lo referente al análisis térmico: <i>It is recommended to see the following paper regarding thermal analysis:</i> “Improving the thermal transmittance of single-brick walls built of clay bricks lightened with paper pulp”, P. Muñoz, M.C. Juárez, M.P. Morales, M.A. Mendivil Energy and Buildings, Volume 59, April 2013, Pages 171–180. http://dx.doi.org/10.1016/j.enbuild.2012.12.022	We have seen the article and we included a reference



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	En el apartado de Conclusiones no se aprecia ninguna conclusión relevante. En concreto, el primer párrafo de las Conclusiones: “Both, solar radiation increase heat (which can only be positive), as the gain or loss of heat by convection and conduction due to the temperature difference between the interior and exterior, be determined by climatic factors in each region and its development cannot be intentionally altered by human beings. Nevertheless, what it can be changed is the building design and characteristics of the materials and building systems for comfort with the most efficient use of energy.” No es una conclusión. Es más bien una generalidad que no aporta nada al artículo. <i>In the Conclusions section, there is no noticeable relevant conclusion. Specifically, the first paragraph of the Conclusions: “Both, solar radiation increase heat (which can only be positive), as the gain or loss of heat by convection and conduction due to the temperature difference between the interior and exterior, be determined by climatic factors in each region and its development cannot be intentionally altered by human beings. Nevertheless, what it can be changed is the building design and characteristics of the materials and building systems for comfort with the most efficient use of energy.” it is not a conclusion. It is rather a generality that adds nothing to the paper.</i>	The conclusion about this investigation were analysed and under better conditions and comparing the results with more detail, the approach of major conclusions were possible. These conclusions are presented according to the good insulation properties revealed.
	Otras referencias de interés que podían haberse tenido en cuenta: <i>Other references of interest that could have been taken into account:</i> Optimization of the composite brick composed of expanded polystyrene and pumice blocks, Bilal Demirel, Construction and Building Materials, Volume 40,	We have seen the articles and we included references



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	March 2013, Pages 306-313 Hot box measurements of pumice aggregate concrete hollow block walls, Hülya Kus, Ertan Özkan, Özgür Göcer, Ecem Edis, Construction and Building Materials, Volume 38, January 2013, Pages 837-845	
Minor REVISION comments		
<u>Optional/General</u> comments		