The subject matter is within the scope of the journal. Given increasing use of steel, shells, and free form structures in modern-day construction, as well as the realistic environment at which the study was conducted, the manuscript addresses an issue that is very important from the practical point of view. It is also an issue that poses theoretical, as well as experimental challenges, and, as such, deserves a broader dissemination. So, it deserves consideration since it is really significant in field. Moreover, The results have potential to be significant in field. Unfortunately, the presentation is poor. In particular, the methodology is not sufficiently well explained that someone else knowledgeable about the field could repeat the study. Moreover, the results are presented in such a form that are not applicable and useful to the research or the profession.

That criticism encompasses the abstract, which does not accurately describe the contents and does not include all of the main findings of the study, as well as the introduction, which does not provide the state-of-the-art and the review of literature is not devoted to that framing the new knowledge (all references are not complete). Moreover, figures and tables are not adequate to the understanding of the conclusions and in this form compromise the paper’s message.

Ultimately, in this form, the manuscript does not present a specific, easily identifiable advance in knowledge. So, I indicate that the manuscript is not acceptable for publication in its present form.

Thus, I suggest that the article is subjected to a major revision devoted to improving the presentation. In particular, I suggest that the Authors improve some major issues to save the potential readers’ effort that I needed to invest in order to understand the article.

The revised version resubmitted has to present clearly the study’s statement of purpose and all elements of the revised version have to relate logically to that study’s statement of purpose?

In the revised version resubmitted the results must be soundly interpreted and must be related to existing knowledge on the topic.

Last but not least, in the revised version resubmitted the conclusions have to be sound and justified and they have to follow logically from data presented.

Find below the main comments that the Authors must suitably address in order to revise and resubmit the manuscript.

The following sentences are unclear or wrong.

“Specific hyperbolic paraboloids whose characteristic two rulings:”

“Both advantages and disadvantages of the transformed sheeting resulting from its open thin-walled profile and orthotropic properties cause the fact that the shell shape of each fold in the shell sheeting has to be optimized in relation to the supporting conditions to obtain possible small stresses and strains as well as attractive shell shapes [1,6].”

“The developed parametric descriptions of building general forms, their elements such as roof and elevations and the structural systems dedicated to these forms made it possible to use the ......... computer technique to create their models employing this method.”

“A smooth shell model of building’s roof sheeting characterized by zero thickness is the main result of this step of the method’s algorithm.”

“The free form buildings under consideration are visually attractive owing to the suitable shell shapes of roofs coherent with the oblique elevations”

The English form of this sentence must be improved.

“On the basis of these boundary conditions, the method enables the calculation of different lengths of the supporting lines of subsequent folds in the shell and different arrangement of the fixing points of fold’s transverse ends to the directrices.”

Some parts of the abstract of the submitted manuscript seems to be part of the introduction of the article, which is not what a scientific article has to do. In the abstract of the revised version resubmitted, the following must be clear: the purpose of the work, the scope of the effort, the procedures used to execute the work, and the major findings.

Another flaw is that the introduction of the submitted manuscript does not provide sufficient background information for readers not in the immediate field to understand the study. Moreover, the manuscript does not present the study’s statement of purpose, so that the elements of the manuscript do not relate logically to any study’s statement of purpose.

The introduction of the revised version resubmitted should provide a good, generalized background of the topic that quickly gives the reader an appreciation of the wide range of applications for this technology. However, to make the introduction more substantial, the Authors may wish to provide several references to substantiate the claims made. Moreover, in order to make the motivation clearer and to differentiate this article some more from other applied papers, the Authors may wish to provide another sentence giving examples of some of the applications of this technology, along with appropriate references.

In particular, the introduction must mention that the determination of the optimal shape of doubly curved structures was an historical problem which started Renaissance. To that end, the following paper should be cited.

P. Foraboschi. The central role played by structural design in enabling the construction of buildings that advanced and revolutionized architecture. Construction and Building Materials, 2016; 114(July): 956-976.

Moreover, the introduction of the revised manuscript resubmitted must mention the research about responsive parametric building free forms determined by their elastically transformed reinforced concrete shell roofs and glass covers and envelops. To that end, the following papers should be cited.

P. Foraboschi. Structural layout that takes full advantage of the capabilities and opportunities afforded by two-way RC floors, coupled with the selection of the best technique, to avoid serviceability failures. Engineering Failure Analysis, 2016; 70(December): 387-418.


The introduction has also to mention the problem of seismic behavior, which strongly affect the form of roofs in seismic areas. That problem is dealt with in the following two paper, which should to provide the readers with the background of that facet of the seismic behavior.


The analysis and the methodology must be presented in such a form that the reader can understand the procedure and reproduce it. Moreover, the results of the computer program are not well presented. More specifically, the results are not presented in the correct format and are not related to existing knowledge on the topic. In the revised version resubmitted, the role played by the computer have to be presented in a clear way.

The conclusions have not to be another summary, while the submitted conclusions are an extended abstract, which is not what a scientific article has to do.

In the revised version resubmitted, the conclusions have to review the significant implications of the information presented in the body of the manuscript. Moreover, the Authors may suggest further work that needs to be done based on the new knowledge gained from the research, while they only suggest areas of interest, which is too general.