

Review-Form

General Information about This Paper:							
Paper ID: MSEC1034							
Paper Title: Experimental Investigation on the Effect of Die Clearance to the Precision of Punching Hole of Laminate Composite Panel							
Review Period: One week							
Paper Quality: Mark your evaluation in the suitable column. 5 indicates the best and 1 implies the worst.							
ASPECT	BEST	5	4	3	2	1	WORST
Scope	Relevant		√				Irrelevant
Organization:	Excellent		√				Poor
Clarity:	High		√				Low
Length:	Too Short			√			Too Long
References:	Adequate		√				Incomplete
Correctness:	Correct		√				Incorrect
Significance:	High		√				Low
Originality:	High			√			Low
Attachments:	Helpful		√				Unnecessary
If Survey Coverage:	Broad			√			Shallow
Contribution:	Significant		√				No new
Expression	Clearly			√			Vague
Grammar	Good		√				Poor
<p>Please make very detailed technical and editorial comments and suggestions directly on the manuscript. Your comments are an invaluable aid to the author(s) to help in improving the overall technical quality, utility, and readability of the material. Particular attention should be given to details that guide possible revisions, or that clearly explain reasons for rejection. Please summarize comments that appear on the manuscript to help the author(s) focus on the major issues you have raised in your review.</p>							
<p>What are the contributions of this paper?</p> <p>In this study, a few die sets were designed and manufactured to study the effect of die clearance on the precision of punching hole of laminate composite panel and whether the punching technique could replace the conventional drilling technique when manufacturing the composite components. Three punch diameter (3.0, 5.0 and 10.0 mm) and three clearance levels (25%, 30% and 35%) are designed. With proper measurements, effect of die clearance on deviations of the top and bottom surface diameters, as well as the ratio of incomplete shearing are were determined.</p>							
Recommendation (C)							
A) Accept							
B) Revise and Accept (Minor Revision)							
C) Major Revision and Resubmit							

D) Reject

Comments

Confidential Comments to the Editor-in-Chief

Comments to the Author(s)

A) If you agree to accept this paper, please illustrate your reasons why this paper is qualified to be published in the journal in detail, or provide revision suggestions if you have any.

- Why this paper is qualified:

- Revision suggestions:

B) If you think this paper needs major modification and resubmission, please provide summary and detail revision suggestions (on research base, research technique, paper presentation, grammar, jargon use, typesetting, reference, etc.). Please point out the section(s) where you think an error/ flaw occurs.

- Detail revision suggestions:

No. 1. Abstract: The abstract should normally contain the aim, methods, results and conclusions of the investigation. In this case, other unnecessary information such as the first sentence in the current version of the abstract can be omitted.

No.2. Introduction: The second sentence "These materials are used because of the weight reduction, reliability, and strength of the materials on composite parts especially for complex and high-precision applications" is doubtful. I agree with the weight reduction effect of composite materials, while about its reliability, I don't buy it. Actually, in terms of properties and costs, several kinds of conventional materials such as cast iron perform better than composite materials. Also for the complex and high-precision applications, nowadays the precision casting technique performs very well. The most important advantage of composite materials is their pretty low ratio of strength to weight.

No.3 Introduction: the third sentence "In practice, industries produce holes on composite panels by drilling." is a little dogmatical. As far as I understand, there are some other ways to produce holes on composite panels in industry. For example, many holes on composites are directly casted.

No.4 Experimental setup, the author said that the equation [1] was developed specifically for metals, how can you safely "embezzle" it into your composite case? Can you offer some simple demonstration or deduction. At least, you need to state that you assume that the equation 1 can be employed here and the composite materials will perform the same as the metals. Investigation can base on assumption but not on unproved facts.

No.5 You designed three punch diameters (3, 5, and 10 mm) and three die clearances (25%, 30%, and 35%) while got 10 cutting conditions. It is a little confusing if the reader don't carefully notice your Table 1 (you have another combination of 10 punch diameter and 10 clearance, which is not mentioned in your design part). I think you'd better to reorganize this part to make it more clear.

No.6 Experimental setup "The selected punch diameters were based on the hole size that were most commonly required

in composite panel assemblies”, “the most commonly required” comes from the data you collected or literatures? I think it is good you can refer to some literatures to say this then make the reader convinced, otherwise you could just say you pick up these sizes.

No.7 The statement “ At least three specimens were tested for every cutting condition for repeatability.” and “Three samples were collected for each experimental design.” are repeating and a little contradictory with each other. What actually happened? Three samples or more than three for some specific cutting conditions? You need clarify them or delete the first statement, I think this is the best way.

No.8 Results and Discussion, The equation 2 can be used just because “this equation also seems to work for composite panels.” Like I suggested before, you need to propose the assumption or the hypothesis rather than “seems to work” to use the equation if you can prove it can be accurately transferred in your research case.

No.9 Results and Discussion, in your results (Fig.3, Fig.4, Fig. 5 and Fig. 6) there are no error bars (standard deviations) to show the scatters. If I understood right, you have done three tests for each cutting condition. Then you can calculate the average value and standard deviation for each cutting condition and present the results, which is a normal way for reporting the results. In this way, the reader can know your tests more clearly and see the reliability of the test design.

No.10 I suggest that you could update the scale in Fig.4. To the first sense, the vibrations of the data in Fig.4 are much more severe than the data shown in Fig.3, which may mislead the readers. For example, the Ø5 mm punch test in Fig. 3 seems almost like a straight line but actually vibrates between -2.368% to -0.579%, while in Fig. 4 we observed a more obvious alteration in Ø5 mm punch tests, which actually changed between 0.291% and 1.263%. So that appropriately altering the maximum and minimum scales in Fig.4 is better.

No.11 In the conclusion, I suggest that you could combine some points together to simplify the conclusion. For example, point a) and b) can be combined. Also , in the scientific paper, one usually use “study” or “research” or “experiments” to draw the conclusions rather than “project”. Because it is a research paper not a project report so that the findings from your study should be independent from all the external factors.

No.12 General for the manuscript: the English overall the manuscript is decent while there are still some grammatical and terminological errors which can be improved. In the results and discussion part, it lacked the discussion while just focused on describing the figures. I hope to see more discussion in the revised version.

C) If you think this paper should be rejected, please expound the reasons why it is not of sufficient quality/novelty or seriously flawed to be published in the journal.

Would you be willing to review a revision of this manuscript? Yes () No ()

Thank you very much for your contribution !