

### Review Form 3

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|--------------------------|---|
| Journal Name:            | <b>Journal of Engineering Research and Reports</b>  |
| Manuscript Number:       | <b>Ms_JERR_120063</b>   |
| Title of the Manuscript: | <b>Finite element static analysis of the main beam of mobile moulder grooving machine</b> |
| Type of the Article      | <b>Research Article</b>   |

#### **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:

<https://r1.reviewerhub.org/general-editorial-policy/>

#### **Important Policies regarding Peer Review**

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**PART 1: Review Comments**

| <b>Compulsory</b> REVISION comments  | Reviewer's comment   | Author's Feedback <i>(Please correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)</i> |
|--|--|---|
| <p><b>Please write few sentences regarding the importance this manuscript for scientific community. Why do you like (or dislike) this manuscript? Minimum 3-4 sentences may be required for this part.</b></p>                           | <p>This manuscript holds significant importance for the scientific community as it delves into the structural analysis of a crucial component in large-scale engineering equipment. it provides valuable insights into the machine's load-bearing capabilities and potential areas for optimization. This research is particularly relevant for engineers and designers working on similar large-scale projects, offering a foundation for improving safety and efficiency</p>   |   |
| <p><b>Is the title of the article suitable? (If not please suggest an alternative title)</b></p>   | <p><b>Alternate Title:</b><br/>Structural Integrity Assessment of a Mobile Moulder Grooving Machine's Main Beam Using Finite Element Static Analysis</p>   |   |
| <p><b>Is the abstract of the article comprehensive? Do you suggest addition (or deletion) of some points in this section? Please write your suggestions here.</b></p>  | <p>it can be refined for clarity and to ensure it fully captures the significance and scope of the research. some suggestions for improvement</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Clarify the Objective:</li> <li><input type="checkbox"/> Highlight Key Findings:</li> <li><input type="checkbox"/> Emphasize Significance:</li> </ul>  |   |
| <p><b>Are subsections and structure of the manuscript appropriate?</b></p>   | <p><b>Finite Element Analysis of Slot-Making Machine:</b>, you could introduce a methodology subsection before diving into the specific analysis steps.</p> <p><b>Organize the order of Research article:</b></p> <ol style="list-style-type: none"> <li>1. Introduction</li> <li>2. Finite Element Analysis of Slot-Making Machine(Literature Review:)             <ol style="list-style-type: none"> <li>2.1 Methodology</li> <li>2.2 Structure of the Groove Making Machine</li> <li>2.3 Trough-Making Machine Operation Process</li> </ol> </li> <li>3. Finite Element Analysis Results             <ol style="list-style-type: none"> <li>3.1 Analysis of Pouring Operation</li> <li>3.2 Analysis During Over-Hole Operation</li> <li>3.3 Stress Analysis at the Joint Between Main Beam and Box Guide Beam</li> </ol> </li> <li>4. Conclusion</li> </ol> |   |
| <p><b>Please write few sentences regarding the scientific correctness of this manuscript. Why do think that this manuscript is scientifically robust and technically sound? Minimum 3-4 sentences may be required for this part.</b></p> | <p>This manuscript appears to be scientifically robust and technically sound due to several key factors. First, it employs the well-established method of finite element analysis (FEA), using ANSYS software, to assess the structural integrity of a critical component in large-scale engineering equipment. The manuscript systematically evaluates the main beam under various hazardous working conditions, providing comprehensive stress and displacement maps that validate the safety and design efficiency of the component.</p>  |   |

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| <p><b>Are the references sufficient and recent? If you have suggestion of additional references, please mention in the review form.</b></p> | <p>The manuscript references appear to be foundational for the study, but it would be helpful to include more recent and diverse sources to ensure the research is current and well-supported.</p>  |  |
| <p><u>Minor</u> REVISION comments</p> <p><b>Is language/English quality of the article suitable for scholarly communications?</b></p>       | <p>Simplify Complex Sentences</p>   |  |
| <p><u>Optional/General</u> comments</p>   | <p><b>Literature Review:</b></p> <p><b>Literature Review:</b> in the he finite element analysis of the main beam, a brief literature review section might be beneficial. It would provide context by highlighting previous studies and their contributions to the field, positioning your work within the broader research landscape.</p> |  |

**PART 2:**

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|  | <p><b>Reviewer's comment</b></p>  | <p><b>Author's comment</b> <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></p> |
| <p><b>Are there ethical issues in this manuscript?</b></p> | <p><i>(If yes, Kindly please write down the ethical issues here in details)</i></p> |  |

**Reviewer Details:**

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|---|--|
| <p>Name:</p>                                | <p><b>J.Sukanya</b></p>  |
| <p>Department, University &amp; Country</p> | <p><b>M.V.Muthiah Government Arts College for Women, India</b></p> |