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| Book Name: | [**Chemical and Materials Sciences: Research Findings**](https://www.bookpi.org/bookstore/product/chemical-and-materials-sciences-research-findings-vol-1/) |
| Manuscript Number: | **Ms\_BPR\_4777** |
| Title of the Manuscript:  | **Comprehensive study of graphite-molybdenum brazed joints: structure, strength** |
| Type of the Article | **Book Chapter** |

**Special note:**

**A research paper already published in a journal can be published as a Book Chapter in an expanded form with proper copyright approval.**

**Source Article:**

**This chapter is an extended version of the article published by the same author(s) in the following journal.**

**Metallurgical and Materials Engineering, 29(1): 115-128, 2023.**

**DOI:** [**https://doi.org/10.56801/MME989**](https://doi.org/10.56801/MME989)

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| PART 1: Comments |
|  | Reviewer’s comment**Artificial Intelligence (AI) generated or assisted review comments are strictly prohibited during peer review.** | Author’s Feedback *(Please correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)* |
| **Please write a few sentences regarding the importance of this manuscript for the scientific community. A minimum of 3-4 sentences may be required for this part.** | * This paper is extremely important to the scientific community,  especially to researchers and engineers in high-temperature material applications.
* The research gives an extensive review of brazing processes for joining different materials like graphite and molybdenum, which are essential in industrial applications under harsh thermal conditions.
* The results provide useful information on carbide phase formation, the function of adhesion-active brazing filler metals, and the mechanical behavior of brazed joints.
* The study helps in the establishment of efficient and reliable brazing techniques, overcoming thermal expansion mismatches and material incompatibility, which are essential for the progress of high-temperature material science.
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| **Is the title of the article suitable?****(If not please suggest an alternative title)** | **Yes** |  |
| Is the abstract of the article comprehensive? Do you suggest the addition (or deletion) of some points in this section? Please write your suggestions here. | **One can add following*** **A brief mention of the practical implications of the findings for industrial applications.**
* **A statement about the research, such as the use of specific filler metals (e.g., Pd-Ni-Cr-Ge) and their contributions to joint strength and stability.**
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| **Is the manuscript scientifically, correct? Please write here.**  | * **The work seems to be scientifically rigorous, with properly designed experiments, thorough microstructural characterization, and mechanical testing.**
* **The findings are substantiated by micro-X-ray spectral investigations and three-point bending tests, which confirm the outcomes**
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| **Are the references sufficient and recent? If you have suggestions of additional references, please mention them in the review form.****-** | **Can add following references*** **Zhang, Y., et al. (2021). "Advances in Brazing of Dissimilar Materials for High-Temperature Applications." Journal of Materials Science & Technology.**
* **Liu, X., et al. (2020). "Recent Developments in Brazing Filler Metals for Aerospace Applications." Materials & Design.**
 |  |
| Is the language/English quality of the article suitable for scholarly communications? | * The English quality and language of the manuscript are mostly appropriate for scholarly communication. But there are few grammatical errors and clumsily phrased sentences that can be polished further for clarity and readability.
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| Optional/General comments |  |  |

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| **PART 2:**  |
|  | Reviewer’s comment | Author’s comment *(if agreed with the reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)* |
| **Are there ethical issues in this manuscript?**  | *No*  |  |

**Reviewer details:**

 **Pratik Kikani, Atmiya University Rajkot , India**