

TU BERGAKADEMIE FREIBERG



Die Ressourcenuniversität. Seit 1765.

Fakultät für Werkstoffwissenschaft und Werkstofftechnologie

Institut für Metallformung

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Literaturarbeit / Literaturreview

Thema: Analysis of techniques to investigate the strength of interface in multiphase materials.

Multiphase materials are being used in many applications now a days due to their superior mechanical properties. The interface of matrix and inclusions in such materials largely influences the overall deformation and failure behavior of such materials. Many researchers in the past have shown that the interface is the most critical zone where failure initiates and propagates.

It is important to incorporate this effect of interface decohesion during deformation in the current advanced numerical simulation models but the information regarding the strength is missing and is a huge challenge to quantitatively analyze this. A literature survey and conclusive study is needed to find out what techniques are adopted by different research groups to investigate this interface strength between two different phases and which optimal technique can be adopted by IMF for such analysis to improve the numerical simulation model.

Schwerpunkte der Arbeit:

- How does interface strength affect the material properties in multi-phase materials?
- How is interface strength analyzed by different research groups?
- Advantages and disadvantages of different techniques
- Conclusion of study by identifying optimal techniques which can be adopted for TRIP Steel MMCs at IMF

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Hinweis: Die Bearbeitung des Themas ist auch auf Deutsch möglich.