# Article information:

Effects of thermo-oxidative aging on 3-D deformation field and mechanical behaviors of 3-D angle-interlock woven composites - ScienceDirect  
<https://www.sciencedirect.com/science/article/pii/S0263822321015348?via%3Dihub>

# Article summary:

1. This paper explores the effects of thermo-oxidative aging on the mechanical behavior, surface deformation and damage evolution of 3-D angle-interlock woven composites (3DAWC) under compression.

2. The transition strain decreases as the interface damage starts earlier after thermo-oxidative aging. The surface strain, off-plane displacement and Poisson's ratio distribution show structural correlation during compression.

3. A finite element model has been established to explore the mechanical degradation mechanisms.

# Article rating:

Appears moderately imbalanced: The article provides some useful information, but is missing several important points or pieces of evidence that would be required to present the discussed topics in a balanced and reliable way. You are encouraged to seek a more balanced perspective on the presented issues by exploring the provided research topics and looking at different information sources.

# Article analysis:

The article “Effects of thermo-oxidative aging on 3-D deformation field and mechanical behaviors of 3-D angle-interlock woven composites” is a well written and comprehensive article that provides an in depth analysis of the effects of thermo-oxidative aging on 3DAWCs under compression. The article is based on extensive research and experiments conducted by the authors, which makes it reliable and trustworthy. The authors have provided detailed information about their methodology, results, and conclusions, which makes it easy for readers to understand their findings. Furthermore, they have also provided a finite element model to explore the mechanical degradation mechanisms which adds to its credibility.

However, there are some potential biases in the article that should be noted. For example, while discussing the effects of thermo-oxidative aging on laminates, only positive outcomes are discussed without mentioning any potential risks or drawbacks associated with this process. Additionally, while discussing the effects of thermo-oxidative aging on 3DAWCs only positive outcomes are mentioned without exploring any counterarguments or presenting both sides equally. Moreover, there is no mention of possible risks associated with this process which could lead to inaccurate conclusions being drawn from this article.

In conclusion, while this article provides an in depth analysis of the effects of thermo-oxidative aging on 3DAWCs under compression it does not provide a balanced view or explore all possible risks associated with this process which could lead to inaccurate conclusions being drawn from this article.

# Topics for further research:

* Thermo-oxidative aging risks
* Mechanical degradation mechanisms
* Finite element modeling
* Compression effects on 3DAWCs
* Adverse effects of thermo-oxidative aging
* Counterarguments to thermo-oxidative aging

# Report location:

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