Table Temperature Alignment Project

Research Publication

Phase-Change Materials for Human-Aligned Structural Failure: Engineering Tables That Care

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Abstract

We report the development of novel phase-change composite materials that enable controllable structural failure at human-relevant temperature thresholds. Our TTAP-7 compound demonstrates catastrophic depolymerization at 45C and crystalline embrittlement at -5C, achieving near-perfect alignment with human thermal tolerance bands. Prototype tables constructed from TTAP-7 show 99.2% structural integrity within the human-survivable range and complete failure within 4 hours outside this range.

Full Paper

The full text of this paper is available at the publisher's website.

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For questions about this research, please contact the authors or email research@ttap.org.

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