

## Orthotropic Cyclic Continuum Constitutive Model For Masonry Structures And Comparative Studies

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**DOI**

[10.4233/uuid:34614723-9a3c-42c8-b70c-e4ac1dca5e8c](https://doi.org/10.4233/uuid:34614723-9a3c-42c8-b70c-e4ac1dca5e8c)

**Publication date**

2024

**Document Version**

Final published version

**Citation (APA)**

Sousamli, M. (2024). *Orthotropic Cyclic Continuum Constitutive Model For Masonry Structures And Comparative Studies*. [Dissertation (TU Delft), Delft University of Technology].  
<https://doi.org/10.4233/uuid:34614723-9a3c-42c8-b70c-e4ac1dca5e8c>

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# **Propositions**

accompanying the dissertation

## **ORTHOTROPIC CYCLIC CONTINUUM CONSTITUTIVE MODEL FOR MASONRY STRUCTURES AND COMPARATIVE STUDIES**

by

**Marianthi SOUSAMLI**

1. Classic smeared crack models without provisions to include the shear behavior along joints are not appropriate for the continuum modeling of masonry structures. (This proposition pertains to this dissertation.)
2. While material sensitivity studies provide valuable insights into the nonlinear response of a structure, blindly extrapolating numerical outcomes to all cases can be risky. (This proposition pertains to this dissertation.)
3. Any constitutive model for masonry structures that during its validation has only considered the force capacity and failure mechanism, but not the ductility, energy dissipation and damage localization should be regarded incomplete. (This proposition pertains to this dissertation.)
4. A constitutive model should only be considered universally reliable if it has been proven that it performs consistently well for all different types of applied loads, and for both load-control, arc-length control and displacement-control static analyses, as well as for nonlinear-time-history analyses. (This proposition pertains to this dissertation.)
5. Publishing more about research hypotheses and methodologies that led to unsuccessful outcomes would lead to swifter scientific advancements in the future and less article retractions due to fraud. Researchers should never forget that it's better to fail with honor than to succeed by fraud.
6. Empathy and compassion should be mandatorily taught in schools and universities, and practiced daily in society.
7. Rectifying the widespread underrepresentation of women in STEM goes beyond seeking gender equality; it is essential for unlocking untapped potential, fostering innovation, and ensuring a future in these fields that is both diverse and inclusive.
8. Just as structures risk collapse when exceeding their load capacity, individuals should be mindful not to carry burdens beyond their emotional limits.
9. In the imperative pursuit of sustainability and the urgent need to tackle climate change, scientists must not only propose and push for policy changes, but also actively participate in the decision-making process and the implementation of the policies.
10. No matter the numerical approach followed, there is no such thing as a perfect constitutive model for masonry structures.

These propositions are regarded as opposable and defensible, and have been approved as such by the promoters Prof. dr. J. G. Rots and Dr. F. Messali.