A confinement-dependent load-induced thermal strain constitutive model for concrete subjected to temperatures up to 500°C

Giacomo Torelli , Partha Mandal , Martin Gillie , Van-Xuan Tran

PII: S0020-7403(17)33737-2
DOI: 10.1016/j.ijmecsci.2017.12.054
Reference: MS 4118

To appear in: *International Journal of Mechanical Sciences*

Received date: 30 November 2016
Revised date: 30 November 2017
Accepted date: 31 December 2017

Please cite this article as: Giacomo Torelli , Partha Mandal , Martin Gillie , Van-Xuan Tran , A confinement-dependent load-induced thermal strain constitutive model for concrete subjected to temperatures up to 500°C, *International Journal of Mechanical Sciences* (2018), doi: 10.1016/j.ijmecsci.2017.12.054

Highlights

- LITS development for temperatures up to 500°C is strongly confinement-dependent
- A confinement-dependent LITS model for this temperature range is presented
- The model is numerically implemented, validated applied to a test case
- The behaviour of nuclear vessels is affected by the confinement-dependency of LITS