

Measurement of the Creep Strain Distribution in an Axially Loaded Brickwork Wall

David Warren¹ and David Lenczner²

Abstract:

As part of a long term investigation into creep of brickwork and blockwork the authors have instrumented two single-wythe walls with acoustic gauges on the bricks and across the mortar joints in a vertical and horizontal direction. The walls were loaded axially for a period of 400 days and the development of creep strains within the bricks and mortar joints monitored. In order to account for the moisture and temperature movements of the brickwork of a free-standing wall was instrumented as well. This paper describes the experimental procedure and results :- Poisson's ratio for the brickwork wall in creep was found to be 0.197 at 400 days; Poisson's ratio for the bricks on the wall was 0.087 at 400 days and the total creep deformation in the wall, after 400 days, due to the bricks was found to be three times that due to the bed-joints.

To purchase full article: Please use this direct link to purchase the TMS Journal Volume of this article, Volume 2, Issue 2: <https://masonrysociety.org/product/tms-ejournal-vol-2-no-2/>

Otherwise, consider becoming a TMS member for full access to all TMS Journal articles: <https://masonrysociety.org/membership/#join>

DOI: 10.70803/001c.140586

¹ Research Associate, Centre for Research and Development in Masonry, Calgary, Alberta, Canada.

² Senior Lecturer, University of Wales Institute of Science and Technology, Cardiff; S. Wales, U.K.