

Comparison of Distribution of Properties in Segmental Retaining Wall Units between Manufacturers

Cesar Chan ¹, Kenneth C. Hover², and Kevin J. Folliard³

Abstract:

This paper examines the within-block spatial distribution of material properties in Segmental Retaining Wall (SRW) units obtained from several major manufacturers. Properties investigated include water absorption, density, air and compaction void contents, paste content and parameters of the air void system. It was observed that some of these properties followed distinct patterns of spatial distribution, and there was consistency in the manner in which the distributions for these properties were related. As expected, locations with lower absorptions also exhibited higher densities and lower compaction void contents, irrespective of manufacturer or grade of SRW unit. This systematic (and not random) spatial distribution of properties is suspected to be related to manufacturing methods, and may influence how test results are interpreted or used. For this type of material, it is demonstrated that stratified random sampling techniques are preferred over simple random techniques for specimen extraction.

To purchase full article: Please use this direct link to purchase the TMS Journal Volume of this article, Volume 25, Issue 1: <https://masonrysociety.org/product/tms-ejournal-vol-25-no-1/>

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

DOI: 10.70803/001c.141186

¹ Graduate Research Assistant, School of Civil and Environmental Engineering, Cornell University, Ithaca, NY 4853-3501

² Professor, Department of Civil and Environmental Engineering, Cornell University, Ithaca, NY 14853-3501

³ Associate Professor, Department of Civil Engineering, The University of Texas at Austin, Austin, TX 78712-0275