

This paper is part of the Journal of Geotechnical Engineering Division, Proceedings of the American Society of Civil Engineers, Vol. 108, No. GT8, August 1982 ©ASCE, ISSN 0093-6405/82/0008-1017/\$01.00.

## CRITERIA FOR SETTLEMENT OF TANKS

By W. Allen Marr,<sup>1</sup> M. ASCE, Jose A. Ramos,<sup>2</sup>  
and T. William Lambe,<sup>3</sup> F. ASCE

**ABSTRACT:** Performance criteria for the settlement of large steel tanks used to store fluids at ambient temperature and pressure are presented. Where possible, the criteria include a factor of safety, defined as the ratio of tensile stress to developed stress. Permissible values of factor of safety for safe operation are indicated. The performance criteria are developed by interpreting and expanding previous studies, making approximate analyses, and analyzing the measured performance of 90 large tanks, including the tanks at Toa Nenryo Kogyo's site at Kawasaki City, Japan. For each criterion, the mechanism of failure, the structural element to which the criterion applies, and the basis for the criterion are identified.

Please click here for the full version of this document - redistribution is subject to ASCE license or copyright. <http://www.ascelibrary.org>