

Development of the New Australian Earthquake Loading Standard

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ABSTRACT

This paper outlines the development of the Australian Earthquake Loading Standard, AS1170.4 published in 2007. Australia is a country of low to moderate seismicity with a number of Magnitude 6.8 events recorded and a moderate 5.6 magnitude event in Newcastle in 1989 that killed 13 people and caused in excess of \$2 Billion damage. A new design response spectrum has been developed for Australia which has a very good representation of accelerations, velocities and displacements for rock and soft soil sites. The methodology used to develop the spectrum could be extended to other countries of low to moderate seismicity. The Standard introduces a tiered approach to earthquake loading from a simplistic force based approach to a more complex displacement based method. The displacement based method has significant advantages in low seismic regions and allows designers to design for gravity and wind loads and then to carry out a displacement check for earthquake effects.
