Computational Investigation of Tunable Steel Plate Shear Walls for Improved Seismic Resistance

Manasa Koppal

Thesis submitted to the faculty of Virginia Polytechnic Institute and State University in partial fulfillment of the requirements for the degree of MASTER OF SCIENCE IN CIVIL ENGINEERING

Matthew R. Eatherton, Chairman

Cristopher D. Moen

Kamal B. Rojiani

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Blacksburg, VA

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Description of item under review for fair use: Figure 2-2 Schematic representation of the Strip model of a SPSW (Thorburn et al. 1983)


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Description of item under review for fair use: Figure 2-3 (a) Experimental Test set-up (Berman and Bruneau, 2005), (b) Hysteresis behavior of the SPSW (Berman and Bruneau, 2005)


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Description of item under review for fair use: Figure 2-5 (a) SPSW Panel with a central circular hole, (b) Hinge assembly – Schematic of the test specimen (Roberts and Sabouri-Ghomi, 1992)

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Description of item under review for fair use: Figure 2-7 (a) Schematic representation of SPSW with slits, (b) Experimental test set up, Hitaka and Mastui, (2006)

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Description of item under review for fair use: Figure 2-9 SPSW divided into parts to show the forces [From (ICC/SEAOC, 2012)]

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Description of item under review for fair use: Figure 2-10 Components of expected web strength applied to HBE and VBE [From (ICC/SEAOC, 2012)]


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Description of item under review for fair use: Figure 3-2 Stress Strain curve for LYS steel for the web plate, [From (Vian and Bruneau, 2005)]

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Description of item under review for fair use: Figure 3-3 Reduced Beam Section detailing incorporated in the experiment and the FE model, [From (Vian and Bruneau, 2005)]

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Description of item under review for fair use: Figure 3-6 (a) Panel damage – buckling and yielding of the specimen S at 3% drift [From (Vian and Bruneau, 2005)]

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Description of item under review for fair use: Figure 3-9 (a) Damage to panel at the end of testing for specimen P at 3% drift [From (Vian and Bruneau, 2005)]

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Description of item under review for fair use: Figure 4-1 Building Elevation [From (ICC/SEAOC, 2012)]

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Description of item under review for fair use: Figure 4-2 Typical floor and roof framing plan [From (ICC/SEAOC, 2012)]

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