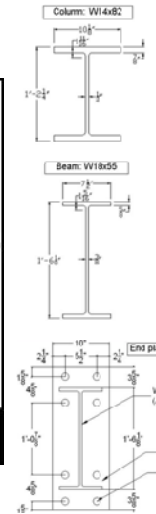
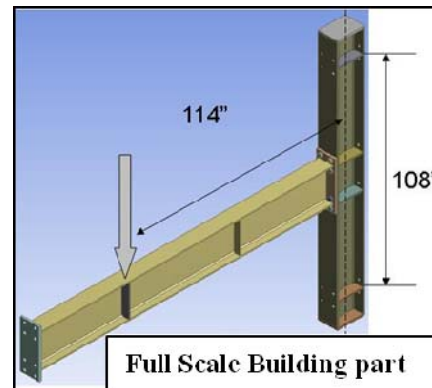


Low Cycle Fatigue Damage Evaluation on Extended End Plate Moment Connection, May 2009

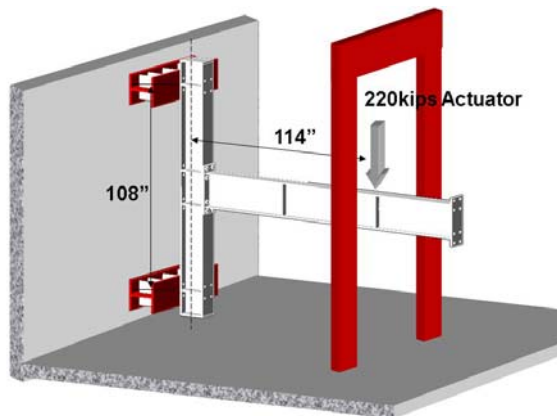
This portfolio shows how to develop the low cycle fatigue model to predict the life of structure which was damaged by seismic activity. Three approaches were used to anticipate the behavior of the end plate moment connection. At first, theoretical approach was used to determine the limit of the elastic range of the system. And secondly the numerical (FEM) analysis was used to simulate the behavior of the connection. Finally, experimental tests were conducted to develop the LCF model.

• Specimen Design: 4 Bolts extended end plate Beam-Column connection

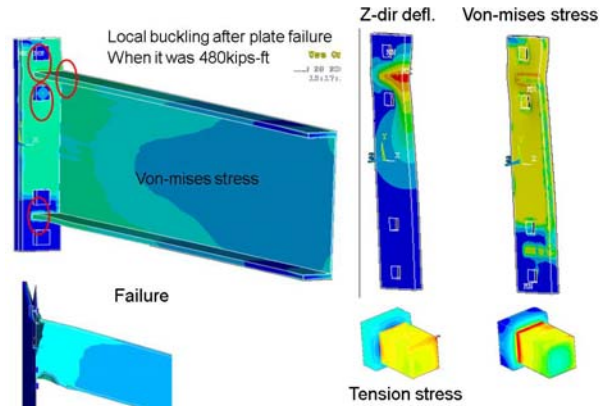
Part	Detail	No.	ETC
Beam	W12x48x153.	1	A992
Column	W14x74x132	1	A992
E Plate	0.875x10x25.375	2	A572
Bolt	D1.25x3.25	8	A490
S plate	0.625 THK	8	A572
	0.75 THK	4	A572
D plate	0.5x10.875x16	1	A572



• Experimental Test Setup and Simulation



Ansys 11ver. 3D solid model

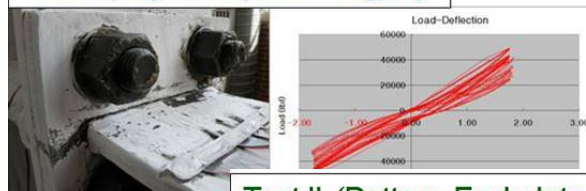


• Results

Full Scale Cyclic Test Setup



Test I (Top End plate fatigue)



Test II (Bottom End plate fatigue)

