CONNECTION TEST SUMMARIES

Report No. SAC-96-02

SAC Joint Venture

a partnership of:
Structural Engineers Association of California
Applied Technology Council
California Universities for Research in Earthquake Engineering

Prepared By:
Amir S. Gilani
Earthquake Engineering Research Center, Richmond, California

Based On Research Performed By:

Vitelmo V. Bertero
Andrew S. Whittaker
Amir S. Gilani
Earthquake Engineering Research Center
Richmond, California

Michael D. Engelhardt
Bradley D. Shuey
Timothy Portyaj
University of Texas at Austin
Austin, Texas

Chai-Ming Uang
Duane Bondad
University of California at San Diego
San Diego, California

Egor P. Popov
Marcial Blondet
Lev Stepanov
B. Stojadnovic
University of California at Berkeley
Berkeley, California

SAC Joint Venture
555 University Avenue, Suite 126
Sacramento, California 95825
916-427-3647

CONNECTION TEST SUMMARIES

SAC Program to Reduce Earthquake Hazards in Steel Moment Resisting Frame Structures

Foreword and Disclaimer

FEMA 267 *Interim Guidelines: Evaluation, Repair, Modification, and Design of Steel Moment Frames* provides recommendations for the design of fully restrained, welded moment resisting steel framing connections for earthquake resistance. The FEMA 267 procedures require either that connection designs be qualified, through a program of testing of representative full scale connection assemblies, or alternatively, that they be designed analytically based on reference to successful tests conducted on connection assemblies of similar configuration to those being designed. This publication provides summaries of relevant data from a series of full scale connection assembly tests conducted by the SAC Joint Venture, which may be useful to designers engaged in the design of similar connections using the analytical procedures of FEMA 267. **No warranty is offered by the Federal Emergency Management Agency, the SAC Joint Venture, the individual joint venture partners, their directors, members or employees, with regard to the suitability for use on specific projects of any connection designs for which test data is presented herein. These organizations and their employees do not assume any legal liability or responsibility for the accuracy, completeness, or usefulness of any of the information, products or processes included in this publication. The reader is cautioned to carefully review the material presented herein.** Such information must be used together with sound engineering judgment when applied to specific engineering projects. The data presented herein has been developed by the SAC Joint Venture with funding provided by the Federal Emergency Management Agency, under contract number EMW-95-C-4770.

Acknowledgment

The SAC Joint Venture wishes to offer grateful acknowledgment to the Federal Emergency Management Agency (FEMA); FEMA's project officer, Mr. Michael Mahoney; and technical advisor, Dr. Robert D. Hanson. Following the discovery of severe damage to steel moment-resisting frame buildings in the Northridge earthquake, this agency recognized the significance of this issue to the engineering community as well as the public at large, and acted rapidly to provide the necessary funding to allow the Program to Reduce Earthquake Hazards in Steel Moment Resisting Frame Structures to proceed. Without the support of this agency, the important information and material presented herein could not have been made available.

The SAC Joint Venture
555 University Avenue, Suite 126
Sacramento, CA 95825
phone 916-427-3647; facsimile 916-568-0677