

DEVELOPING AND VALIDATING NEW BOLTED END-PLATE MOMENT
CONNECTION CONFIGURATIONS

Nonish Jain

Thesis submitted to the Faculty of the
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, Chair

Thomas M. Murray

Roberto T. Leon

June 24, 2015

Blacksburg, Virginia

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Buildings

Draft 09/01/2009

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3 messages

Nonish Jain <nonishj@vt.edu>

Wed, Jul 1, 2015 at 8:41 PM

To: Tom Murray <thmurray@vt.edu>

Dr. Murray,

As you know, I am completing a master's thesis at Virginia Tech entitled "Developing and Validating New Bolted End-Plate Moment Connection Configurations". I am attaching a copy of my thesis and I would like your permission to reprint in my thesis, excerpts from the following of your works:

1. [Sumner, E. A., & Murray, T. M. (2001). *Experimental Investigation of Four Bolt Wide Extended End-Plate Moment Connections*. Blacksburg, VA: Department of Civil Engineering, Virginia Polytechnic Institute and State University.]

The excerpts to be reproduced are:

- Figure 4-11 8E-4W-1-1/2-62 Specimen Dimensions
- Figure 4-12 End Plate Layout for Specimen 8E-4W-1-1/2-62
- Figure 4-13 Load-deformation behavior for Specimen 8E-4W-1-1/2-62
- Figure 4-14 End-Plate Separation for Specimen 8E-4W-1-1/2-62
- Figure 4-15 Bolt forces for Specimen 8E-4W-1-1/2-62
- Figure 4-16 8E-4W-3/4-3/4-62 Specimen Dimensions
- Figure 4-17 End Plate Layout for Specimen 8E-4W-3/4-3/4-62
- Figure 4-18 Load-deformation behavior for Specimen 8E-4W-3/4-3/4-62
- Figure 4-19 End-Plate Separation for Specimen 8E-4W-3/4-3/4-62
- Figure 4-20 Bolt forces for Specimen 8E-4W-3/4-3/4-62

2. Sumner, E. A., Mays, T. W., & Murray, T. M. (2000). *Cyclic Testing of Bolted Moment End-Plate Connections*. Blacksburg, VA: Virginia Polytechnic Institute and State University.

The excerpts to be reproduced are:

- Figure 4-1 8E-4W-1.25-1-30 Specimen Dimensions
- Figure 4-2 End Plate Layout for Specimen 8E-4W-1.25-1-30
- Figure 4-3 Load-deformation behavior for Specimen 8E-4W-1.25-1-30
- Figure 4-4 End-plate separation for Specimen 8E-4W-1.25-1-30
- Figure 4-5 Bolt 2 strains for Specimen 8E-4W-1.25-1-30
- Figure 4-6 8E-4W-1.25-1.375-36 Specimen Dimensions
- Figure 4-7 End Plate Layout for Specimen 8E-4W-1.25-1.375-36
- Figure 4-8 Load-deformation behavior for Specimen 8E-4W-1.25-1.375-36
- Figure 4-9 End-plate separation for Specimen 8E-4W-1.25-1.375-36

Figure 4-10 Bolt 2 strains for Specimen 8E-4W-1.25-1.375-36

Figure 4-21 8ES-1.25-1-30 Specimen Dimensions

Figure 4-22 End-Plate Layout for Specimen 8ES-1.25-1-30

Figure 4-23 Load-deformation behavior for Specimen 8ES-1.25-1-30

Figure 4-24 End-plate separation for Specimen 8ES-1.25-1-30

Figure 4-25 Bolt 11 strains for Specimen 8ES-1.25-1-30

Figure 4-31 8ES-1.25-1.25-36 Specimen Dimensions

Figure 4-32 End-plate Layout for Specimen 8ES-1.25-1.25-36

Figure 4-33 Load-deformation behavior for Specimen 8ES-1.25-1.25-36

Figure 4-34 End-plate separation for Specimen 8ES-1.25-1.25-36

Figure 4-35 Bolt 3 strains for Specimen 8ES-1.25-1.25-36

3. Ghassemieh, M., Kukreti, A., and Murray, T.M. (1983) *Inelastic Finite Element Analysis of Stiffened End-Plate Moment Connections*, Report No. FSEL/AISC 83-02, School of Civil Engineering and Environmental Science, University of Oklahoma, Norman, OK.

The excerpts to be reproduced are:

Figure 4-26 8ES-0.875-0.75-24 Specimen Dimensions

Figure 4-27 End-Plate Layout for Specimen 8ES-0.875-0.75-24 [redrawn]

Figure 4-28 Moment-Deflection behavior for Specimen 8ES-0.875-0.75-24

Figure 4-29 End-plate separation for Specimen 8ES-0.875-0.75-24

Figure 4-30 Bolt forces for 8ES-0.875-0.75-24

Figure 4-36 8ES-0.875-1-24 Specimen Dimensions

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Figure 4-38 Load-deformation behavior for Specimen 8ES-0.875-1-24

Figure 4-39 End-plate separation for Specimen 8ES-0.875-1-24

Figure 4-40 Bolt forces for Specimen 8ES-0.875-1-24

The requested permissions extends to any future revisions and editions of my thesis.

If these arrangements meet with your approval, please reply to this email and I shall attach the very same for my submission to the graduate school. Thank you very much.

Sincerely,

Nonish

--

Nonish Jain

Graduate Research Assistant

Structural Engineering and Materials Program

Department of Civil and Environmental Engineering

Virginia Polytechnic Institute and State University



Tom Murray <thmurray@vt.edu>
To: Nonish Jain <nonishj@vt.edu>

Mon, Jul 6, 2015 at 8:46 AM

Permission granted.

Tom Murray

At 08:41 PM 7/1/2015, you wrote:

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Sincerely,
Nonish

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Nonish Jain
Graduate Research Assistant
Structural Engineering and Materials Program
Department of Civil and Environmental Engineering
Virginia Polytechnic Institute and State University

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Thomas M. Murray, Ph.D., P.E.
Emeritus Professor of Structural Steel Design
Department of Civil Engineering
Virginia Tech
Blacksburg, VA 24061
[540-731-3330](tel:540-731-3330)
[540-639-0713](tel:540-639-0713) Fax

Nonish Jain <nonishj@vt.edu>
To: Tom Murray <thmurray@vt.edu>

Mon, Jul 6, 2015 at 5:05 PM

Thank you so much! Hope you had a great 4th.

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[\(973\) 906-8200](tel:973-906-8200)

www.linkedin.com/in/nonishjain