

**DESIGN OF SPECIAL STEEL BEAM TO COLUMN
CONNECTION ON THE SHORT SPAN DEEP BEAM
(CONSIDERING SHEAR MOMENT INTERACTION)**

Final Project

By:

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International Bachelor Program
APRIL 2011

APPROVAL

Final Project

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has been examined and approved by the examination committee

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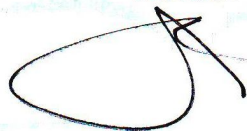
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PREFACE

First and foremost, the author would like to thank Jesus Christ so the author could prepare and finish the final project. The report was arranged to finish the bachelor degree at Faculty of Engineering, Department of Civil of Engineering, University of Atma Jaya Yogyakarta.

The author realize the final project still have many limitations and flaws. However the author always hopes that the final project report might be useful for the readers and the author himself.

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Yogyakarta, April, 2011

Dian Adhitya Chandra

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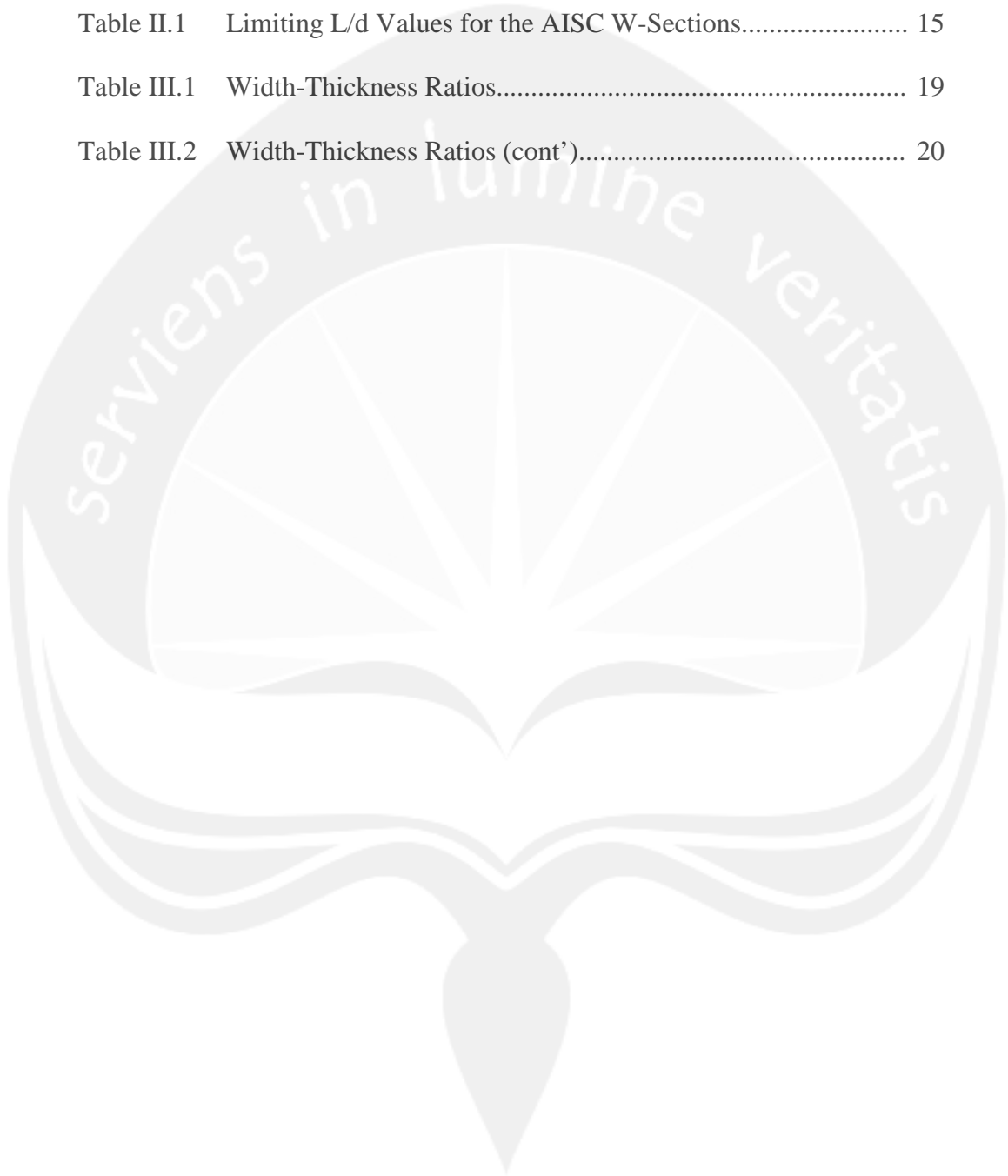
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ABSTRACT

DESIGN OF SPECIAL STEEL BEAM TO COLUMN CONNECTION ON THE SHORT SPAN DEEP BEAM (CONSIDERING SHEAR MOMENT INTERACTION), prepared by Dian Adhitya Chandra, SN: 07 13 12833, year of 2010, Civil Engineering, Engineering Faculty, University of Atma Jaya Yogyakarta.

AISC 358-05 gives the provisions for designing the steel beam to column connections. Only the design that is following the provisions of AISC 358-05 requirements can be guaranteed safe by the provisions. Otherwise, more research should be developed.

The research of Murty and Arlekar say about the connections design on short span and deep beam. It means the ratio between length and the depth of the beam less than seven. These designs can't follow the AISC 358-05 because one of the requirement in that provisions is the beam length and depth ratio should seven or greater.

Murty and Arlekar found out that the design of fat beam can result heavier connections. The heavier connections mean the connections have overstrength to the moment resistance and under design to the shear resistance. This situation may cause a failure due to the shear strength is high because of the short span of beam.

The study from Murty and Arlekar used the fiber model that result the interaction diagram of shear and moment for W-Shape steel profile. The F_u and F_y affect the interaction. The basic is just using the shear to reduce the moment demand on the connection. If this were success the result of the connection moment resistance will not be over design.

Keywords : Steel Beam to Column Connection, Reduced Beam Section, Moment and Shear Interaction