

**LEMBAR  
HASIL PENILAIAN SEJAWAT SEBIDANG ATAU PEER REVIEW  
KARYA ILMIAH : JURNAL ILMIAH**

Judul Jurnal Ilmiah (Artikel) : The Collapse Behavior of the Rectangular Hollow Pipes under Compression Load  
 Jumlah Penulis : 3 orang (**Hartono Yudo**, Wilma Amiruddin, Muhammad Harris Nubly)  
 Status Pengusul : penulis ke-1  
 Identitas Jurnal Ilmiah : a. Nama Jurnal : International Journal of Mechanical Engineering and Technology (IJMET)  
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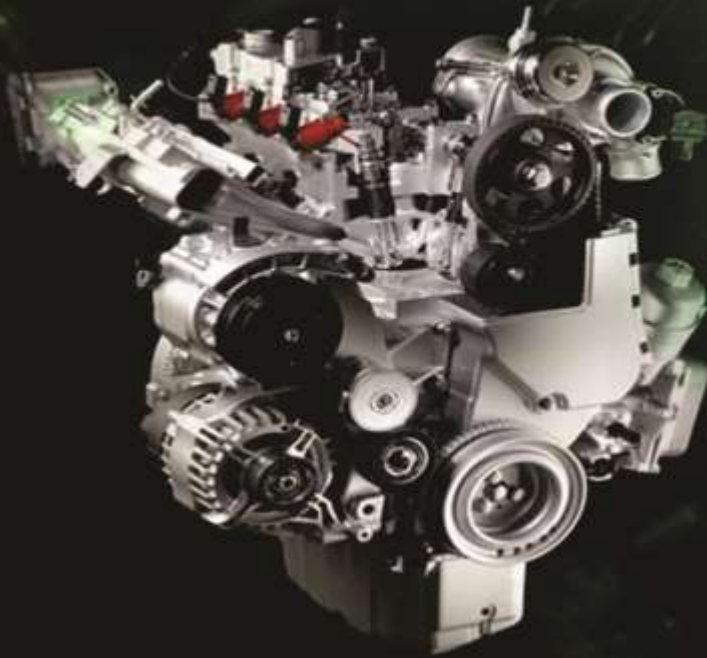
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# THE COLLAPSE BEHAVIOR OF THE RECTANGULAR HOLLOW PIPES UNDER COMPRESSION LOAD

**Hartono Yudo**

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## ABSTRACT

*The rectangular hollow beam used for many constructions. Therefore, the buckling load prediction is necessary to convince those constructions would not be overdesign and prevented the failure. Within uses the finite element method, the result is more accurate for the rectangular hollow model. This study has investigated the hollows considering the variable of its profile size, length and thickness. The boundary condition used the free-fixed configuration to convince the critical loads occurred from axial compression. The goal of this study is to obtain the collapse behavior of each hollow size also the buckling load factor constant. The mode-shape consisted by wrinkled and Curved shape, it is depending to the rectangular hollow length.*

**Key words:** Rectangular hollow, Collapse behavior, Mode-shape, Wrinkled, Curved shape

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## 1. INTRODUCTION

The rectangular hollow is the basic component of structures. Several structures used the square and rectangular hollow as alternative component for the stiffener than the other profiles instead. However, the shape of hollow still has the damage problem especially the buckling phenomenon. The structures can be suddenly collapse due to buckle. The square and rectangular