

## عنوان مقاله:

Behavior of Thin-Walled Structures under Impact Load Using LS-DYNA Codes

## محل انتشار:

بیست و پنجمین همایش سالانه مهندسی مکانیک (سال: 1396)

تعداد صفحات اصل مقاله: 2

## نویسندگان:

Ali Taherkhani - *Mechanical Engineering Department, Amirkabir University of Technology (Tehran Polytechnic), ۴۲۴ Hafez Avenue, Tehran, Iran*

Mohammad Fafarpour Alamdari - *Aerospace Engineering Department and Center of Excellence in Computational Aerospace Engineering, Amirkabir University of Technology (Tehran Polytechnic), ۴۲۴ Hafez Avenue, Tehran, Iran*

Reza Hedayati - *Mechanical Engineering Department, Amirkabir University of Technology (Tehran Polytechnic), ۴۲۴ Hafez Avenue, Tehran, Iran*

Ali Naeim abadi - *Polymer Engineering and Color Technology Department, Amirkabir University of Technology (Tehran Polytechnic), ۴۲۴ Hafez Avenue, Tehran, Iran*

## خلاصه مقاله:

In this study, the energy absorption capacity and crush strength of cylindrical thin-walled structures are investigated using nonlinear Finite Element code LSDYNA. For the thin-walled structure, A6063 aluminum is used and its behavior is modeled using power-law equation. In order to investigate the performance of tubes in a better way, the simulation was also carried out on structures with other types of cross-sections such as triangle, square, rectangle, and hexagonal. It was seen that the circular cross-section has the highest energy absorption capacity and crush strength while they are the lowest for the triangular cross-section. It is concluded that increasing the number of sides increases the energy absorption capacity and the crush strength.

## کلمات کلیدی:

Energy Absorption - Crush Strength - Thin Walled Structures - Low Velocity Impact - Dynamic Progressive Buckling - LS-DYNA FEM Codes

## لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/634524>

