Crushing analysis and crashworthiness optimization of tailor rolled tubes with variation of thickness and material properties

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PII: S0020-7403(17)32298-1
DOI: 10.1016/j.ijmecsci.2017.12.020
Reference: MS 4084

To appear in: *International Journal of Mechanical Sciences*

Received date: 17 August 2017
Revised date: 23 November 2017
Accepted date: 10 December 2017

Please cite this article as: Rihuan Lu , Weizhao Gao , Xianlei Hu , Weihai Liu , Yiwen Li , Xianghua Liu , Crushing analysis and crashworthiness optimization of tailor rolled tubes with variation of thickness and material properties, *International Journal of Mechanical Sciences* (2017), doi: 10.1016/j.ijmecsci.2017.12.020

Highlights

- Novel TRT tube produced through VGR technology was presented.
- The FE model of TRT crushing considering dynamic impact was established correctly.
- Multi-objective optimization technique was used to obtain the optimal geometric parameters of TRT.
- Optimal TRT has better energy absorption capability than traditional uniform tubes.