

## Accepted Manuscript

A ductile fracture model considering stress state and Zener-Hollomon parameter for hot deformation of metallic materials

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PII: S0020-7403(18)30461-2  
DOI: [10.1016/j.ijmecsci.2018.06.030](https://doi.org/10.1016/j.ijmecsci.2018.06.030)  
Reference: MS 4399



To appear in: *International Journal of Mechanical Sciences*

Received date: 9 February 2018  
Revised date: 13 June 2018  
Accepted date: 18 June 2018

Please cite this article as: Xiaoqing Shang , Zhenshan Cui , M.W. Fu , A ductile fracture model considering stress state and Zener-Hollomon parameter for hot deformation of metallic materials, *International Journal of Mechanical Sciences* (2018), doi: [10.1016/j.ijmecsci.2018.06.030](https://doi.org/10.1016/j.ijmecsci.2018.06.030)

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## Highlights

- Relationship between fracture strain and  $Z$  parameter in deformation with and without DRX is identified.
- An extended ductile fracture model considering stress state,  $Z$  parameter and DRX is developed.
- An expression describing the change of cut-off value with hot working condition is proposed.
- Efficiency and accuracy of the developed model are corroborated by validation experiments.
- With an industrial application, the developed model is validated to be promising for fracture prediction in hot working.

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