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

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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.