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Effect of anisotropic evolution on circular and oval hole expansion behavior of high-strength steel sheets

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Highlights

- Circular and oval hole expansion of high strength steel sheets (HSS) were examined.
- An anisotropic hardening (AH) model was constructed for large strain range.
- Strain localization was strongly influenced by the anisotropy evolution of HSSs.
- The AH model well described the HSSs' anisotropy evolution.
- The AH model successfully simulated the strain localization and necking.

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