Influence of manufacturing processes on material characterization with the grooved in-plane torsion test

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Highlights

- Determination of flow curves for three different steels (DP600, DP1000, CP1000) up to strains of 1.159 with grooved torsion test
- Determination of fracture strains up to 1.159 for an AHSS with ultimate strength > 1150 MPa
- Analysis of preparation strategy of specimen on flow curves and fracture strain
- Milling with fine surface roughness recommended for determination of fracture strain
- Electrical discharge machining recommended for determination of flow curves