

Summary:

The conventional Forming Limit Diagram concept (in short, *the* FLD concept) is widely used in the stamping industry to judge the forming severity of drawn parts. The FLD concept is commonly successfully applied to one-stage-forming or first draw applications. Nevertheless, judging formability in multi-stage sheet forming operations still remains a challenging issue. In this work experimentally determined forming limits for two-stage forming operations of an aluminum sheet materials are compared to their corresponding conventional forming limit curve (FLC). The applicability of conventional FLCs is scrutinized accordingly. The predictive quality of FLCs for two-stage-forming is highlighted. It is clearly shown that the well known strain path dependency of forming limit strains may cause severely misleading formability predictions in multi-stage sheet forming operations, if the conventional FLC is applied. One promising method of judging forming severity in multi-stage forming without performing tedious experimental work, is outlined. The predictive quality of the failure model used in this study is demonstrated.