

Experimental and Finite Element Forming Limit Diagrams for Interstitial Free Steels

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Abstract : Interstitial free steels possess better formability and have many applications in automotive industries. Forming limit diagrams (FLDs) indicate the formability of materials which can be determined by experimental and finite element (FE) simulations. FLDs were determined experimentally by LDH test, utilizing optical strain measurement system for measuring the strains in different width specimens and by FE simulations in Interstitial Free (IF) and Interstitial Free High Strength (IFHS) steels. In this study, the experimental and FE simulated FLDs are compared and also the stress based FLDs were investigated.

Keywords : forming limit diagram, limiting dome height, optical strain measurement, interstitial

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