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Necking Process Improvements

The “die necking” process is used to diametrically reduce the diameter of the beverage can over a number of stages. The process is required to decrease the size of the beverage can end, which subsequently reduces costs. Unfortunately, exposing metal to compressive forces axially, circumferentially and radially, produces mechanical instability which causes failures such as wrinkling. To reduce the chances of wrinkling occurring, this process has introduced accurate material inputs cards using digital image correlation, novel parameter screening methods and parameter studies. These techniques have identified friction, percentage reduction and tool clearance as the main contributors to wrinkling.

