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Investigation of spring angle of sheet metal with rolling angle of 45o in V-die bending process

Kamil Ozdin and **Emrah Buyuk**
Hittite University, Turkey
SILVERLINE, Turkey

Structural elements made from steel sheet metal have a great importance in today's industry. One of the biggest problems with the parts bended by using dies is the spring angle because it destines bent sheet metal out of manufacturing tolerances. So, it is vital to know a part's spring angle properties in advance which are mainly dependent on the properties of the sheet metal and bending conditions. This study aims to investigate the effects of bending angle and punch radius on spring angle of sheet metal with rolling angle of 45° in V-die bending process. After being removed from the bending dies, spring-back rates of the specimens were measured by using optical goniometer. At a constant load with respect to the bending angle and punch radius values, spring angle shaded off into spring-back angle or spring-go angle. In this study, it was observed that the spring angle is 0° when the appropriate value for punch radius or bending angle are taken depending on the other bending conditions.

Biography

Kamil Ozdin is an Associate Professor of the Faculty of Mechanical Engineering, Hitit Univercity. He has done masters in Mechanical Engineering from Erciyes Univercity in 1996 and obtained his doctorate from Gazi Univercity in 2006. He has served as a lecturer at Vocational School, Sutcu Imam Univercity from 1993 to 2007 and Faculty of Mechanical Engineering, Hitit Univercity from 2007 to 2015. His research focuses on wear of material, production of composite with particle and bending of sheet metal.

kamilozdin@hitit.edu.tr; emrah.buyuk@silverline.com.tr

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