



**ACADEMICIA**  
**An International  
 Multidisciplinary  
 Research Journal**  
 (Double Blind Refereed & Peer Reviewed Journal)



**DOI: 10.5958/2249-7137.2021.01988.1**

**ANALYZING METAL FORMING PROCESS**

**Berdiyev D.M\*; Yusupov A.A\*\*; Abdulayev B.K.\*\*\***

\*DSc, Professor,  
 Tashkent State Technical University,  
 UZBEKISTAN

\*\*Ph.D., Associate Professor,  
 Tashkent State Technical University,  
 UZBEKISTAN

\*\*\*Researcher at Tashkent State Technical University,  
 UZBEKISTAN

**ABSTRACT**

*In this paper, some of the most important criteria of metal forming process are analyzed and studied. Frequently, work piece material is not sufficiently malleable or ductile at ordinary room temperature, but may become so when heated. Thus, we have both hot and cold metal forming operations*

**KEYWORDS:** *Metal Forming, Plastic Deformation, Yield Criteria, Stress Tensor*

**REFERENCES**

1. USCAR, 1995, Taking on the Springback “Challenge“, United States Council for Automotive Research, fall newsletter.
2. Venner M.L, 1982, —An analysis of springback on the punch corner radius in channel forming, General motors research report.
3. Sunseri M, Cao J, Karafillies A.P, Boyce M.C, 1996, —Accommodation of Springback error using active binder force control: Numerical simulations and experiments, Transactions of ASME, Vol 118.
4. Vallance and Matlock D.K, 1992, —Application of bending under tension friction test coated sheet steels — Journal of Manufacturing Engineering and performance. Vol.1(5), pp685-693.

5. Zhang L.C, Lu G, and Leong S.C, 1997, —V-shaped sheet forming by deformable by deformable punches, Journal of Material Processing Technology, Vol.63, pp 134-139.
6. Karafillis A.P, and Boyce M.C, 1996, —Tooling and Binder Design for Sheet Metal Forming Compensating Springback Error, Int. J. Mach. Tools Manuf., Vol. 36, pp. 503–526.
7. Song N, Qian D, Cao J and Liu W. K, 2001, —Effective Models for Prediction of Springback In Flanging, J. Eng. Mater. Technol., Vol.123, pp. 456–461.
8. Gan W, Wagoner R.H, Mao K, Price S and Rasouli, F, 2004, —Practical Methods for the Design of Sheet Formed Components, J. Eng. Mater. Technol., Vol.126, pp. 360–367.
9. Gardiner F. J, 1957, —The Springback of Metals, Trans. ASME, Vol.79(1), pp.1–9.