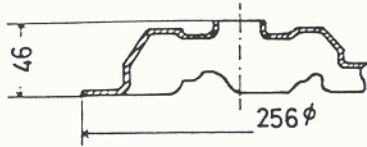


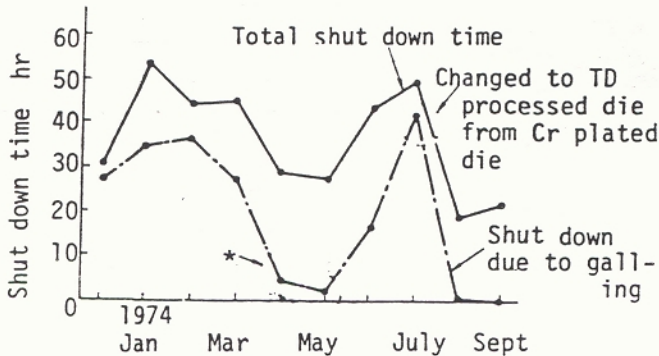
APPLICATION DATA

Name of part Drawing die	Source A. Kondo, et al
Mode of servicing Sheet metal stamping	Mashinisuto Vol.20, No.5 (1976) p.11 Puresu Gijutsu No.1.17, No.4 (1979) p.92

Product



Profit obtained through application of TD Process



Work material

Material	Hot rolled mild steel
Size	3.2 mm t
Hardness	Hv 140~180
Remark	

TD treated part

Carbide	VC
Base metal	D2
Hardness of substrate	H _R C 58
Remark	

Working or servicing condition

Machine	30 ton Transfer
Load	
Stroke	300 mm/sec.
Clearance	
Lubrication	Oil
Temperature of work	

Result

Base metal, treatment and hardness of the part to be compared
D2 Hardened

Life and other evidences

TD part 1,900,000 shots, Still usable
The part to be compared 500~18,000 shots

	Hardened die	TD processed die,	Remark
Max thickness of t portion mm	1.9	2.3	
Surface roughness of W face μ	13 ~ 18	less than 3	
Ratio of failures due to the cracking and reduction in thickness %	7	less than 0.3	