

Z-WEAR PM[®] Thread Rolling Die

TOOL TYPE

Thread Rolling Die

WORK MATERIAL

Rebar at 2 1/8" diameter

ORIGINAL TOOLING MATERIAL

D2 at RC 59



Work Material



D2 Wear & Breakage



Z-Wear PM[®] Tool Wear

PROBLEM IDENTIFICATION

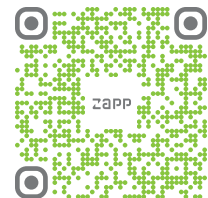
The D2 thread roll dies experienced premature wear. Efforts to harden the D2 beyond Rc 59 resulted in catastrophic failure with the dies splitting from the OD to the ID.

SOLUTION

Z-Wear PM heat treated to RC 62

RESULTS

D2 thread roll dies were used to thread 120 to 150 feet (1440-1800 lbs) of 2 1/8" diameter rebar before wearing out. Attempts to increase the wear performance by hardening to above Rc 60 resulted in the dies splitting. The customer substituted Z-Wear PM. With Z-Wear PM at Rc 62 tool life improved to 1113 ft (13,350 lbs) before wearing out, an improvement of 750% to 900% compared to the D2.



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