



CASE STUDY. T-A® Structural Steel

PROJECT PROFILE:

A36 Fabricator

The end-user had just purchased a new Peddinghaus PCD 1100 Beam Drill Line, and was attempting to drill holes in A36 structural steel I-Beams.

+ CHALLENGE:

The customer equipped the 3-spindle machine with 13/16" Nachi Cobalt Twist Drills. The thickness of the structural beam is 0.75". Drilling parameters for the Nachi were set at 700 RPM, 0.007 IPR, (0.178 mm/rev) which resulted in 4.9 IPM (124,46 mm/min). The Nachi Drills could not handle the load and were breaking at various points on the flute length, even after adjusting the speeds & feeds. The end-user's objective was not an increase in production, but rather a cost savings through reduced tool failure. The machine operator was also not happy with the long stringy chips produced by the Nachi drills. Initially, the end-user blamed the machine for the re-occurring tool breakage, which was not the cause of the problem. Looking for improvements, the customer called Allied to investigate the failures. A very good decision on their part.

+ OUR SOLUTION:

Allied recommended use of the Structural Steel Drilling System, tool holder #24010H-003IS052 and insert #151A-0026-TW. Allied changed the machine parameters to run at a conservative 516 RPM, 0.009 IPR (0.228 mm/rev), which resulted in 4.65 IPM (118,11 mm/min).

+ PROJECT DATA:

The results were impressive, and what the end-user was looking for. Chip formation was excellent, as Allied's Structural Steel tooling produced tightly curled 6's and 9's. More importantly, tool breakage was eliminated and the customer was able to properly utilize the capabilities of the Peddinghaus Machine.



*IMPROVED
CHIP FORMATION*