CASE STUDY. GEN3SYS®

PROJECT PROFILE: **Grey Cast Iron Highway Equipment**

The end-user is manufacturing flywheels made out of Grey Cast Iron using an Okuma horizontal machining center with 1000 PSI water soluble coolant. Each flywheel requires 12 holes to be drilled.

EXTENDED TOOL LIFE

+ CHALLENGE:

Previously the customer was using a 17 mm Ingersoll Quick Twist drill running at the following parameters: 1825 RPM, 0.008 IPR (0.20 mm/rev), which resulted in 14.6 IPM (370.84 mm/min). The tool drilled a 0.669" (17 mm) diameter hole to a 2.36" (60 mm) depth. The drill had a cycle time of 14.71 seconds and produced up to 240 holes, but offered an erratic tool life, ranging from 4 to 20 pieces. This Ingersoll Quick Twist drill was costing the end-user excessive time and money.
Looking to eliminate inconsistencies, the customer offered Allied Machine & Engineering Corp. the opportunity to test its tooling.

+ OUR SOLUTION:

Allied recommended the GEN3SYS® High Penetration Drilling System using insert item 5C217H-17-CI. The tooling ran at identical speeds and feeds as the competitive tooling, but delivered different results. GEN3SYS® with Cast Iron geometry, more than doubled the number of holes produced. The competitive tool delivered 240 holes on its best run while Allied was able to drill 528 holes, and with consistency.
This represented a 54.5% increase in tool life, running at the same parameters as the Ingersoll Quick Twist.

+ PROJECT DATA:

GEN3SYS® eliminated the inconsistencies, and was able to produce 44 completed pieces as compared to the previous erratic tool life of 4 to 20 pieces. The competitive tooling cost the end-user $0.63 per hole to process the required finished pieces, while the Allied tool delivered the same finished product, but at a cost per hole of $0.53, for a dollar savings of 15.53%.