CASE STUDY. GEN3SYS®

PROJECT PROFILE: **Ductile Iron** **Heavy Equipment: Locomotive**

The end-user is machining locomotive cylinder heads made from Ductile Iron using a Mori Seiki machining center, with through-tool, 1000 PSI water soluble coolant.

LOWER COST PER HOLE

+ CHALLENGE:

Previously the customer was using a Sandvik solid carbide drill, running at the following parameters: 1390 RPM, 0.014 IPR, (0,36 mm/rev) which resulted in 19.5 IPM (495 mm/min). The tool drilled a 0.703" (17,86 mm) diameter blind hole to a depth of 2.30" (58,4 mm). The tool had a cycle time of 7.1 seconds. The customer wanted to reduce the cost per hole and eliminate the regrinds as the life of a reground tool was unpredictable. They asked if Allied could step up and accept the challenge of delivering a better tool.

+ OUR SOLUTION:

Allied recommended GEN3SYS® using insert item 5C217H-.703 and holder 60517S-20FM. The tooling ran at a speed of 1390 RPM, 0.016 IPR (0,41 mm/rev) which resulted in 22.2 IPM (564 mm/min). GEN3SYS® was able to perform the same operation with a cycle time of 6.2 seconds as compared to Sandvik's 7.1 seconds.

+ PROJECT DATA:

Allied Machine and GEN3SYS® made a difference for the end-user as the reduction in cycle time resulted in decreasing the cost per hole from $0.563 to $0.495, for a cost savings of 12%. Allied's replaceable-tip high penetration drill also eliminated the need for regrinds. With GEN3SYS®, the end-user was able to enjoy consistency, as each new insert has the same geometry, same coating, and predictable reliability. The value-conscious customer switched the tooling from Sandvik to Allied for this operation.