CASE STUDY. GEN2 T-A®

PROJECT PROFILE: **8620 Wind Energy**

The end-user is machining wind energy ring gears made from 8620 using a Mazak Integrex 1550V-II, with 800 PSI of water soluble coolant.

IMPROVED PENETRATION RATES

+ CHALLENGE:

Previously the customer was using a Sandvik 880 drill, running at, 984 RPM, 0.004 IPR (0,1 mm/rev) 3.94 IPM, (100 mm/min). The hole diameter 1.3" (33 mm) was drilled from both sides, to attain a finished depth of 13.15" (334 mm). They were able to drill 22 holes per index with a cycle time of 1 minute and 51 seconds.
When the customer changed the size of the part, it was discovered that the 880 drill could not achieve the extra depth required to successfully complete this job. The new required depth of the hole was 14.4" (336 mm) in total, and since the 880 drill was unable to penetrate to this desired depth, Allied was called in and given the opportunity to deliver a real solution.

+ OUR SOLUTION:

Allied recommended holder 24035S-125F using a GEN2 T-A® special insert designed to make a very small chip. The tooling ran at a speed of 472 RPM, 0.012 IPR (0,30 mm/rev) which resulted in 5.66 IPM (143,7 mm/min). The Allied tool also drilled the 1.3" (33 mm) diameter hole from both sides. GEN2 T-A® had a cycle time of 1 minute and 16 seconds and a tool life of 44 holes. The outcome met the customer's goals of efficiently producing this deep hole.

+ PROJECT DATA:

Allied Machine and the GEN2 T-A® special insert design made a significant difference for the customer. Not only did Allied drill the hole to the required depths, it cut cycle time by 40% and doubled the tool life.