

CASE STUDY

**INCREASED SAFETY & PRODUCTIVITY FOR
GREDE FOUNDRY PLANT**

DIA-FORZ ELECTROPLATED WHEELS BOOST PRODUCTIVITY IN FOUNDRY ROBOTIC GRINDING CELLS

Diamond electroplated grinding wheels from Illinois-based superabrasives specialist Engis Corporation are providing manufacturers with a competitive edge as well as increasing operator safety in the robotic grinding cells of foundry cleaning rooms.

One company benefiting from these advantages is Grede Foundries, Inc. where Gary Dalgaard, Director, Manufacturing Engineering, commented:

"Engis has been a valued partner with Grede in the development of diamond wheels for robotic grinding. We continue to work with them to expand the use of these products to many other applications throughout the foundry. Their expertise and resourcefulness in this development has been a great asset to us."

Engis electroplated grinding wheels are used in the cleaning of a wide variety of cast components including power steering pumps, brake rotors and automotive engine parts in modern robotic cells. These parts come in a variety of sizes ranging anywhere from 1 lb up to 1000 lbs.

Because of their construction, Engis electroplated grinding wheels can be operated safely at significantly higher speeds than conventional wheels. This enhances the efficiency of the grinding process by reducing the "chip load" on each abrasive grain, thus reducing wear and extending the life of the wheel.



THE STORY

Engis electroplated grinding wheels do not need to be dressed or reconditioned during use, thus increasing the “up-time” of the operation and maximizing throughput. In addition, the use of plated grinding wheels provides enhanced operator safety when compared to conventional bonded wheels because the body of a plated wheel has significantly greater integral strength than a bonded abrasive product, which can fail structurally when abused or when the maximum operating speed is exceeded.

Engis electroplated grinding wheels are also more environmentally friendly than conventional abrasive products, as they generate less dust in use. In addition, there are no wheel stubs to be disposed of as the metal cores of the electroplated wheels can be re-plated with fresh abrasives and reused many times over, resulting in additional cost savings.

Engis Corporation manufactures a wide variety of Dia-ForZ superabrasive plated grinding wheels suitable for use in robotic grinding applications as well as wheels for other demanding foundry grinding applications. Benefiting from the company's many years of design and manufacture of superabrasive products, Engis Dia-ForZ wheels cut cooler and last longer than other wheels.



DiaForZ® Wheels

- Increased safety
- Increased cutting action - Better ergonomics and less fatigue
- Longer wheel life - Higher productivity and lower costs
- No loss of wheel diameter or peripheral wheel speed due to wheel wear
- Virtually no grinding dust from wheel wear

Engis Corporation is a world-wide organization, established in 1938, which manufactures and markets superabrasive finishing systems for operations that demand precision surface polishing and close tolerance requirements. Engis provides products, services and technological advances in several key areas: diamond flat lapping/polishing, diamond and CBN-plated tools, bore finishing tools and machines, tool room products and accessories along with R&D and technical support.

We offer Re-plate Service and Technical Support.

- Wide range of grit sizes available
- All grades and types of CBN (Cubic Boron Nitride), Synthetic or Natural Diamond
- Compatible with Alloys, Aluminum, Tool Steels, Composites