elementSIX™
DE BEERS GROUP

MasterGrade™ milling bits

Superior performance
Extended tool life
Improved reliability

About MasterGrade™

MasterGrade™ bits use Element Six's proprietary 'Nano-technology' to enhance the cobalt binder matrix and optimize the bit's toughness. These innovative carbides result in a versatile bit that offers greater wear resistance, improved tool life and increased operating efficiency.

January 2020 - Customer Case Study

Colorado Milling is a rapidly expanding US milling business, specializing in all types of asphalt milling in Colorado and Wyoming. Equipped with a versatile range of mills, Colorado Milling prides itself on its approach to every job, be it big or small. With seven operational mills, the company has the technical ability to attack every job and exceed its customers' needs.

Customer: Colorado Milling
Colorado, USA

"We're always looking for ways to improve our service and stand out against our competitors. Element Six's MasterGrade™ bits have done that for us"

Toby Smith, Operations Manager, Colorado Milling

The challenge

Colorado Milling found that the bits it was using were wearing prematurely on rotation.

- Milling machines use a large, rotating drum, that removes and grinds the surface of the roadway. Scrolls of tool holders hold carbide cutters or bits in place to mill the surfaces
- Bits used in road milling have to be tough and durable, resisting wear and breakage, and avoiding excessive maintenance
- In large-scale milling and construction operations, unreliable machine parts and tools need to be frequently replaced, which increases downtime as well as operational and maintenance costs
- While enjoying a good relationship with its previous supplier, Colorado Milling found that the bits were failing to rotate and were wearing quickly and unevenly, reducing the overall quality of the job
- Colorado Milling tried a range of different suppliers, but struggled to find one that matched the performance and quality it prides itself on

"Keep making a far superior bit, and we will be customers for life!"
Toby Smith, Operations Manager, Colorado Milling

The solution

High quality road bits changed the game.

- Having heard about the quality of Element Six, Colorado Milling decided to trial MasterGrade™ RM3- M6 XL and immediately found that it outperformed competitors in terms of rotation and wear
- Colorado Milling undertook its own testing, running several different bits directly against the MasterGrade™ M6 XL. Their operators were forced to change competitor bits at a greater rate than Element Six bits
- Despite an increase in work, Colorado Milling purchased a considerably lower number of bits in 2019 compared to their previous product
- Soon after transitioning to MasterGrade™ M6 XL, Colorado Milling benefited from the close customer support that comes when dealing with Element Six and one of its distributors, TC Recycling, LLC
- After working with the dedicated Element Six support team for just a couple of months, Colorado Milling quicky found that the service far outperformed competitors
- Element Six and its distributor are quick to offer hands-on support ensuring that Colorado Milling can continue to satisfy the needs of their customers

One and a half times the wear
compared to the standard bits previously used by Colorado Milling

The results

Colorado Milling utilizes MasterGrade™ RM3-M6 XL bits in all of its milling machines, offering operational and commercial benefits:

- Improved wear and rotation, meaning that Colorado Milling's specialist equipment is better prepared for the harsh conditions of asphalt milling
- Superior wear rate, leading to fewer time-consuming and difficult bit changes and a considerable reduction in the number of bits purchased, despite an increase in work
- A collaborative approach between Colorado Milling, Element Six and TC Recycling that promotes informed problem-solving and personalized support

Colorado Milling is looking forward to a long relationship with Element Six and taking advantage of the benefits that MasterGrade™ has brought to the business.