

D POWER™ ROAD PICKS

elementsix™

A STEP-CHANGE IN PICK PERFORMANCE



D POWER™ ROAD PICKS

THE PROVEN ELEMENT SIX D POWER™ ROAD PICK

Suitable for asphalt milling applications on motorways, national roads and airport runways to a recommended depth of 12 cm.

Alternative designs for D Power™ Road Picks are available upon request.

Polycrystalline diamond (PCD) tip
engineered to meet the demands of
asphalt milling

Tungsten carbide head
with customised grade for
optimum support of the
polycrystalline diamond tip

New design incorporating
tungsten carbide offering
greater steel protection

Non-rotating
pick design: as
the tip retains its
shape, there is no
requirement for
the pick to rotate

Efficient and consistent
transmission of energy
and forces from the milling
drum to the tip
are ensured via a rigid
pick design



KEEPING YOU AHEAD OF THE COMPETITION

Exceeding 40 times the life of standard picks is not just a marginal improvement, it is a dramatic extension of pick life.

The benefits that spring from this transformation in pick life include:

- Lower lifetime costs for picks
- Improved milling machine productivity
- Greatly reduced downtime for pick changes
- Fuel efficiency and many more

These are all factors which can raise productivity and profitability, making your business more competitive.

PCD TIPS TO DELIVER ON-ROAD EXTREME PERFORMANCE

The D Power™ Road Pick utilises a polycrystalline diamond (PCD) tip that combines sufficient toughness with extremely high wear resistance. These characteristics are attained in part by high-pressure, high-temperature synthesis. Both extensive laboratory tests and on-site experience confirm that when the properties of PCD are combined with optimal pick design an operating life many times greater than standard picks is achieved.

Element Six PCD products are increasingly used as an enabler for higher productivity and to meet the demands of precision cutting, oil & gas and hardrock mining industries. The D Power™ Road Pick extends the proven performance of PCD from these areas into the challenging environment of asphalt milling.



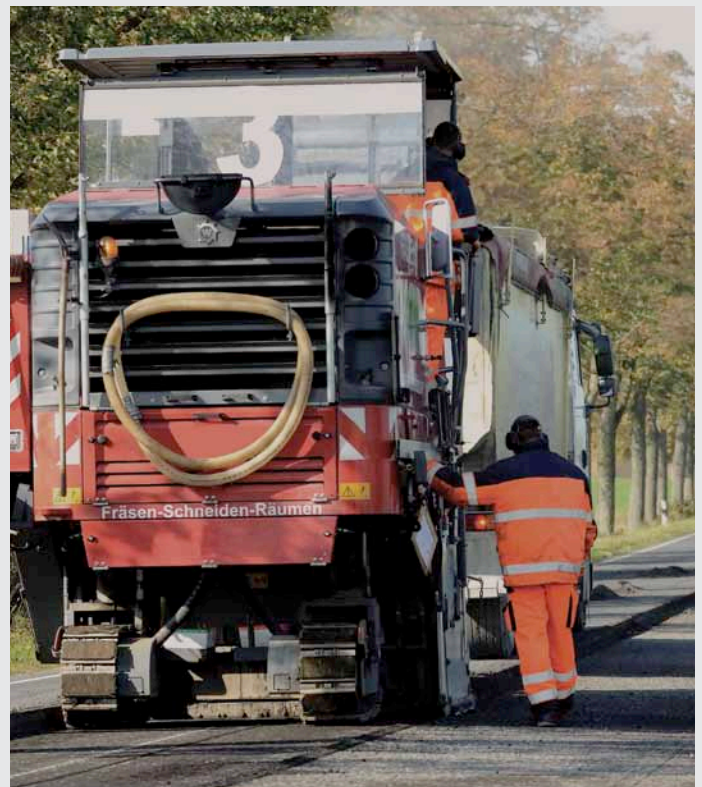
**D POWER™ ROAD PICKS EXCEED 40x
STANDARD PICK LIFE**

COST AND BENEFITS

Although an initial investment in D Power™ Road Picks is larger than in standard tungsten carbide, practical on-site experience shows that the benefits of using D Power™ Road Picks far outweigh this investment. Conservative estimates suggest that D Power™ Road Picks will last over forty times as long as standard road picks*. This results in D Power™ Road Picks saving money for road planing contractors.

In addition, other benefits such as improved fuel efficiency and savings on capital equipment costs, plus those benefits already mentioned, can give you commercial flexibility and added business advantage.

*Based on European testing programme.



Element Six D Power™ Road Picks produce a better and consistent road surface finish.

D POWER™ ROAD PICKS

A TECHNICALLY BETTER SOLUTION

D Power™ Road Pick that achieves over forty times the life of a standard pick delivers many advantages, from increased productivity, significant savings to less downtime and better operator working conditions.

All these advantages stem from the unique properties of the Element Six supermaterial PCD (polycrystalline diamond), one of the hardest materials on the planet.



Element Six D Power™ Road Picks last in excess of 40 times longer than standard picks.

OVERALL MILLING TIME REDUCED

By reducing the number of time-consuming stoppages for spotting (checking) and changing picks, milling time can be cut significantly. Since this is one of the major components in the road refurbishment process, a D Power™ Road Pick reduces project duration enabling companies to meet contract deadlines, grow business and increase their return on investment in capital equipment.

IMPROVED COMPETITIVENESS IN TENDERS

With D Power™ Road Picks, project costs come down and projects can be completed more quickly. This also provides some vital leeway for contractors in avoiding penalties for missing deadlines and winning bonuses for timely completion.



Element Six D Power™ Road Picks improve milling machine productivity.

DELIVERING A BETTER SURFACE FINISH

Over the life of the D Power™ Road Pick, minimal wear is observed on the PCD tip. This ensures that the picks are operating at peak efficiency for the duration of their operational life. The result produces a consistent cleaner cut with a smoother surface texture.



Element Six D Power™ Road Picks produce a better and consistent road surface finish.

EIGHT WAYS TO DELIVER VALUE

FUEL EFFICIENCY IMPROVED

With a PCD insert that retains its shape the D Power™ Road Picks require less penetration force and therefore less energy to function effectively. As fuel costs comprise a substantial part of project costs, reducing the amount of fuel consumed helps to keep project costs competitive.

IMPROVED WORKING CONDITIONS

With Element Six D Power™ Road Picks, the time-consuming task of replacing picks in cramped conditions is greatly reduced. Picks with PCD tips that maintain their shape reduce vibration developing in road planing machines – all contributing to a better working environment for machine operators.

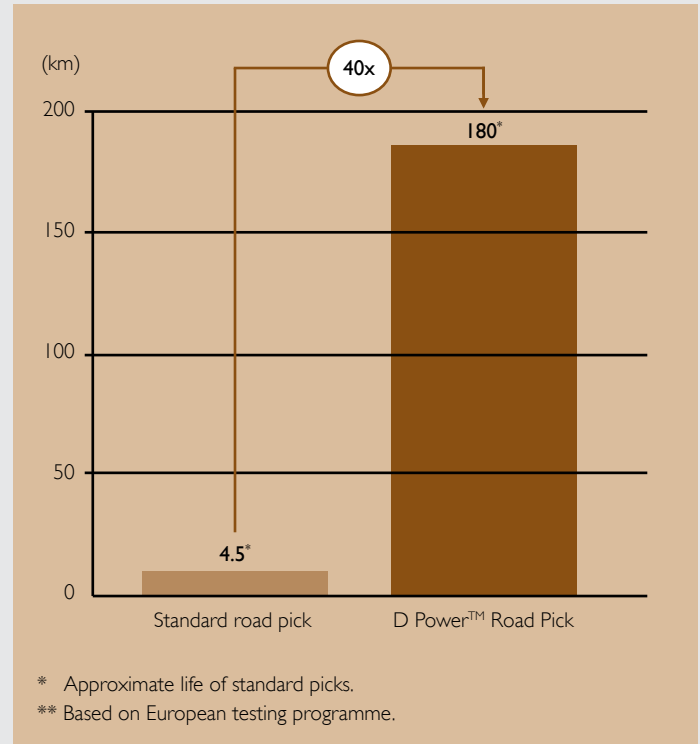


Element Six D Power™ Road Picks improve operator working conditions.

REDUCED WEAR ON CAPITAL EQUIPMENT

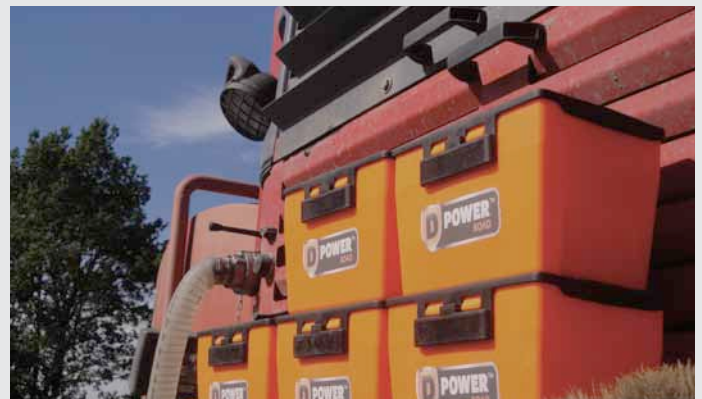
Vibration is the enemy of drive shafts, bearings, seals and mounting bolts. Using D Power™ Road Picks will help reduce vibration which in turn will lessen the damage. This will result in fewer breakdowns, repairs and increased utilisation throughout the working life of milling machines, ultimately impacting positively on the balance sheets.

IMPROVED PRODUCTIVITY



MINIMISING ENVIRONMENTAL IMPACT

Road planers equipped with D Power™ Road Picks spend less time on-site, hence reducing the level of disruption that road works can cause and overall fuel consumption. Coupled with the recyclability of D Power™ Road Picks, lower inventory to manage and overall usage of raw materials such as tungsten carbide and steel, using D Power™ Road Picks enables road planers to minimise their impact on the environment.



D Power™ Road Picks enables road planers to minimise their impact on the environment.

CUSTOMERS' REPORT ON D POWER™ ROAD PICK PERFORMANCE



D Power™ Road Picks enable road contractors to improve their productivity by milling more asphalt while reducing the overall milling time.

"I must admit that at first we were sceptical. Everybody is used to the present system. The results of our first project were very impressive. I would say that the machine operators were the first to be really sold on them, mainly because they can just get on with the job without stopping to spot or change picks. On one jobsite we ran the PCD picks on the milling machine 24 hours a day over a period of several days. For us the big pay-off is the improved productivity we get while working on site. I think it's fair to say that PCD Road Picks are changing the way we do things for the better."

Kai Löben, Technical Manager Fräsdienst Enrico Feind e.K., Germany

"To be honest when I first heard about using synthetic diamond for asphalt milling, I thought it was right over the top. But the Element Six people insisted that their picks would last over 40 times as long as the picks we were using. To my surprise we are now getting even better usage than that. I think that we are also seeing advantages for our road planing machines along with the added bonus of reduced fuel consumption. It's not often something comes along which can give us some strong arguments for winning projects and also improve our bottom line."

Vicente Alcaina, President Iber Samop SA., Spain



ELEMENT SIX: THE WORLD LEADER IN SYNTHETIC DIAMOND

WORLD LEADERSHIP IN PCD TECHNOLOGY

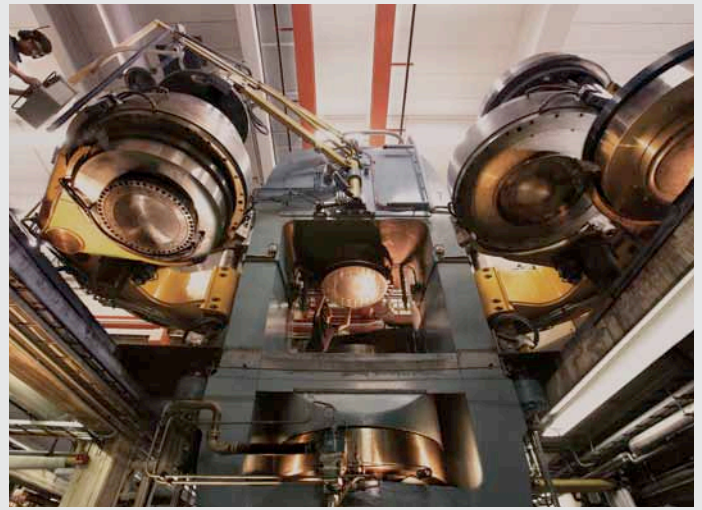
Element Six, the global leader in synthetic diamond supermaterials, drew upon over 50 years of engineering materials knowledge and expertise in developing the D Power™ Road Pick. Element Six has a successful track record of applying the extreme properties of supermaterials such as synthetic diamond and tungsten carbide, and today sells over 20,000 products to more than 5,000 customers worldwide. We have technical and production engineering resources in five countries. Through our local representative network, the experience, skills, know-how and the best technical facilities in the industry are available to all our customers.

WORLD CLASS FACILITIES AND SERVICE

Element Six designs and manufactures D Power™ Road Picks at our facility in Burghaun, Germany, using polycrystalline diamond produced at our advanced research and production centre in Springs, South Africa. Our technical representatives and field engineers combine an in-depth knowledge of hard materials with practical experience of the road maintenance industry and road planing machinery.



Element Six has been designing and manufacturing innovative products from Burghaun, Germany, since 1952.



Element Six processes and materials are subject to exacting control and assurance procedures.

HOW PCD TIPS ARE MADE

Synthetic diamond is the hardest material known to man. It scores highest (10) on the mohs scale of hardness. PCD consists of micron-sized synthetic diamond powders bonded together by sintering at high pressures and temperatures. PCD is produced on a tungsten carbide substrate. Under extreme pressures and temperatures, the cobalt from the tungsten carbide substrate infiltrates through the layer of micron synthetic diamond powder, causing neighbouring grains to intergrow. The integrally bonded carbide substrate provides mechanical support and renders the composite brazeable. Element Six has engineered the PCD material to meet the specific demands of road milling.

PRACTICAL CUSTOMER SUPPORT

Element Six representatives can provide practical on-site support for the installation and operation of road planing drums equipped with Element Six D Power™ Road Picks. They can also help road milling contractors in the bidding process by demonstrating to colleagues and customers how the use of D Power™ Road Picks can deliver many benefits for contractors and road authorities.

ELEMENT SIX

Element Six is a synthetic diamond supermaterials company and a member of the De Beers Group of Companies.



Element Six designs, develops and produces synthetic diamond supermaterials, and operates worldwide with its head office registered in Luxembourg, and primary manufacturing facilities in China, Germany, Ireland, Sweden, South Africa, US and the UK.

Element Six supermaterial solutions are used in applications such as cutting, grinding, drilling, shearing and polishing, while the extreme properties of synthetic diamond beyond hardness are already opening up new applications in a wide array of industries such as optics, power transmission, water treatment, semiconductors and sensors.



Australia Brazil Canada China Germany Hong Kong India Ireland Israel Japan
Luxembourg Netherlands South Africa South Korea Sweden Switzerland Taiwan Thailand UK

Element Six GmbH
Städeweg 12 - 24
36151 Burghaun
Germany

T: +49 (0) 66 52 82 300
F: +49 (0) 66 52 82 390
E: hm@e6.com
W: www.e6.com/dpower-road

DE BEERS
GROUP OF COMPANIES