

MINING & ROAD

Percussive Diamond Inserts

CRUSH THE COST PER METRE DRILLED

— *Improve your drilling and project productivity with Element Six's award winning Percussive Diamond Inserts, designed for use in extreme environments such as abrasive sandstone, quartzite, granite, limestone and basalt.*



elementsix[™]
a De Beers Group Company

PERCUSSIVE DIAMOND INSERTS FOR HARD ROCK DRILLING



Award winning Percussive Diamond Inserts (PDIs) from Element Six deliver high impact resistance and exceptionally low wear rates – even in highly abrasive rock formations.

Thanks to a specially engineered 3D PCD (Polycrystalline diamond) technology, the hole diameters are closely maintained throughout the drilling cycle. PDIs deliver high impact resistance and exceptionally low wear rates, resulting in longer drill life, deeper drilling and fewer drill changes – vastly improving economies for drilling contractors.

NEW 3D PCD TECHNOLOGY

Element Six PDIs use proprietary diamond technology to combine both geometrical and material aspects to optimise the impact and wear resistant properties of the diamond layer.

The geometry of the synthetic diamond dome has been engineered to more efficiently dissipate the stresses encountered during the most severe drilling conditions, whilst the optimised diamond microstructure maximises the wear resistance of the diamond layer presented to the rock face. Element Six PDIs offer the most wear resistant synthetic diamond inserts in the industry today, providing drilling contractors inserts with a large effective window of operation.

INCREASE PENETRATION RATES IN HARD, ABRASIVE FORMATIONS

Element Six PDIs are designed to excel in aggressive formations even under severe application conditions. They are designed for drilling in the most challenging hard rock conditions where formations such as abrasive sandstone, basalt, granite, limestone and quartzite are present.



Thanks to our 3D PCD technology, Element Six percussive diamond inserts increase the average penetration rates in hard rock environments. (Hermanus, Western Cape, South Africa).

DESIGNED FOR ALL TYPES OF MINING

PDIs are changing the mining industry's expectations for drilling penetration rates in underground and open cast mining as well as in geothermal and water well drilling.

Our products are available in a range of sizes. To find out more please refer to our contact details at the back of the brochure.

Tests demonstrate Element Six 3D PDIs drill 10 times* the depth achieved with conventional tungsten carbide inserts.

**Performance varies by application.*

IMPROVE YOUR DRILLING AND PROJECT PRODUCTIVITY

10 WAYS OUR PDIs REVOLUTIONISE PERFORMANCE

Drilling with PDIs has shown to extend bit life by 10 times that of conventional bits containing tungsten carbide inserts. Increased insert life has a positive effect on almost every other aspect of the drilling performance:

REDUCE

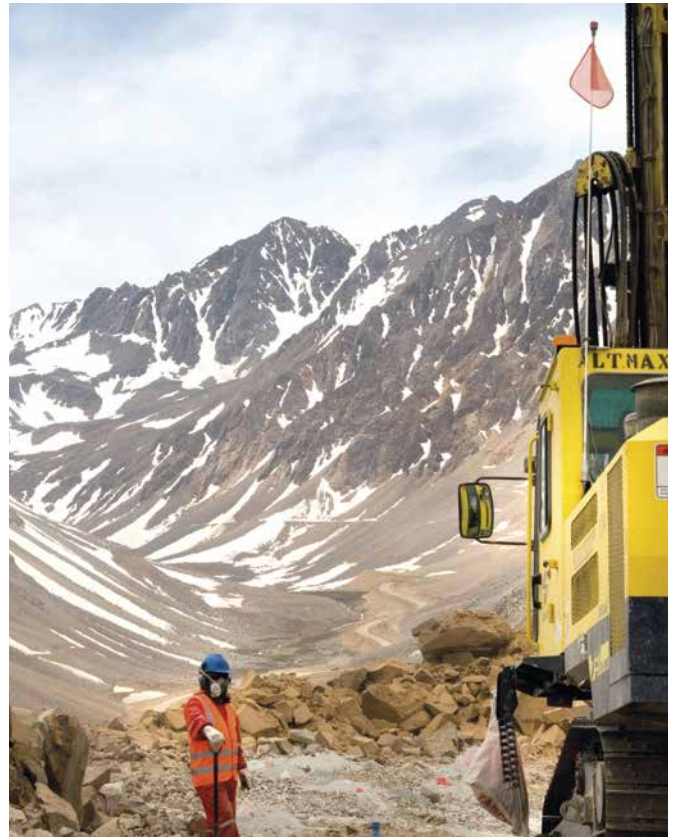
- Rig downtime
- Duration of each mining cycle
- Bit inventory
- Service and maintenance time and costs

IMPROVE

- Equipment utilisation
- Drilling and project productivity
- Contractor profitability and competitiveness

DELIVER

- Consistent hole diameters
- Single pass drilling
- Credible option for remote rig operation



*Longer tool life opens the way towards automated rig operations.
Source: Anglo American – Copper – Los Bronces Mine, Chile*



Element Six PDIs are designed for drilling in challenging hard rock conditions. Source: Anglo American – Platinum – Mogalakwene Mine, South Africa.

“The PDIs from Element Six have demonstrated that we can keep drilling and still achieve high penetration rates whatever hard rock we face. The technology really works!”

**Andries Vollgraaf of H+A Drilling,
Vanrhynsdorp, South Africa**

ELEMENT SIX

Element Six, part of the De Beers Group of Companies, designs, develops and produces synthetic diamond and other supermaterials, and operates worldwide with primary manufacturing facilities in China, Germany, Ireland, South Africa, the UK and US.

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 opening up new applications in a wide array of industries such as optics, power transmission, water treatment, semiconductors and sensors.

If you would like to know more about Element Six please visit our website www.e6.com or contact us at any of the addresses below.

EUROPE & AFRICA

Element Six GmbH
Städeweg 18
36151 Burghaun
Germany
Tel +49 (0) 6652 820
Fax: +49 (0) 6652 82 390
Email: hm@e6.com

AMERICAS

Element Six US Corporation
24900 Pitkin Road
Suite 250
Spring
TX 77386
USA
Tel: +1 281 364 8080
Fax: +1 281 419 8311
Email: e6texas@e6.com

ASIA PACIFIC

Element Six (Wuxi) Co., Ltd
No. 105-1
Xinjin Road
Meicun
214112 Wuxi New District
China
Tel: + 86 (0) 510 8100 7623
Email: hm@e6.com