

PRECISION GRINDING

*ABN Product Range*



# TAKING GRINDING PERFORMANCE TO ANOTHER LEVEL

— *Our precision grinding materials deliver extreme performance at every level, across multiple industries, from the most demanding applications in Aerospace and Automotive to the wider market for grinding tools, where assured quality and value gives tool makers a competitive edge.*

**elementsix**<sup>™</sup>  
a De Beers Group Company

# THE INDUSTRY LEADING ABN RANGE

Element Six is committed to the innovation and production of the highest performing grinding products in the industry, at every level.

With over 50 years of manufacturing experience, we work in partnership with our customers to provide complete solutions for their CBN applications - with reliable performance backed by our industry leading Quality Assurance.

## ELEMENT SIX QUALITY ASSURANCE

Element Six is an ISO9001 2008 Registered Company.

ABN materials are produced to precisely defined specifications using the Element Six controlled production process to provide customers with assured consistent, repeatable and reliable quality.

## ABN GRADES

	GRADE	TARGET APPLICATIONS	EXAMPLE INDUSTRIES	BENEFITS OF ELEMENT SIX CBN
PREMIUM	ABN 900	Electroplated tools for high material removal rate and metal bond.	Automotive, Aerospace	Strongest CBN in the Element Six portfolio for lower forces and increased tool life in electroplated tools.
	ABN 800	Vitrified bonds for camshaft & crankshaft, bearings, turbine components.	Automotive, Aerospace	20%* increase in tool life compared to the next best CBN product in the market. Industry standard in a wide range of applications.
	ABN 700	CVT gearing grinding.	Automotive	Medium strength CBN for vitrified bonds.
	ABN 200	Vitrified for ball bearing, double disc grinding, finish grinding and hardened steel bearings.	Automotive	Proven performer in the market for large contact areas.
ASSURED	ABNX	Vitrified bonds for camshaft & crankshaft, bearings, turbine blades.	Automotive	Cost-effective solution with Element Six assured quality.
	ABN 200 V	Vitrified bonds for automotive, bearing and general grinding operations.	Automotive	Cost-effective solution with Element Six assured quality.

## LATEST INNOVATIONS

PROTOTYPE	ABN 800PLUS	Vitrified bonds for camshaft & crankshaft, bearings, turbine blades	Automotive, Aerospace	30%* increase in tool life compared to ABN 800. 20%* reduction in specific grinding energy compared to ABN 800.
	ABN 300R	High tolerance gear grinding, OD roughing operations and grinding of aerospace components.	Automotive, Aerospace	Consistently performing CBN for electroplating.

## NEXT GENERATION CLADDING

	GRADE	TARGET APPLICATIONS	EXAMPLE INDUSTRIES	BENEFITS OF ABN NX SPIKY CLAD
PREMIUM	ABN NX SPIKY CLAD Available for all ABN grades	A 60% nickel electroless cladding with irregular outer surface for use in resin bond tools.	Automotive, tooling industry	Higher surface area to enable increased heat dissipation. Provides better mechanical grip for increased particle retention. 15 – 20%* increase in tool life compared to Element Six standard clad products.

\* Performance figures based on Element Six proprietary application testing. Samples are available for customer's own application-specific testing.

## COMPREHENSIVE APPLICATION TESTING

No other manufacturer offers a focus on customer-specific application testing like Element Six.

Fully instrumented industrial scale grinding machines replicate the end-user environment on workpiece materials such as cast irons, tool steels and superalloys. Grinding conditions are optimised using aggressiveness based on the maximum chip thickness.

## DRIVEN BY INNOVATION

Element Six is focused on the development of the next generation of extreme performance products. We combine application understanding and materials development to continuously provide great value for our customers.

### FIND OUT MORE ABOUT OUR ABN

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