

TOOLMAKER SOLUTIONS
BZN[®] Compacts
VS-Series



Polycrystalline cubic boron nitride blanks and cut shapes for milling and turning tools

BZN® Compacts - VS-Series

Hyperion Materials & Technologies is pleased to introduce the all new BZN® VS-Series. This new chain of polycrystalline cubic boron nitride (PCBN) grades is a complement to the V-Series, which is widely viewed as the benchmark of hardened steel machining grades. The VS-Series offers significantly improved edge toughness while maintaining superior crater and abrasion resistance.

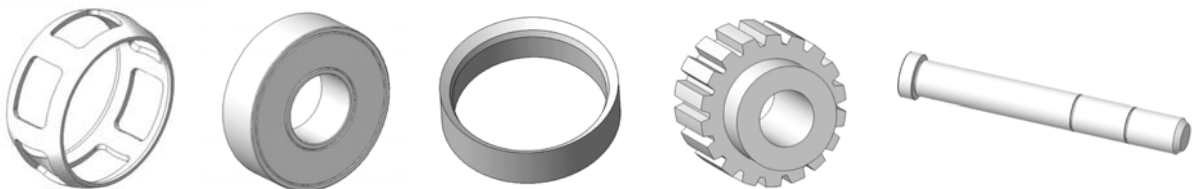
KEY ATTRIBUTES

- Improved toughness and chipping resistance
- Solid PCBN (no carbide support)
- Flexibility in tool design and geometry
- Because there is no carbide support, there is no coefficient of thermal expansion mismatch during tool fabrication
- Ability to handle applications with increasing interruption levels or chip loads with more consistent tool life.

PRODUCT RANGE AND AVAILABILITY

BZN GRADE	FORMAT	Overall Thickness (mm) (Tolerance +/- 0.05 mm, Outer Diameter 54.3 mm)				
		1	1.6	2.4	3.2	4.9
VS10	Rounds	✓	✓	✓		
VS10	Cut Product	✓	✓	✓	✓	✓
VS20	Rounds	✓	✓	✓		
VS20	Cut Product	✓	✓	✓	✓	✓
VS25	Rounds	✓	✓	✓		
VS25	Cut Product	✓	✓	✓	✓	✓
VS35	Rounds	✓	✓	✓		
VS35	Cut Product	✓	✓	✓	✓	✓

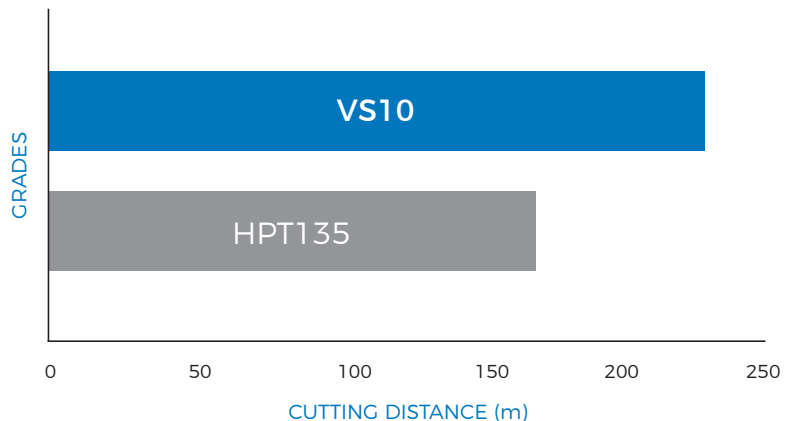
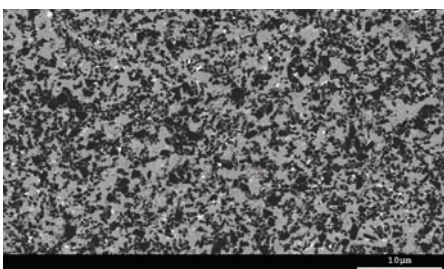
* Additional thicknesses will be considered upon request.



BZN VS10

APPLICATIONS

- BZN Grade VS10 is recommended for:
- Continuous to mild interrupted turning
 - Case hardened steels
 - Through hardened steels
 - Hardened steel reaming.



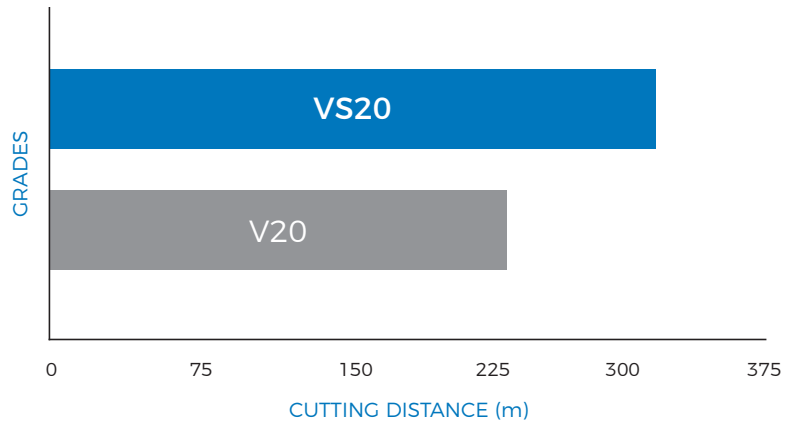
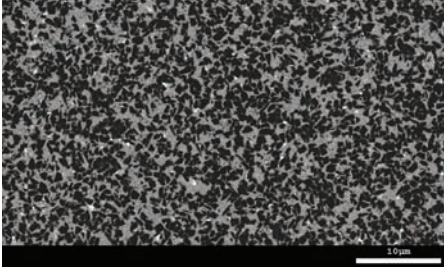
Test Description - Interrupted Turning of AISI 8620
 $V_c = 200$ m/min, $a_p = 0.15$ mm, $f = 0.2$ mm/rev

BZN VS20

APPLICATIONS

BZN Grade VS20 is recommended for:

- Continuous to medium interrupted turning
- Hardened steel turning (wet and dry)
- Through hardened steels
- Cold work tool steels.



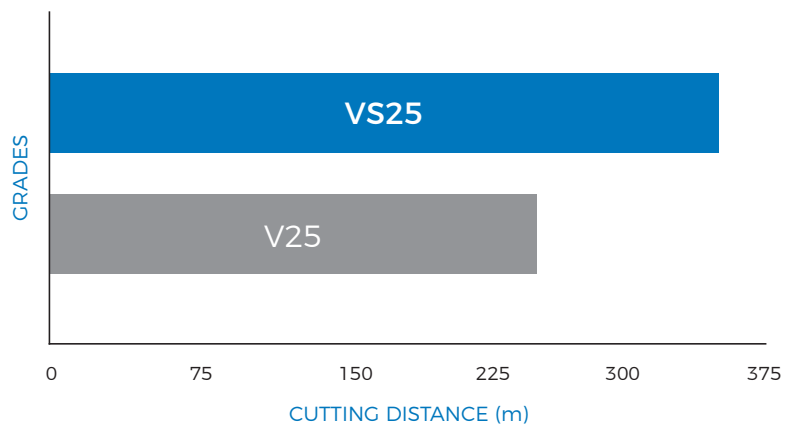
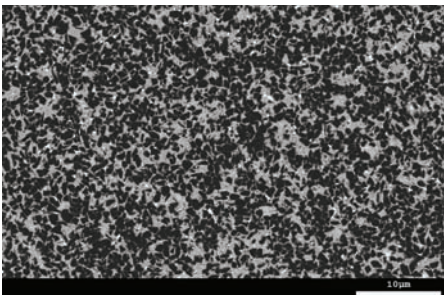
Test Description - Interrupted Turning of AISI 8620
Vc = 200 m/min, ap = 0.15 mm, f = 0.2 mm/rev

BZN VS25

APPLICATIONS

BZN Grade VS25 is recommended for:

- Continuous to heavy interrupted turning
- CV joint milling
- Sintered alloy machining
- Case hardened steels.



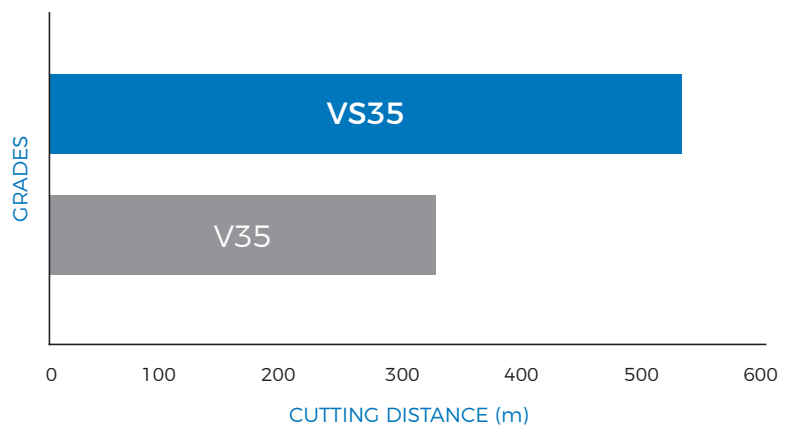
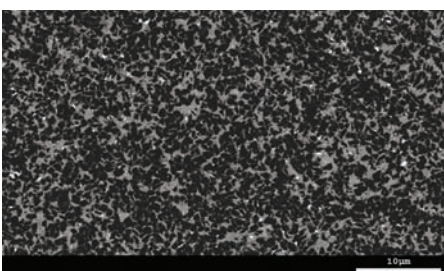
Test Description - Interrupted Turning of AISI 8620
Vc = 200 m/min, ap = 0.15 mm, f = 0.2 mm/rev

BZN VS35

APPLICATIONS

BZN Grade VS35 is recommended for:

- Medium to heavy interrupted turning
- CV joint milling
- Sintered alloy machining
- Case and through hardened steels.



Test Description - Interrupted Turning of AISI 8620
Vc = 200 m/min, ap = 0.15 mm, f = 0.2 mm/rev

CUTTING SERVICES




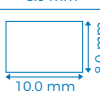
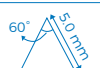
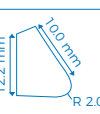


HYPERION UTILIZES THE LATEST IN EDM TECHNOLOGY

Our service shop is capable of performing precision cutting services:

- Complete your cut order in five business days or less from the day the order is received.
- Each piece is cleaned and visually inspected to ensure you receive the highest level of quality and to minimize your internal processing time.
- Precision cutting of PCBN blanks includes standard shapes, customer special shapes, through holes, tight tolerance, relief angles, and carbide chamfers.



HYPERION NOMENCLATURE EXAMPLES

		LENGTH/ANGLE (mm/degree)	LEG LENGTH OR DIAMETER (mm)	OT	GRADE	SPECIAL*	DESCRIPTION
ROUND		360	58.0	1.6	6000		360R58.0/1.6-60
HALF ROUND		180	10.0	2.4	9500		180P10.0/2.4-95
PARTIAL		90	8.0	1.6	HPT130	0.5-0.8 PCBN	90P8.0/1.6-HPT130 0.5-0.8 PCBN
RECTANGLE		10.0	8.0	1.6	6000		10.0L8.0/1.6-60
TRIANGLE		60	5.0	3.2	HPT135		60T5.0/3.2-HPT135
CUSTOMER SPECIAL				1.6	6000		DXXXXXX/1.6-60
CHAMFER					9500	CHAMFER ON CARBIDE	DXXXXXX/1.6-95 CHF
HOLE		360	13	1.6	6000	HOLE 2 mm	360R13.0/1.6-60 HOLE 2mm

Standard cut product tolerance for PCBN

Leg length = ± 0.1 mm Diameter = ± 0.1 mm Thermal zone (chip spec) ≤ 0.10 mm Angle = ± 1° degree Thickness = ± 0.05 mm

All dimensions in mm.

* Special = if not standard layer



www.HyperionMT.com