



OUR PASSION IS PROVIDING OPTIMIZED SOLUTIONS FOR YOUR MOST CHALLENGING APPLICATIONS.

AMERICAN MADE. AMERICAN PRIDE.

H.B. Carbide delivers custom, standard and altered design carbide blanks that provide consistency, reliability and advanced capabilities for your most demanding applications

- **Manufactured in the USA** from raw material to finished ground blank
- Providing consistent quality and reliable service for over 40 years
- Comprehensive grade/capability offering specialized to provide solutions to all your business and application challenges

CUSTOM, STANDARD AND ALTERED DESIGN

H.B. Carbide's experienced specialists are prepared and committed to support and assist you in your decision making process to achieve optimized solutions, from grade selection to preform blank design.

Capability Examples include, but are not

- Ammunition Die Blanks
- Casing & Bullet Die Blanks
- Preform Round Tool Blanks
- Custom, Standard, and Altered Design Blanks
- Drill & Reamer Blanks
- Gundrill and Deep Hole Drill Blanks
- Draw / Cartridge Drawing Dies
- Punches



BETWEEN CENTERS AND CENTERLESS GRINDING

As a value-added service to our customers, H.B. Carbide can offer centerless and between center OD grinding on all blanks.

- h5 and h6 diameter tolerances
- Multi-diameter grinding
- Lapped centers

H.B. CARBIDE GRADE SELECTION

SUCCESSFUL RESULTS START FROM THE GRADE

- H.B. Carbide is a fully-integrated manufacturer, from raw materials to finished ground blanks
- We partner with high-quality suppliers, ensuring quality/consistency from the start
- Integrated quality systems ensure product performance and traceability
- Process control from raw materials to shipping ensure product quality, consistency and performance.



HB-710

Co	10%
WC	90%
Density	14.46 g/cm ³
Hardness	92.0 HRA
Grain Structure	Submicron
TRS	625,000psi

Cutting & Wear Resistance Impact & Toughness

- High temperature, Heat resistant nickel-base alloys
- 718 Inconel
- Stainless steel alloys
- Titanium Alloys
- ▶ *Exceptional consistency and repeatable performance in heat resistant alloys and titanium.*
- ▶ *Special advantages where high strength and sharp edge profiles are required.*

HB-110

Co	10%
WC	90%
Density	14.5 g/cm ³
Hardness	91.7 HRA
Grain Structure	Submicron
TRS	550,000psi

Cutting & Wear Resistance Impact & Toughness

- Excellent performance when machining a wide range of materials
- Titanium alloys
- Alloyed and non-alloyed steels
- Machining of steel and cast iron as well as non-ferrous metals

HB-3

Co	6%
WC	94%
Density	14.9 g/cm ³
Hardness	93 HRA
Grain Structure	Submicron
TRS	520,000psi

Cutting & Wear Resistance Impact & Toughness

- Aluminum alloys
- Diamond-coated carbide tools
- Fiber-reinforced plastics (CFRP, GFRP)
- Composite materials
- Wear applications, flow control

HB-2

Co	6%
WC	94%
Density	14.9 g/cm ³
Hardness	92.2 HRA
Grain Structure	Medium
TRS	530,000psi

Cutting & Wear Resistance Impact & Toughness

- Diamond coating
- Machining of graphite
- Cast iron
- Non-ferrous metal alloys
- Nozzles and wear applications

HB-512

Co	12%
WC	88%
Density	14.11 g/cm ³
Hardness	92.5 HRA
Grain Structure	Ultrafine
TRS	640,000psi

Cutting & Wear Resistance Impact & Toughness

- Stainless steels
- Titanium alloys
- Heat-resistant steels
- Interrupted cutting

HB-115

Co	15%
WC	85%
Density	14.0 g/cm ³
Hardness	90 HRA
Grain Structure	Submicron
TRS	610,000 psi

Cutting & Wear Resistance Impact & Toughness

- Diverse wear applications
- Shock-resistance applications
- Impact punches
- Punches and ejector pins
- Roughing, shearing applications

HB-411

Co	11.5%
WC	88.5%
Density	14.39 g/cm ³
Hardness	90 HRA
Grain Structure	Bimodal
TRS	530,000psi

Cutting & Wear Resistance Impact & Toughness

- Exceptional performance in punch applications
- Heat-resistant steels
- Stainless steels
- Non-ferrous metal alloys

HB-320

Co	20%
WC	80%
Density	13.56 g/cm ³
Hardness	85.4 HRA
Grain Structure	Coarse
TRS	455,000 psi

Cutting & Wear Resistance Impact & Toughness

- Med-/High-impact forming applications
- Header dies, draw dies, stamping die details
- Fastener forming dies
- Ammunition dies

HB-325

Co	25%
WC	75%
Density	13.18 g/cm ³
Hardness	83.3 HRA
Grain Structure	Coarse
TRS	430,000 psi

Cutting & Wear Resistance Impact & Toughness

- High Impact forming applications
- Header dies, draw dies, stamping die details
- Thread rolling
- Ammunition dies

HB-312

Co	12%
WC	88%
Density	14.33 g/cm ³
Hardness	88.7 HRA
Grain Structure	Coarse
TRS	490,000 psi

Cutting & Wear Resistance Impact & Toughness

- Low impact/light shock resistance
- Capability for wide variety of forming applications
- Ammunition dies
- Light stamping

HB-315

Co	15%
WC	85%
Density	14.03 g/cm ³
Hardness	87.4 HRA
Grain Structure	Coarse
TRS	470,000 psi

Cutting & Wear Resistance Impact & Toughness

- Steels, SS, non-ferrous varieties forming applications
- Light stamping carbide die and nib deep draw
- Fine blanking stamping dies
- Ammunition dies

HB-406

Co	6%
WC	94%
Density	14.9 g/cm ³
Hardness	92.3 HRA
Grain Structure	Bimodal
TRS	334,000psi

Cutting & Wear Resistance Impact & Toughness

- Ideal for deep hole drilling
- Bimodal grain structure offering excellent wear properties
- Gundrill

HB-212

Co	12%
WC	88%
Density	14.28 g/cm ³
Hardness	90.2 HRA
Grain Structure	Medium
TRS	377,000psi

Cutting & Wear Resistance Impact & Toughness

- Excellent thermal cycling properties
- Optimal braze adhesion
- Non-cutting grade
- Good toughness characteristics

HB-410

Co	10%
WC	90.0%
Density	14.5 g/cm ³
Hardness	91 HRA
Grain Structure	Bimodal
TRS	553,000 psi

Cutting & Wear Resistance Impact & Toughness

- Ideal for deep hole drilling
- Exceptional toughness/wear properties
- Gundrill



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