

## 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.

HB-3

**Cutting & Wear Resistance** 

Aluminum alloys

Composite materials

Diamond-coated carbide tools

Fiber-reinforced plastics (CFRP, GFRP)

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







94%

14.9 g/cm<sup>3</sup>

530,000psi

92.2 HRA

Medium



WC

Density

Hardness

**Grain Structure** 

**Impact & Toughness** 



Medium

Coarse

Submicron

**HB-512** 

**Cutting & Wear Resistance** 

Stainless steels

Titanium alloys

Heat-resistant steels

Interrupted cutting

Bimodal

14.11 g/cm<sup>3</sup>

92.5 HRA

Ultrafine

640,000psi

# H.B. CARBIDE GRADE SELECTION

■ H.B. Carbide is a fully-integrated manufacturer, from raw materials to finished ground blanks

**Cutting & Wear Resistance** 

Heat-resistant steels

■ Non-ferrous metal alloys

Stainless steels

Cutting & Wear Resistance

wear properties

■ Gundrill

Ideal for deep hole drilling

■ Bimodal grain structure offering excellent

SUCCESSFUL RESULTS START FROM THE GRADE

- We partner with high-quality suppliers, ensuring quality/consistency from the start
- Integrated quality systems ensure product performance and traceability

wc

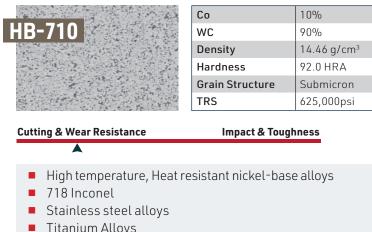
Density

Hardness

**Grain Structure** 

Impact & Toughness

Process control from raw materials to shipping ensure product quality, consistency and performance.

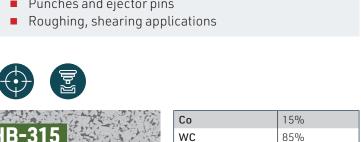


- Titanium Alloys Exceptional consistency and repeatable performance in heat
- resistant alloys and titanium. Special advantages where high strength and sharp edge profiles are required.
- 15% 85% 14.0 g/cm<sup>3</sup> 90 HRA Submicron Grain Structure 610,000 psi **Cutting & Wear Resistance**
- Diverse wear applications
- Shock-resistance applications

14.03 g/cm3

87.4 HRA

- Impact punches
- Punches and ejector pins



Density

Hardness

**Grain Structure** Coarse 470,000 psi Impact & Toughness **Cutting & Wear Resistance** 

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

- **HB-110** 90% 14.5 g/cm<sup>3</sup> Density 91.7 HRA Hardness Grain Structure Submicron TRS **Impact & Toughness** 
  - Excellent performance when machining a wide range of materials

Density

Density

Hardness

Grain Structure

**Impact & Toughness** 

Hardness

**Grain Structure** 

Impact & Toughness

88.5%

90 HRA

Bimodal

94%

14.9 g/cm<sup>3</sup>

92.3 HRA

Bimodal

334,000psi

530,000psi

14.39 g/cm

- Titanium alloys Alloyed and non-alloyed steels
- Machining of steel and cast iron as well as non-ferrous metals

Exceptional performance in punch applications

■ Wear applications, flow control HB-320 13.56 g/cm<sup>3</sup> Density 85.4 HRA Hardness Grain Structure Coarse

Density

Hardness

**Grain Structure** 

**Impact & Toughness** 

- 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
- 12% HB-212 14.28 g/cm<sup>3</sup> Density 90.2 HRA Hardness Grain Structure Medium 377,000psi
- **Impact & Toughness Cutting & Wear Resistance** Excellent thermal cycling properties
- Optimal braze adhesion ■ Non-cutting grade Good toughness characteristics

Density Hardness

HB-2

Cutting & Wear Resistance

Diamond coating

Cast iron

Machining of graphite

Non-ferrous metal alloys

Nozzles and wear applications

94%

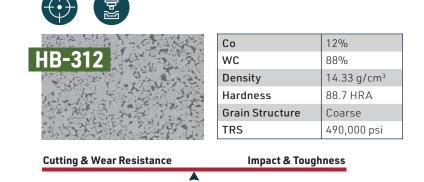
14.9 g/cm<sup>3</sup>

Submicron

520,000psi

93 HRA

- 75% 13.18 g/cm<sup>3</sup> 83.3 HRA Grain Structure Coarse 430,000 psi
- High Impact forming applications Header dies, draw dies, stamping die details Thread rolling Ammunition dies
- 10% wc 90.0% 14.5 g/cm<sup>3</sup> Density 91 HRA Hardness
- Grain Structure Bimodal 553,000 psi Cutting & Wear Resistance Impact & Toughness
  - Ideal for deep hole drilling Exceptional toughness/wear properties Gundrill



Capability for wide variety of forming applications

Low impact/light shock resistance

Ammunition dies

Light stamping



hbcarbide.com