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ZHUSHOU GOODE INDUSTRY CO., LTD

COLD HEADING DIES



WHAT IS COLD HEADING

Cold heading manufacturing is a multi-step process used to form metal parts at room temperature. Unlike other metal fabrication processes, hammers and dies are used at a high speed to form the metal without heating the material.

A large coil of wire is fed into a blank and pulled through a drawing machine. The drawing machine compresses the material to the desired diameter. It then passes into the cold heading machine.

Inside the cold heading machine, the blank is hit between a die and a punch block, pushing the material into the die to create the desired shape.

We use two separate techniques for forcing the material into the die. With the upset method, the punch block forces the metal out of the die to produce a head larger than the initial blank.

The extrusion technique includes two methods, forward and backward extrusion. With forward extrusion, the cavity of the two dies is smaller compared to the diameter of the wire, which creates compression. With backward extrusion, the metal is forced backward through a punch to create a hole or cavity.

Cold heading is commonly used for creating custom screws, bolts, and other custom fasteners out of round metal stock.

WHEN SHOULD YOU CHOOSE COLD HEADING FOR YOUR PARTS?

Cold forming comes with advantages and disadvantages compared to other machining processes, such as screw machining.

While using a screw machine may eliminate the need for dies, cold forming requires dies to set the head shapes, which increases the lead time and initial cost. However, cold heading includes many benefits:

- Less waste
- Faster production
- Stronger parts
- Reduced costs

Using cold heading for your parts reduces material waste. More of the material is utilized during the cold forming process. This limits scrap and overall costs.

Goode Carbide produce as-sintered tungsten carbide die inserts and blanks for use in hot and cold heading die tooling and forming tool applications. Inserts are made to order and can be supplied in different tungsten carbide material grades with up to a 25% Cobalt binder to meet our customers' specific requirements to produce numerous bolts, screws and special fixings, in a variety of materials. We produce the die inserts and blanks in the as-sintered condition with the specific overall dimensions and special features our customers request ready for them to produce finished ground tooling.

Hot and Cold Heading Die Inserts

Cut-off Die Inserts

Forging Dies

Ejector Pins

Punches

Our factory is equipped to make tungsten carbide heading die inserts and forging dies blanks in all sizes up to a maximum outside diameter of 250mm. We maintain good supplies of our tungsten carbide raw material in stock and aim to supply the as-sintered die inserts and blanks on a short delivery lead time as required.

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APPLICATIONS:

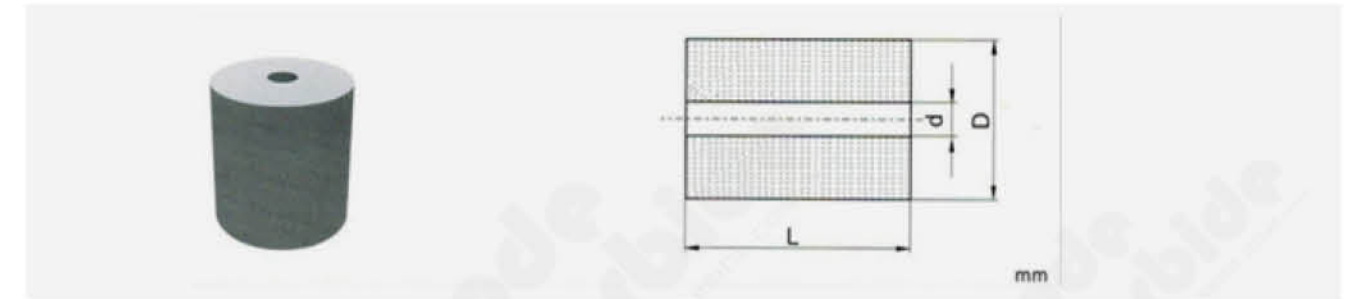
Tungsten carbide pellets are widely used in cold heading dies and punching dies for manufacturing nuts, screw caps, bolts, cans and many other products.

MATERIAL GRADE:

Grade	Density g/cm ³	T.R.S Mpa	Hardness HRA	Properties & Applications
GD10	13.5	3000	83.50	Good wear resistance and bending strength. It is often preferred by nut forming dies and high impact-resistant dies.
GD11	14.4	2420	88.50	Forming or stamping dies for metal powders and nonmetal powders.
GD15	14.0	2500	87.50	It is suitable for drawing steel tubes and rods under high compression ratio, manufacturing upsetting, punching and forging tools under large stress.
GD20	13.50	2800	85.50	It is suitable for manufacturing punching dies for watch parts, leaf spring of musical instruments, battery jars, small sized steel balls, screws, screw caps, etc.
GD32	13.90	2750	85.50	It is suitable for impact-resistant forging dies.
GD36	13.70	2800	84.50	It is suitable for impact-resistant forging dies, hot-forging dies and finishing rollers.
GD40	13.50	2850	83.50	It is suitable for wear resistant or impact resistant dies.
GD50	13.30	2900	83.0	It is suitable for nut forming dies and high impact-resistant dies.
GD60	13.10	2950	82.50	It is suitable for stainless screw dies and semifinishing rollers.
GD80	13.10	3050	83.40	It is suitable for screw cap forming dies with high strength (highest impact-resistant forging dies).

SPECIFICATIONS:

Including but not limited to the following types.



Type	Dimension			Application
	d	D	L	
BDP00710-	0.7	10	12.0-20.0	M1
BDP01010-	1.0	10	12.0-20.0	M1.5-M2
BDP01013-	1.0	13	15.0-40.0	M1.5-M2
BDP01213-	1.2	13	15.0-40.0	M1.5-M2
BDP01510-	1.5	10	12.0-25.0	M2
BDP01516-	1.5	16	15.0-45.0	M2
BDP01813-	1.8	13	12.0-45.0	M2.5
BDP01816-	1.8	16	20.0-45.0	M2.5
BDP02113-	2.1	13	15.0-30.0	M3
BDP02116-	2.1	16	25.0-45.0	M3
BDP02316-	2.3	16	15.0-45.0	M3
BDP02522-	2.5	22	20.0-60.0	M3
BDP02813-	2.8	13	15.0-30.0	M4
BDP02816-	2.8	16	25.0-40.0	M4
BDP02818-	2.8	18	20.0-50.0	M4
BDP02820-	2.8	20	20.0-50.0	M4
BDP02822-	2.8	22	20.0-60.0	M4
BDP02825-	2.8	25	20.0-60.0	M4
BDP03216-	3.2	16	15.0-45.0	M4
BDP03218-	3.2	18	15.0-50.0	M4
BDP03616-	3.6	16	20.0-50.0	M5
BDP03618-	3.6	18	20.0-60.0	M5
BDP03822-	3.8	22	20.0-40.0	M5
BDP03830-	3.8	30	50.0-60.0	M5

PRODUCT PICTURES

