

Hard Bronzes of Kor Bakir

Korbak HB 15

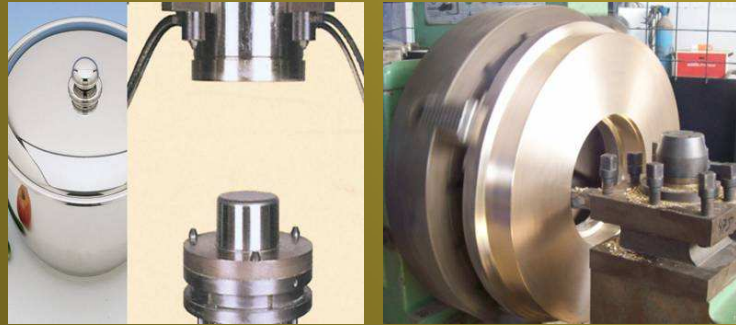
Korbak HB 15 – Metal forming material

Most important application of this alloy is "Deep Drawing Dies for stainless steel sheets. Korbak HB 15 is unique alloy for deep drawing process.

Mechanical & Pysical Properties of Korbak HB 15



Deep drawing process for the production of stainless steel kitchen sink by "deep drawing dies"



Deep drawing process for the production of stainless steel cookware by "deep drawing dies"



Deep drawing dies for the production of wheel

Comparisation table With Cold Work Tool Steel	Cold Work Tool Steel *Hardened and tempered cond	Korbak AB 18 *Delivery conditions
Hardness HRC	60-63	40-43
Compressive yield strength MPA	App.2000	App.1600
Density g/cm ³	7,64	7,00
Specific heat cp J/g-°C	0,46	0,42
Coefficient of friction (on the steel surface) µs	App. 0,8	App.0,18

Korbak HB (Hard Bronzes) family have perfect wear, corrosion resistance and very low friction with the excellent dimensional stability. You can see the coefficient of friction values of both materials above. Although hardened and tempered steels have better mechanical properties than Korbak HB 15, due to friction force of Korbak HB 15 alloyed dies is four times less than steel drawing dies, they are more preferable for deep drawing process. Korbak HB alloys are always ready to machining because they do not need annealing and hardening process.

Advantages of using Korbak HB 15

Longer compenent life

by lower coefficient of friction and perfect wear and corrosion resistance & excellent dimensional stability

Lower maintenance cost

by less surface cleaning time and no soften annealing process

Less wastage rates & Time saving

by no segregation and sticking of metal dust ,no scratches on the surface of workpiece. No cracks and wrinkles due to lower coefficients of friction.

Properties Table of Products

Alloy	Chemical Comp.		Mech.& Physical Properties
Korbak HC1 CuBe2	%Be:2	%Co+Ni:0,5	Yield st.: 1.000 Mpa Tensile : 1.210-1.310 Mpa Hardness: 370- 430 HB Conductivity:26 I.A.C.S Gravity: 8,3 g/cm ³
	%Cu:Rest	%Other:0,5	
Korbak HC 3 CuCo1Ni1Be	%Be:0,5	%Co:1,0	Yield st.: 650-840 Mpa Tensile : 680-900 Mpa Hardness:220-270 HB Conductivity:48 I.A.C.S Gravity :8,80 g/cm ³
	%Cu:Rest	%Ni:1,0	
Korbak HC 4 CuCo2Be	%Be:0,5	%Co:2,4	Yield st.:380-560 Mpa Tensile :710-910 Mpa Hardness:220-260 HB Conductivity: 48 I.A.C.S Gravity : 8,80 g/cm ³
	%Cu:Rest	%Ni:0,3	
Korbak HC 6 CuCr1Zr	%Cr:1,0	%Zr:0,1	Yield st.:300-320 Mpa Tensile :370-400 Mpa Hardness:120-160 HB Conductivity: 86 I.A.C.S Gravity : 8,9 g/cm ³
	%Cu:Rest	%Other:0,2	
Korbak HC 11 CuNi2SiCr	%Si:0,8	%Cr:0,4	Yield st.: 490-550 Mpa Tensile : 700-900 Mpa Hardness: 200-240 HB Conductivity:%52 Gravity :8,75 g/cm ³
	%Cu:Rest	%Ni:2,4	
Korbak HB 10 CuAl10Ni5Fe4	%Al:10,0	%Mn: 1,5	Yield st.: 710-810 Mpa Tensile : 860-960 Mpa Hardness:280-300 HB Gravity: 7,5 g/cm ³
	%Cu:Rest	%Ni: 5,0	
Korbak HB 15			Compr. yield st : 1600 Mpa Hardness: 40-43 HRC Gravity: 7,0 g/cm ³ Coeff. of fric.: 0,18 µs

Korbakir Alaşımları is one of the important manufacturers who supplies Electric Resistance Welding consumables, plunger tips, non-ferro casting dies, plastic moulds cooling plate and aluminium bronzes for deep drawing dies or bushings, gears, bearings and machine parts ***with guarantee of 3.1 B certificate.***

Korbakir has a team with many years of experience and deep knowledge of producing special hard copper alloys and special bronzes .

Our **value-added products**, which have good thermal ,mechanics and chemical properties, are manufactured in high technological standards.

PRODUCING ACCORDING TO ANY DRAWINGS OR DIMENSIONS.

Our production facilities;



Centrifugal casting



Sand casting



Die casting

Forging

Heat Treatment



Rough Machining



CNC Machining

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