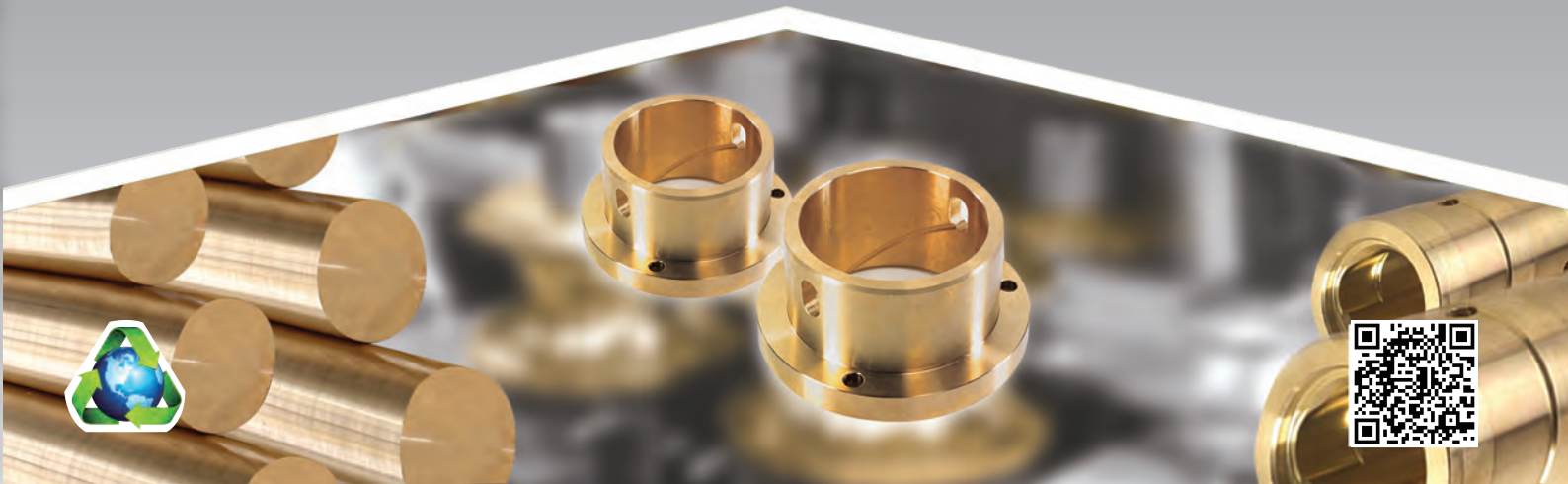




SPECIAL ALLOYS
WEAR, CORROSION RESISTANT &
HIGH CONDUCTIVITY APPLICATIONS



AMPCO METAL **EXCELLENCE IN ENGINEERED ALLOYS**



AMPCO Reference	Nearest International Standards				
	ISO	AFNOR	AFNOR Alloy	DIN	ASTM

AMPCO® BRONZE	AMPCO® 8	AMPCO METAL Specification	
	AMPCO® 18		
	AMPCO® 18.23		
	AMPCO® 21		
	AMPCO® 22		
	AMPCO® 25		
	AMPCO® 26		
	AMPCO® 45		
	AMPCO® M4		

Nominal Chemical Composition (Remainder Cu)							Mechanical & Physical Properties							Usage Guideline			
Sn	Zn	Pb	Al	Fe	Ni	Mn	D Kg/dm ³	Rm MPa	Rp 0,2 MPa	A ₅ %	HBW 10/3000	Thermal Conductivity W/m.K	Linear Expansion Coefficient 10 ⁻⁶ /K	Coefficient of Friction Unlubricated	Need for Lubrication	Average Speed m/s	Average Load MPa

0.25			6,5	2,5			7.95	552	283	40	153	54	16	0.17	Moderate	1.5	85
			10,5	3,5			7.45	724	365	14	192	63	16	0.18	Moderate	1.5	100
			10,5	3,5			7.45	758	386	16	207	63	16	0.18		1.5	100
			13,1	4,4		2	7.21	758	420	1	286	46	16	0.21		0.7	115
			14,1	4,7		2	7.06	724	427	0.5	332	42	16	0.25	Moderate	0.6	120
Proprietary							6.93	R _{mc} 1580	R _{p,0.1} 710	0.2	364	33	16	0.30	Moderate	0.5	125
							6.93	R _{mc} 1601	R _{p,0.1} 720	0	420	33	16	0.32	Moderate	0.4	130
			10	2,5	5	1.5	7.53	814	517	15	228	46	16.2	0.23	High	1.5	90
			10,5	4,8	5	1.5	7.45	1000	793	8	260/300	42	16	0.23		1	330



AMPCOLOY® ALLOYS	AMPCOLOY® 83	CuBe2		2.1247	C17200	
	AMPCOLOY® 944	AMPCO METAL Specification			Alloys without Beryllium	
	AMPCOLOY® 940					
	AMPCOLOY® 89	CuNiBe				
	AMPCOLOY® 95	CuCoNiBe		~2.1285	~C17510	
	AMPCOLOY® 972	CuCrZr		2.1293	C18150	

Cr	Co	Be	Zr	Ni	Si	Mn	Thermal Conductivity W/m.K			Electrical Conductivity % IACS	RWMA Class					
							20 C	100 C	200 C							
	0.5	2					8.26	1310	827	5	360	106	120	135	20%	4
1				7	2		8.7	938	730	5	294	156	170	190	30%	4
0.4				2.5	0.7		8.71	689	517	13	210	208	226	243	48%	3
Co + Ni2		0.5					8.75	740	680	12	230	300	320	340	69%	3
Co + Ni2		0.5					8.75	830	550	10	240	217	235	254	52%	3
>1			>0,10				8.87	520	466	18	151	333	350	367	82%	2

Alloy type	Standards					
	EN 1982	EN	DIN	CDA	ASTM	GAM MM12
ALUMINUM BRONZES	CUAL10FE5NI5	CC333G	DIN 2.0975	C95500	B505	CUAL9NI5FE4
	CUAL10FE2	CC331G	DIN 2.0940	C95200	B505	CUAL10FE3
	CUAL9	CC330G		C95300	B505	-
	CUAL10NI3FE2	CC332G	DIN 2.0970			CUAL9NI3FE2
	CUAL11FE6NI6	CC334G	DIN 2.0980	C95520	B505	-
TIN BRONZE	CUSN8	-	-	-	-	
	CUSN9	-	-	-	-	CUSN8
	CUSN10	CC480K	DIN 2.1050	C90700	B505	-
	CUSN12	CC483K	DIN 2.1052	C90800	B427	-
	CUSN11PB2	CC482K	DIN 2.1061	C92700	B505	CUSN12
	CUSN12NI2	CC484K	DIN 2.1060	C91700	B427	-
	CUSN7ZN2PB3	CC492K	DIN 2.1093	-	-	-
BRASS	CUZN25AL5MN4FE3	CC762S	DIN 2.0598	C86200	B505	-
	CUZN34MN3AL2FE1	CC764S	DIN 2.0596	C86700*	B584	-
	CUZN35MN2AL1FE1	CC765S	DIN 2.0592	C86400*	B584	-
	CUZN37AL1	CC766S	DIN 2.0510	C86500	B505	-
	CUZN19AL6	-	-			CUZN19AL6
	CUZN23AL4	-	-	-	-	CUZN23AL4

Typical nominal chemistry%				Typical applications
Al	Fe	Ni	Mn	
10.8	4	4.2	-	Demanding applications where high mechanical properties, good corrosion resistance and high ductility are required. Machinery, shafts, valve bodies, propeller hub, worm gears, bushings, propeller blades, wear plates
9	3.2	-	-	
10	1.2	-	-	
9	2.5	3.2	0.8	
11	4.8	5.1	-	
Sn	Pb	Zn	Ni	Typical for high strength, low speeds and heavy loads applications like gear, bushing and bearing. Pump impellers, piston rings, steam fittings, valve bodies, retaining and clamps. Also for connectors, relays and conductor springs.
8	1	1.5	1	
8.5	0.05	0.2	0.05	
11	-	-	-	
12	0	-	-	
10	1.8	-	-	
12	0	-	1.5	
7	3	2	2	
Zn	Al	Fe	Mn	Typical for low friction applications with slow speed and high pressure. Fasteners, screw nuts, bushings, cams, frames, worm gears, machine parts, hooks, press dies, shafts, valve stems
25	4	3	3.8	
34	2	2	2	
38	0.5	1	0.5	
39	1	1.2	0.8	
19	6	-	-	
23	4	-	-	



Wear - Resistant Bronzes
Corrosion - Resistant Bronzes

SPECIFY AMPCO® High - Conductivity Alloys



● Deep Drawing AMPCO® 21/22/25/26

● Tube Bending AMPCO® 18/21/22/25/M4

● Tube Forming AMPCO® 18/21/22/25

● Rollercoasters AMPCO®18/M4

● General Engineering AMPCO® 18/21/M4

● Steel Mill AMPCO®18

CORPORATE MISSION STATEMENT:
 "Provide customers around the world with innovative engineered metal products and services, delivering exceptional value to their business."

● Plastics Industries AMPCOLOY® 940/944/83/95

● Aerospace & Offshore AMS 4640/4590/4880/4881

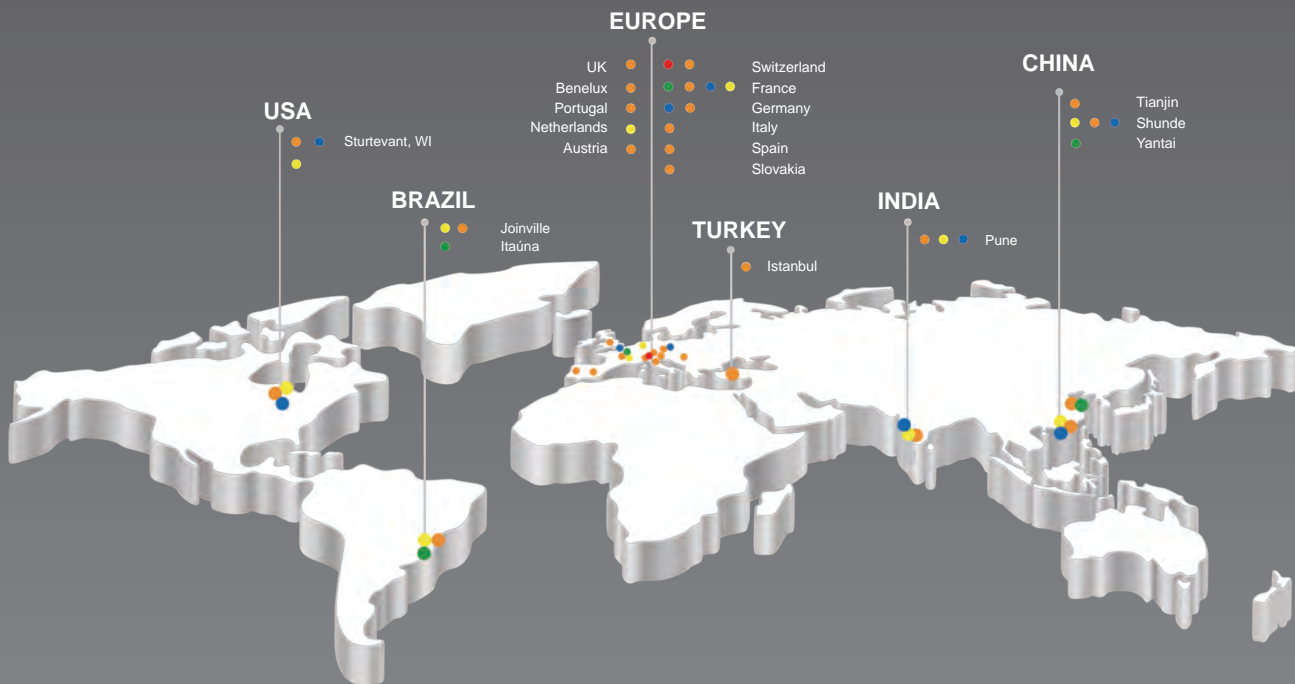
● Die Casting AMPCOLOY® 940/89/95

● Soap Mould AMPCOLOY® 940

● Welding Materials AMPCO - TRODE®

● AMPCO® SAFETY TOOLS

● Resistance Welding & Plunger Tips AMPCOLOY® 972/940/83/95



● Head Office ● Foundry ● Machining Facility ● Distribution Center ● Sales Office



AMPCO METAL is proud to participate into saving natural resources by using mostly recycled metal!



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