

**Copper and
Copper Alloyed
Products**



ALTEK

We Alive Copper ...

Altek Dokum was established in 1971, maintains its business life with the vision of taking constant development as a philosophy, always prioritizing human values, paying attention to employee and customer satisfaction in any case, taking reliability as basis and following technological developments and market trends.

Altek Dokum has achieved a sustainable growth by developing its resources and protecting its values for more than 40 years and took its place among the most powerful industrial companies of Turkey.

It is also determinant to maintain its development by its growth and efficiency rates, mission of carrying its values from past to future, its creative innovative attitude and by always looking ahead.

We thank all our employees walking this path together with us, all our customers and all institutions in connection with us

Yours truly,

**Director of Board
FEHMI DENIZLI**



Altek Dokum is a manufacturing company specializing in copper and copper alloyed rolled semi-finished products since 1971.

Altek Dokum has wide range of products including copper and copper alloyed strips, sheets, discs, special alloyed products, coin blanks and case cups.

Altek Dokum is specialized in copper and copper alloyed rolled products, supplies with its products the sectors as electric, electronic, automotive, textile, sanitary systems, automation sectors, defense industry and mints.

Every step of our production proceeds at its own modern facilities; therefore product quality is under the guarantee of Altek Dokum.

You can consider our customers as the best reference.



*... Secret of our
Success*



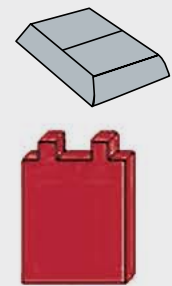
*... Secret of our
Quality Level.*



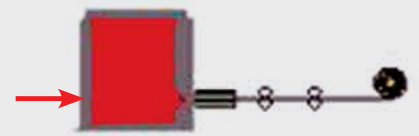
Altek Dokum stands among most reputable companies in the sectors it's active in by the trust and support of the companies which it provides services for with modern manufacturing plants, specialized technical team and satisfied employees.

Holding the highest exporting volume in copper and copper alloyed rolled products, Altek exports 55% of its production.





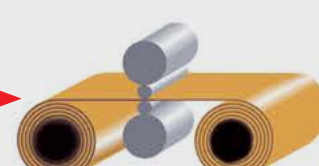
Raw Material



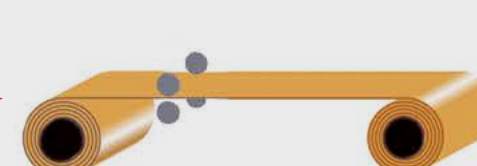
Casting



Milling



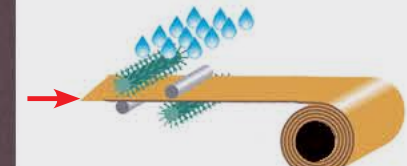
Breakdown Rolling



Edge trimming



Annealing



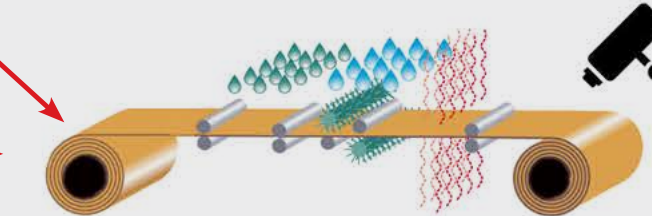
Pickling



Cold Rolling



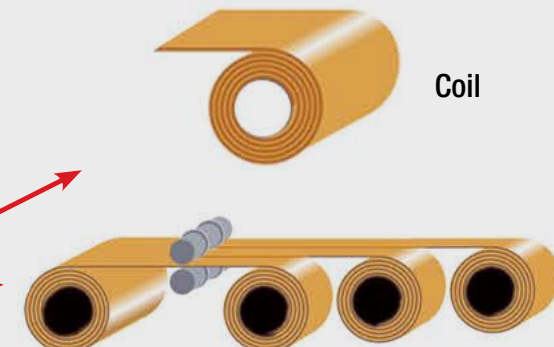
Annealing



Pickling & Decreasing



Tension Leveling



Slitting

Coil



We widen the application fields of our manufactured goods in order to meet the needs of our customers who carry out business in various industrial fields with different demands and expectations.

Our products with good surface quality show high performance under bending, cold shaping and deep drawing applications and can be used for any kind of high technology product.



General Characteristics

- Good Electrical and Thermal Conductivity
- Good Corrosion Resistance
- Perfect for cold forming and machining
- Perfect strength
- Good for welding, soldering and plating



Chemical Composition-Alloy								
Alloy	EN No	Cu%	Zn%	Al%	Fe%	Ni%	Pb%	Sn%
CuZn10	CW501L	89,0-91,0	Rest	0,02	0,05	0,30	0,05	0,10
CuZn15	CW502L	84,0-86,0	Rest	0,02	0,05	0,30	0,05	0,10
CuZn28	CW504L	71,0-73,0	Rest	0,02	0,05	0,30	0,05	0,10
CuZn30	CW505L	69,0-71,0	Rest	0,02	0,05	0,30	0,05	0,10
CuZn33	CW506L	66,0-68,0	Rest	0,02	0,05	0,30	0,05	0,10
CuZn36	CW507L	63,5-65,5	Rest	0,02	0,05	0,30	0,05	0,10
CuZn37	CW508L	62,0-64,0	Rest	0,05	0,10	0,30	0,10	0,10

Altek Dokum is an international supplier company of brass strips. All of the production steps are applied at Altek Dokum, according to customer requirements.

The journey starts at our casting line and finalized at the packaging area.

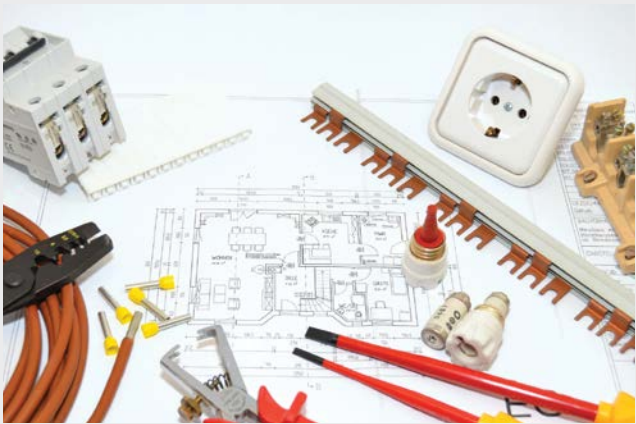
Altek Dokum also manufactures cartridge case cups and bullet jacket cups for Defense Industry according to military norms.



Norm Correspondence Table						
Alloy	EN No	UNS (USA)	BS (UK)	NF (FRANCE)	UNE (SPAIN)	JIS (JAPAN)
CuZn10	CW501L	C22000	CZ101	CuZn10	C-6110	C22000
CuZn15	CW502L	C23000	CZ102	CuZn15	C-6115	C23000
CuZn28	CW504L	—	—	CuZn28	C-6128	—
CuZn30	CW505L	C26000	CZ106	CuZn30	C-6130	C26000
CuZn33	CW506L	C26800	CZ107	CuZn33	C-6133	C26800
CuZn36	CW507L	C27000	CZ107	CuZn36	C-6135	C27000
CuZn37	CW508L	C27200	CZ108	CuZn37	C-6137	C27200

Applications

- Electric and Electronic Industry
- Automotive Industry
- Construction Industry
- Sanitary ware
- Textile
- Defense Industry
- Machinery Equipment
- Decoration
- Jewellery



Physical Properties

Alloy	EN No	Density g/cm³	Electrical Conductivity		Thermal Conductivity W/mK	Modulus of Elasticity kN/m²
			MS/m	%IACS		
CuZn10	CW501L	8,80	25,7	44	188	124
CuZn15	CW502L	8,75	21,1	40	161	122
CuZn28	CW504L	8,57	16,9	29	124	116
CuZn30	CW505L	8,53	16,4	28	121	114
CuZn33	CW506L	8,47	15,5	27	116	112
CuZn36	CW507L	8,45	15,8	27	116	110
CuZn37	CW508L	8,44	16,0	28	116	110



Mechanical Properties

Alloy	Hardness	Hardness Tensile Strength N/mm²		Yield Strength N/mm²	Elongation %		Hardness HV	
		Min.	Max.		Below 2.5mm Min.	Over 2.5mm Min.	Min.	Max.
CuZn10	H050	240	290	max. 140	36	45	50	80
	H080	280	360	min. 200	13	20	80	110
	H110	350	—	min. 290	4	8	110	—
CuZn15	H055	260	310	max. 170	36	45	55	85
	H085	300	370	min. 150	16	25	85	115
	H105	350	420	min. 250	4	12	105	135
	H125	410	—	min. 360	—	—	125	—
CuZn28 CuZn30	H055	270	350	max. 160	40	50	55	90
	H095	350	430	min. 170	21	33	95	125
	H125	410	490	min. 260	9	15	120	155
	H150	480	—	min. 430	—	—	150	—
CuZn33	H055	280	380	max. 170	40	50	55	90
	H095	350	430	min. 170	23	31	95	125
	H125	420	500	min. 300	6	13	125	155
	H150	500	—	min. 450	—	—	155	—
CuZn36 CuZn37	H055	300	370	max. 180	38	48	55	90
	H095	350	440	min. 170	19	28	95	125
	H125	410	490	min. 300	8	12	120	155
	H150	480	560	min. 430	3	—	150	180
	H170	550	—	min. 500	—	—	170	—

Coil Specifications

Thickness	Width	Inside Diameter	Outside Diameter	Weight
0.05 - 5.00 mm	6.00 - 350 mm	100 - 300 - 400 - 500 mm	500 - 1200 mm	2800 kg. max.

Traverse Wounded Coil Specifications

Reel Inside Diameter	Reel Outside Diameter	Reel Width	Strip Thickness	Strip Width	Weight
300 mm	700-900mm	350 mm	0,25 - 1,20 mm	10,00 - 50,00 mm	500 - 1100 kg



Copper strip is mostly used in electric, electronic, construction and decoration industries, due to it's good electrical conductivity, cold forming ability and corrosion resistance. Rolling, annealing and slitting processes of copper strip are applied in our production facilities.

Altek Dokum also produces copper strips with round edges, angled edges and profiled edges, as well as straight slit forms.

Copper strip with a thickness down to 40 µm thickness is produced for radiator manufacturing companies at Altek Dokum plants.

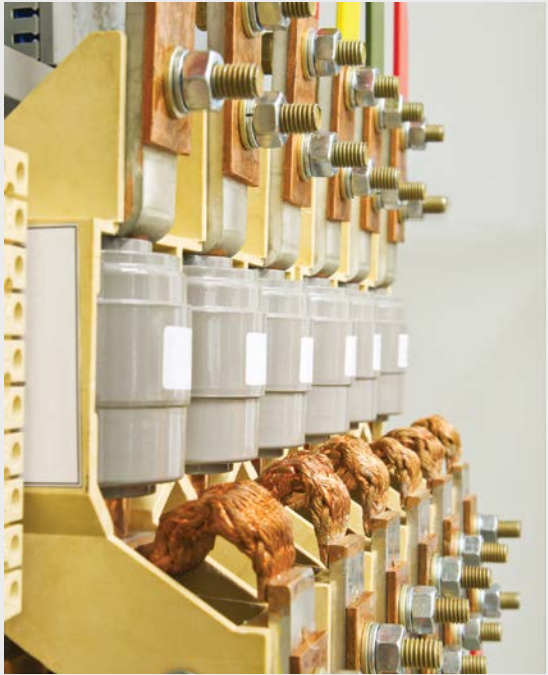
General Characteristics

- Good Electrical and Thermal Conductivity
- Good Electroplating Ability
- Good Corrosion Resistance
- Good Cold Forming and Deep Drawing Quality
- Perfect Soldering and Welding

Chemical Composition - Alloy						
Alloy	EN No	Cu%	Sn%	P%	Ag%	O%
Cu-ETP, E - Cu58	CW004A	99,90	-	-	0,0025	0,040
Cu-DHP, SF - Cu	CW024A	99,90	-	0,015 0,040	0,0025	-
CuSn0,15	CW117C	99,90	0,15	0,006	-	-
Cu-PHC , SE-Cu	CW020A	99,99	-	0,001 0,006	-	-

Norm Correspondence Table						
Alloy	EN No	UNS (USA)	BS (UK)	NF (FRANCE)	UNE (SPAIN)	JIS (JAPAN)
Cu-ETP	CW004A	C11000	C101	Cu-a1	C-1110	C11000
Cu-DHP, SF-Cu	CW024A	C12200	C106	Cu-b1	C-1130	C12200
CuSn0,15	CW117C	C14410	—	—	—	—
Cu-PHC , SE-Cu	CW020A	C10300	-	-	-	-





Applications

- Electric and Electronic Industry
- Automotive Industry
- Construction Industry
- Textile
- Roofing
- Decoration
- Jewellery

Mechanical Properties								
Alloy	Hardness	Tensile Strength N/mm²		Yield Strength N/mm²	Elongation %		Hardness HV	
		Min.	Max.		Min.		Min.	Max.
Cu-ETP E - Cu58	H040	220	260	max. 140	33		40	65
	H065	240	300	min. 180	8		65	95
	H090	290	360	min. 250	4		90	110
	H110	360	—	min. 320	2		110	—
Cu-DHP SF- Cu	H040	220	260	max. 140	33		40	65
	H065	240	300	min. 180	8		65	95
	H090	290	360	min. 250	4		90	110
	H110	360	—	min. 320	2		110	—
CuSn0,15	H60	250	320	max. 200	9		60	90
	H085	300	370	min. 250	4		85	110
	H105	360	430	min. 300	3		105	130
	H120	430	490	min. 350	2		120	140
Cu-PHC, SE-Cu	H040	220	260	max. 140	9	45	65	90
	H065	240	300	min. 180	4	65	95	110
	H090	290	360	min. 250	3	90	110	130
	H110	360	—	min. 320	2	110	-	140

Physical Properties						
Alloy	EN No	Density g/cm³	Electrical Conductivity		Thermal Conductivity W/mK	Modulus of Elasticity kN/m²
			MS/m	%IACS		
Cu-ETP, E - Cu58	CW004A	8,94	58	100	390	127
Cu-DHP, Sf - Cu	CW024A	8,94	46	79	340	132
CuSn0,15	CW117C	8,90	51	88	350	130
Cu-PHC , SE-Cu	CW021A	8,94	58	100	390	127

Coil Specifications				
Thickness	Width	Inside Diameter	Outside Diameter	Weight
0.04 - 0.50 mm	6.00 - 400 mm	100 - 300 - 400 mm	500 - 1200 mm	2800 kg. max.
0.50 - 5.00 mm	6.00 - 600 mm	100 - 300 - 400 - 500 mm	500 - 1200 mm	4500 kg. max.





Altek Dokum is manufacturing nickel alloyed strips at its own casting house. Rolling, annealing, pickling, heat treatment and slitting processes are applied on nickel alloyed coils to reach customer requirements.

Altek Dokum can also manufacture special nickel alloyed strips upon high volume demands.



General Characteristics

- Good Electrical Conductivity
- Good Thermal Conductivity
- Good Cold Forming
- Perfect Strength
- Perfect ability for Soldering and Brazing
- Perfect Machining

Coil Specifications

Thickness	0.20 - 4.00 mm
Width	6.00 - 350 mm
Inside Diameter	100-300-400-500 mm
Outside Diameter	500 - 1200 mm
Weight	2 800 kg

Applications

- Coin Production
- Electrical Components
- Connecting Parts
- Electronic Industry
- Textile
- Key Production

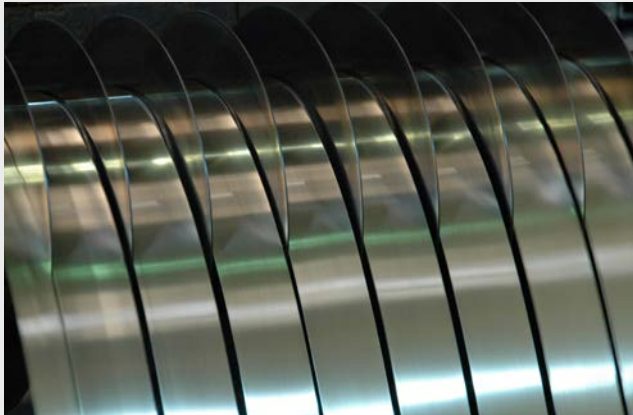


Chemical Composition

Alloy	Cu%	Ni%	Zn%	Mn%	Fe%	Sn%	Pb%
CuNi12Zn24	63,0-66,0	11-13	Rest	0,50	0,30	0,03	0,03
CuNi18Zn20	60,0-63,0	17-19	Rest	0,50	0,30	0,03	0,03
CuNi18Zn27	53,0-56,0	17-19	Rest	0,50	0,30	0,03	0,03

Physical Properties

Alloy	EN No	Density g/cm³	Electrical Conductivity		Modulus of Elasticity kN/m²
			MS/m	%IACS	
CuNi12Zn24	CW403J	8,70	4	7	125
CuNi18Zn20	CW409J	8,70	3	5	135
CuNi18Zn27	CW410J	8,70	3	5	135





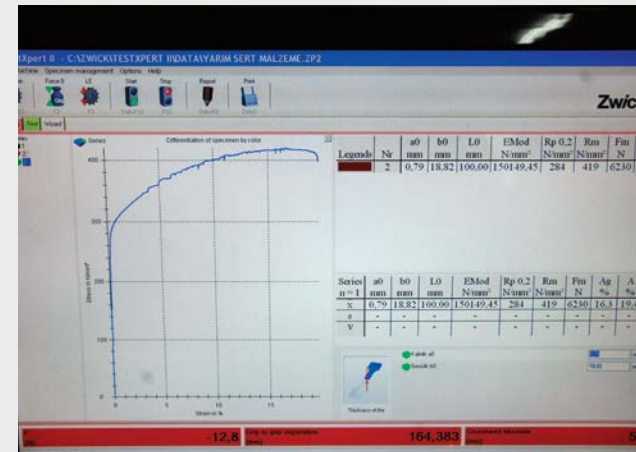
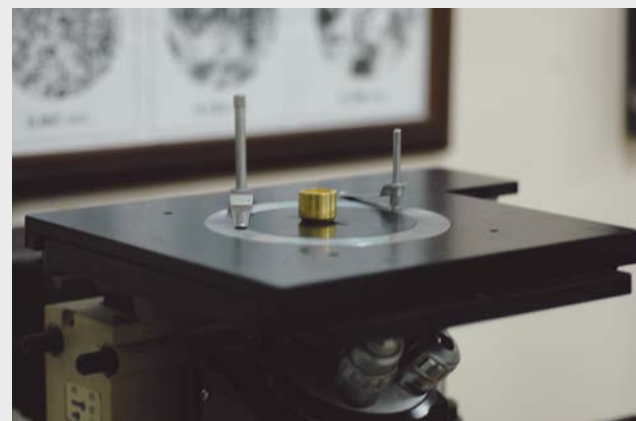
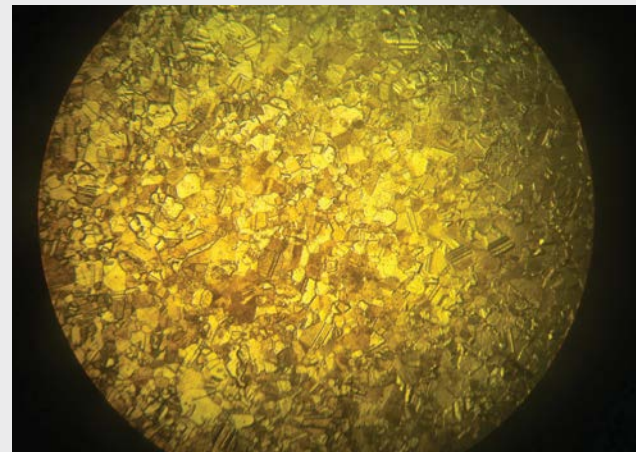
Some of Our Laboratory Equipments:

- Spectrometer
- Hardness Tester
- Erichsen Deep Drawing Tester
- Electron Microscope
- Tensile Strength Tester
- Elongation Tester
- Conductivity Tester
- Roughness Tester



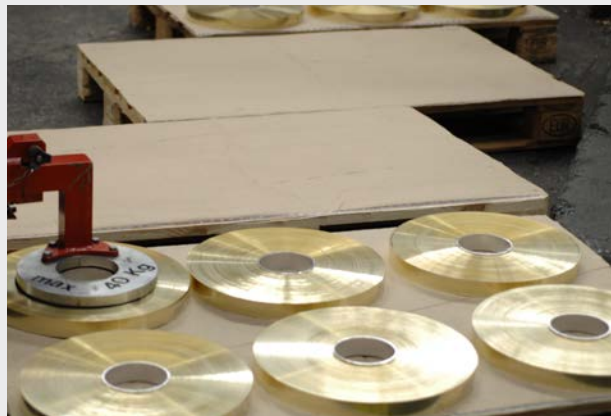
Our laboratory which was built by following global standards checks the high quality manufacturing processes since the first day we were established in order to meet the needs of our customers who carry out business in various industrial fields with different demands and expectations.

We constantly renew and modernize laboratory by means of which we are capable of making any kind of measurements by taking technological developments into consideration.





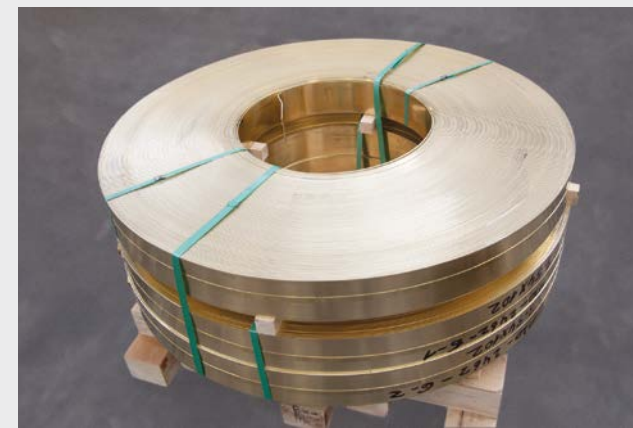
We apply packing in accordance with the needs of our customers. We can prepare the most appropriate package by considering the purpose of use, shipping and storing possibilities, type of material, country standards and type of manufacturing.



Packaging and shipment are as important as manufacturing in today's trading business life. Altek Dokum pays intensive attention to the logistics department just as all other sections of manufacturing.



In addition to being able to carry out packaging and shipping by considering the demands of the customers from domestic market, Altek Dokum can also offer packaging and shipping in accordance with the standards of any other country.





Altek Dokum has been awarded to have ISO 9001:2008, OHSAS 18001:2007 and TSE certificates. Besides Altek Dokum has been a member of RoHS and REACH certification programmes since 2009.



By respecting the environment and nature, Altek Dokum accepts taking any necessary precaution for the purpose of protecting environment as a principle. Cutting edge technology waste water filtration systems are used within the casting and rolling facilities in order to keep air and water clean.



**Altek Döküm ve Hadde
Mamülleri San. ve Tic. A.Ş.**

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