KAYALAR
BAKIR ALAŞIMLARI

About Us

TÜRKİYE'NİN İLK 1000 İHRACATÇI FİRMASI
AMONG TOP 1000 EXPORTERS OF TURKEY

Kayalar Bakır Alaşımları San. Tic. A.Ş. has founded in 1965. Since the date of its foundation, the company has acquired a first - class name for its quality product.

The main reason for this reputation is based upon the Company's modern approach to the exacting technical demands of copper and copper alloys products such as strips. sheets, thin plates and coin blanks for present day industries of Automotive, Electronic, Electrical, Textile, Defence and Mints.

Kayalar Bakır A.Ş. by years:

1965 - Established at Yenibosna Istanbul
1982 - Investment in 660 mm width Casting
1987 - Investment in coin blanks production line
1995 - Investment in 20 High Precision Rolling Mill
1997 - Start of construction for Çorlu Plant
2000 - Hot rolling manufacturing and copper casting has started
2000- Completion of Çorlu Plant

INDEX

03 • Copper

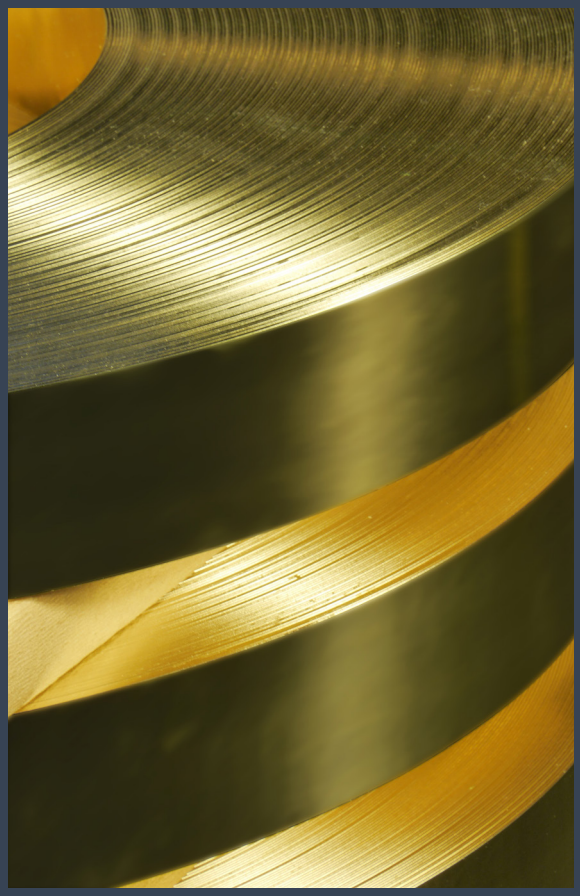
04 • Bronze

05 • Brass

08 • Nickel Alloys

09 • Dimensional Properties

10 • Kayalar Location



ÇORLU PLANT (2000)

With modern casting - hot rolling - cold rolling capabilities serves also to other mill plants under uniform quality and environmental technologies.

Total area m² 39.000
Covered area m² 24.000
Production semi - finished coils, slabs, billets
Production Capacity: 24.000 tones annually

COPPER

Alloy	Euro Standard	AFNOR	ASTM Standard	British Standard	Cu(%-min)	O(%-max)	P(%-Range)	Sn(%-Range)	Density (gr/cm³)
CuETP	CW004A	CU-A1	C11000	C101	99,9	0,04			8,9
CuDHP	CW024A	CU-B1	C12200	C106	99,9		0,015-0,040		8,9
CuSn0,15	CW117C		C14415		Remainder			0,10-0,15	8,9

Mechanical Properties

ALLOY	TEMPER	TENSILE STRENGTH	YIELD STRENGTH	ELONGATION A10 min %	BRINEL		VICKERS(HV)	
		N/mm2	max N/mm2		min	max	min	max
	R200	200-250	100 max	33			40	65
	H040							
	R220	220-260	140 max	33			40	65
	H040							
CuETP/CuDHP	R240	240-300	180 min	8			65	95
	H065							
	R290	290-360	250 min	4			90	110
	H090							
	R360	360 min	320 min	2				
	H110						110	

APPLICATIONS

- Electrical Engineering
- Industrial Appliances
- Electrical Household Appliances
- Automotive Industry
- Electronic Components

STRIPS

- Strips in coils on pallets with max 8 kg/mm width
- Thickness 0,040 - 7,00 mm
- Widths from 10 mm to 680 mm
- Coil Internal Diameters:100,300,400,500 mm

SHEETS

- In wooden pallets of 1000 kgs
- Thickness 0,30 mm-4,00 mm
- Width 100mm-680 mm

PLATES

- Thickness-4,00 mm-200,00 mm
- Widths 100 mm-680 mm

CIRCLES/DISKS

- 40-600 mm diameter

TRANSFORMER STRIPS EDGING OPTIONS

1-Slitted Edges

2-Deburred Edges

3-Rounded Edges

4-Interleaving Paper

BRONZE

Alloy	Afnor	ASTM Standard	British Standard	Cu(%-min)	Fe (%-max)	Ni (%-max)	P (%-Range)	Pb (%-max)	Sn (%-Range)	Zn (%-max)	Density (gr/cm³)
CW450K	CuSn4P	C51100	PB101	Remainder	0,1	0,2	0,01-0,4	0,02	3,50-4,50	0,2	8,85
CW451K	CuSn5P	C51000	PB102	Remainder	0,1	0,2	0,01-0,4	0,02	4,50-5,50	0,2	8,85
CW452K	CuSn6P	C51900	PB103	Remainder	0,1	0,2	0,01-0,4	0,02	5,50-7,00	0,2	8,8
CW453K	CuSn8P	C52100	PB104	Remainder	0,1	0,2	0,01-0,4	0,02	7,50-8,50	0,2	8,8

Mechanical Properties

TEMPER	TENSILE STRENGTH	YIELD STRENGTH	ELONGATION A10 min %	VICKERS	
	N/mm2	max N/mm2		min	max
R290	290-390	190 max	40		
H070				70	100
R390	390-490	210 min	11		
H115				115	155
R480	480-570	420 min	4		
H150				155	180
R540	540-630	490 min	3		
H170				170	200
R610	610	540 min			
H190				190	
R310	310-390	250 max	45		
H075				75	105
R400	400-500	240 min	14		
H120				120	160
R490	490-580	430 min	8		
H160				160	190
R550	550-640	510 min	4		
H180				180	210
R630	630-720	600 min	2		
H200				200	220
R690	690	670 min			
H220				220	

TEMPER	TENSILE STRENGTH	YIELD STRENGTH	ELONGATION A10 min %	VICKERS	
	N/mm2	max N/mm2		min	max
R350	350-420	300 max	45		
H080				80	110
R420	420-520	260 min	17		
H125				125	165
R500	500-590	450 min	8		
H160				160	190
R560	560-650	500 min	5		
H180				180	210
R640	640-730	600 min	3		
H200				200	230
R720	720	690 min			
H220				220	
R370	370-450	300 max	50		
H090				90	120
R450	450-550	280 min	20		
H135				135	175
R540	540-630	460 min	13		
H170				170	200
R600	600-690	530 min	5		
H190				190	220
R660	660-750	620 min	3		
H210				210	240
R740	740	700 min	2		
H230				230	

APPLICATIONS

- Automotive Industry
- Electric Household Appliances
- Electrical Engineering
- Mechnanical Pieces

STRIPS

- Strips in coils on pallets with max 8 kg/mm width
- Thickness 0,10 - 7,00 mm
- Widths from 10 mm to 680 mm
- Coil Internal Diameters:100,300,400,500 mm

SHEETS

- In wooden pallets of 1000 kgs
- Thickness 0,30 mm-4,00 mm
- Width 100mm-680 mm

PLATES

- Thickness-4,00 mm-200,00 mm
- Widths 100 mm-680 mm

CIRCLES/DISKS

- 40-600 mm diameter

BRASS

Alloy	Euro Standard	ASTM Standard	British Standard	Cu (%-Range)	Al (%-max)	Fe (%-max)	Ni (%-max)	Pb (%-max)	Sn (%-max)	Zn	Density (gr/cm³)
CuZn5	CW500L	C21000	CZ125	94-96	0,02	0,015	0,3	0,015	0,1	Remainder	8,9
CuZn10	CW501L	C22000	CZ101	89-91	0,02	0,015	0,3	0,015	0,1	Remainder	8,8
CuZn12,5		C22600		86-89				0,015	0,1	Remainder	8,78
CuZn15	CW502 L	C23000	CZ102	84-86	0,02	0,015	0,3	0,015	0,1	Remainder	8,8
CuZn20	CW503 L	C24000	CZ103	79-81	0,02	0,015	0,3	0,015	0,1	Remainder	8,7
CuZn28	CW504 L	C25600		71-73	0,02	0,05	0,3	0,015	0,1	Remainder	8,55
CuZn30	CW505 L	C26000	CZ106	69-71	0,02	0,015	0,3	0,015	0,1	Remainder	8,5
CuZn33	CW506 L	C26800	CZ107	66-68	0,02	0,015	0,3	0,015	0,1	Remainder	8,5
CuZn36	CW507 L	C27200	CZ108	63,5-65,5	0,02	0,015	0,3	0,015	0,1	Remainder	8,4
CuZn37	CW508 L	C27200	CZ108	62-64	0,05	0,015	0,3	0,015	0,1	Remainder	8,4
CuZn40	CW509 L	C28000	CZ109	59,5-61,5	0,05	0,015	0,3	0,015	0,2	Remainder	8,4

APPLICATIONS

- Automotive Industry
- Electric Household Appliances
- Electrical Engineering
- Decoration

STRIPS

- Strips in coils on pallets with max 8 kg/mm width
- Thickness 0,10 - 7,00 mm
- Widths from 10 mm to 680 mm
- Coil Internal Diameters:100,300,400,500 mm

SHEETS

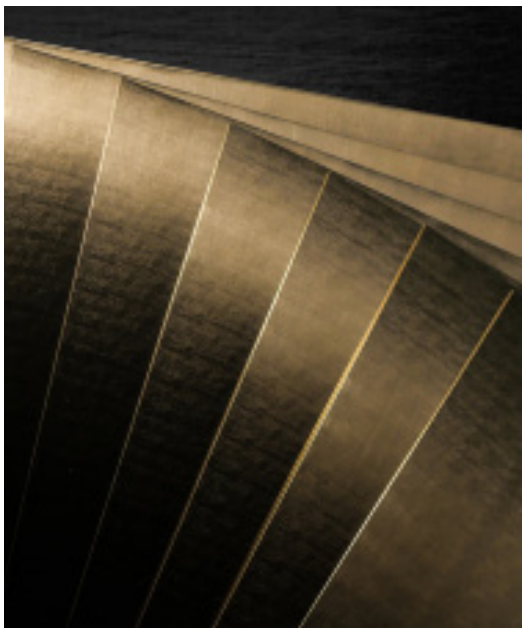
- In wooden pallets of 1000 kgs
- Thickness 0,30 mm-4,00 mm
- Width 100mm-680 mm

PLATES

- Thickness-4,00 mm-200,00 mm
- Widths 100 mm-680 mm

CIRCLES/DISKS

- 40-600 mm diameter



BRASS

Mechanical Properties

ALLOY	TEMPER	TENSILE STRENGTH	YIELD STRENGTH	ELONGATION A10 min %	VICKERS	
		N/mm2	max N/mm2		min	max
CuZn5	R230	230-280	130	36	45	75
	H045					
	R270	270-350	200	12	75	110
	H075					
	R340	340	280	4	110	
	H110					
CuZn10	R240	240-390	140	36	50	80
	H050					
	R280	280-360	200	13	80	110
	H080					
	R350	350	290	4	110	
	H110					
CuZn15	R260	260-310	300	36		
	H055				55	85
	R300	300-370	150	16		
	H085				85	115
	R350	350-420	250	4		
	H105				105	135
	R410	410	360			
	H125				125	
CuZn20	R270	270-320	150	38		
	H055				55	85
	R320	320-400	200	20		
	H085				85	120
	R400	400-480	320	5		
	H120				120	155
	R480	480		-		
	H155				155	
CuZn30	R270	270-350	160	40		
	H055				55	90
	R350	350-430	170 min	21		
	H095				95	125
	R410	410-490	260 min	9		
	H120				120	155
	R480	480	430 min			
	H150				150	
CuZn33	R280	280-360	170 max	40		
	H055				55	90
	R350	350-430	170 min	23		
	H095				95	125
	R420	420-500	300 min	6		
	H125				125	155
	R500	500	450 min			
	H155				155	

BRASS

ALLOY	TEMPER	TENSILE STRENGTH	YIELD STRENGTH	ELONGATION A10 min %	VICKERS	
CuZn36	R300	300-370	180 max	38		
	H055				55	95
	R350	350-440	170 min	19		
	H095				95	125
	R410	410-490	300 min	8		
	H120				120	155
	R480	480-560	430 min	3		
	H150				150	180
	R550	550 min	500 min	-		
	H170				170	
CuZn37	R300	300-370	180 max	38		
	H055				55	95
	R350	350-440	170 min	19		
	H095				95	125
	R410	410-490	300 min	8		
	H120				120	155
	R480	480-560	430 min	3		
	H150				150	180
	R550	550 min	500 min	-		
	H170				170	
CuZn40	R340	340-420	240 max	33		
	H085				85	115
	R400	400-480	200 min	15		
	H110				110	140
	R470	470	390 min	6		
	H140				140	

NICKEL ALLOYS

Alloy	Euro Standard	ASTM Standard	British Standard	Cu(%-min)	Ni(%-Range)	Zn(%)	Fe(%)
CuNi10Zn27	CW401J	C74500	NS103	61-64	9-11,0	Remainder	0,3
CuNi12Zn24	CW403J	C75700	NS104	63-66	11-13,0	Remainder	0,3
CuNi12Zn29	CW405J	C76200		57-60	11-13,5	Remainder	0,3
CuNi18Zn20	CW409J	C76400	NS106	60-63	17-19	Remainder	0,3
CuNi18Zn27	CW410J	C77000	NS107	53-56	17-19	Remainder	0,3

APPLICATIONS

- Deep Drawn Parts
- Cutlery
- Contact Springs
- Connectors
- Relay Springs
- Electrical Contacts

STRIPS

- Strips in coils on pallets with max 8 kg/mm width
- Thickness 0,10 - 7,00 mm
- Widths from 10 mm to 680 mm
- Coil Internal Diameters:100,300,400,500 mm

SHEETS

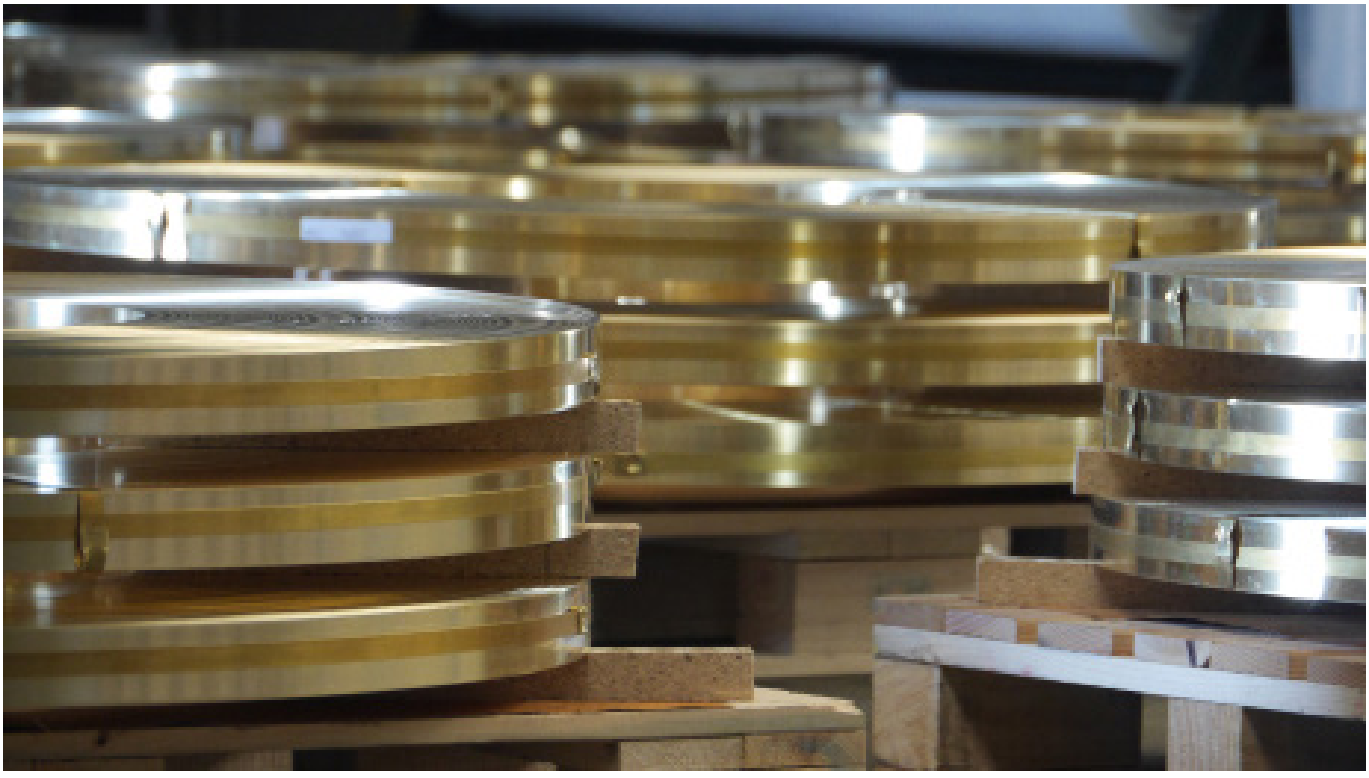
- In wooden pallets of 1000 kgs
- Thickness 0,30 mm-4,00 mm
- Width 100mm-680 mm

PLATES

- Thickness-4,00 mm-200,00 mm
- Widths 100 mm-680 mm

CIRCLES/DISKS

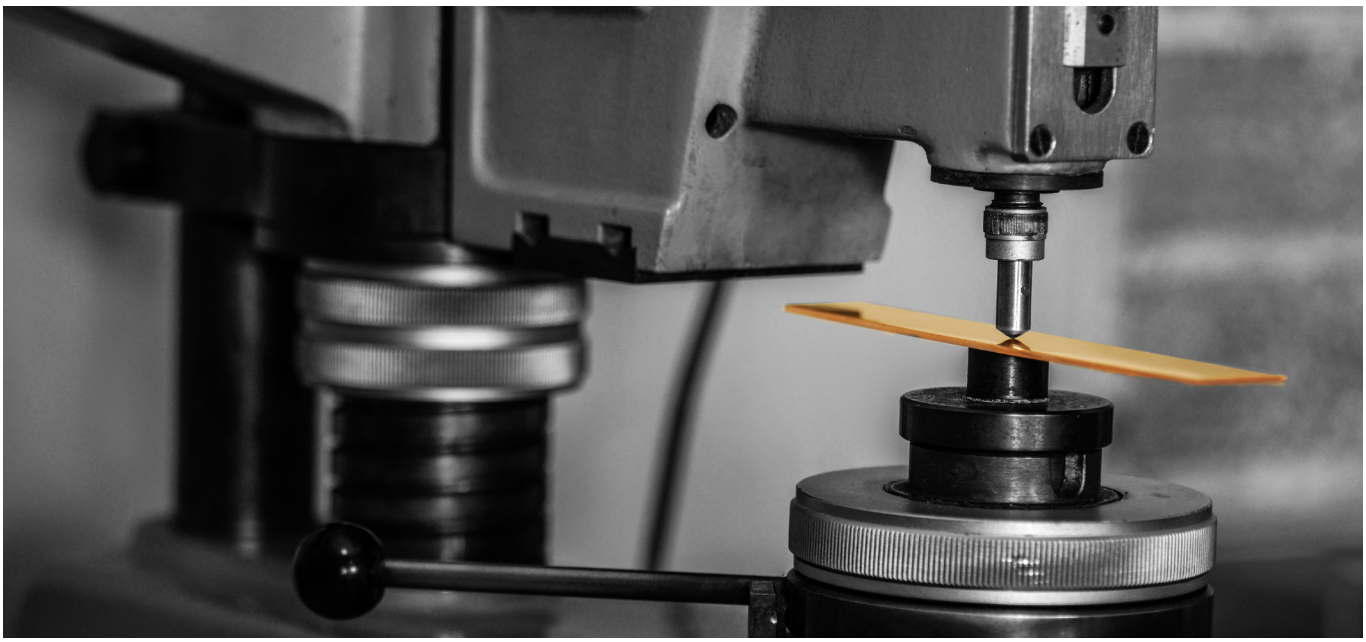
- 40-600 mm diameter

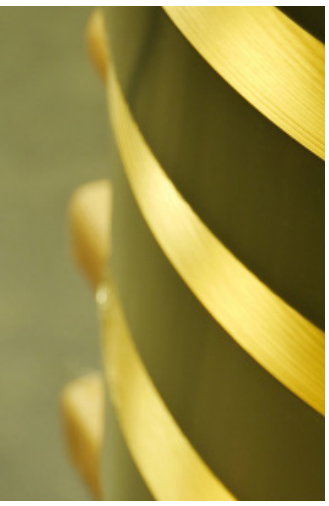


DIMENSIONAL PROPERTIES

THICKNESS	Width Tolerances(mm)			
(mm)	0-100	100-200	200-330	330-660
0,02-0,10	+/-0,075	+/-0,085	+/-0,10	+/-0,01
0,10-0,20	+/-0,15	+/-0,40	+/-0,60	+/-1,00
0,20-0,30	+/-0,20	+/-0,40	+/-0,60	+/-1,00
0,30-0,50	+/-0,20	+/-0,40	+/-0,60	+/-1,00
0,50-0,80	+/-0,20	+/-0,40	+/-0,60	+/-1,00
0,80-1,00	+/-0,20	+/-0,40	+/-0,60	+/-1,00
1,00-2,00	+/-0,30	+/-0,50	+/-1,00	+/-1,20
2,00-3,00	+/-0,50	+/-0,70	+/-1,20	+/-1,50
3,00-4,00	+/-1,00	+/-1,20	+/-1,50	+/-2,00
4,00-7,00	+/-2,00	+/-2,50	+/-3,00	+/-4,00

Thickness(mm)	Thickness Tolerances(mm)
0,02	+/-0,0015
0,05	+/-0,002
0,2	+/-0,0025
0,3	+/-0,003
0,4	+/-0,004
0,6	+/-0,005
0,8	+/-0,006
1,00-4,00	+/-0,008





TÜV NORD

CERTIFICATE

Management system as per
TS EN ISO 9001 : 2009

In accordance with TÜV Teknik Kontrol ve Belgelendirme A.Ş. procedures, it is hereby certified that

KAYALAR BAKIR ALAŞIMLARI SAN. ve TİC. A.Ş.

Kayalar Bakır Alaşımları San. ve Tic. A.Ş.
Çorlu Çerkezköy Yolu Üzeri 8. Km., No 7, Çorlu,
TR-59860 Tekirdağ,
Turkey

applies a management system in line with the above standard for the following scope

Production of strips, sheets, coins blank and tokens made of copper, brass, phosphorous bronze, nickel silver alloys

QM Element 7.3 excluded (Product design)

Certificate Registration No. 1011106
Audit Report No. TR 243

Valid from 2015-05-29
Valid until 2018-05-28
Initial certification 1999

Certification Body
at TÜV Teknik Kontrol ve Belgelendirme A.Ş.

İstanbul, 2015-05-29

The certificate remains valid until the above stated date if and only if there is an uninterrupted compliance with the requirements of the standard and certification contract

TÜRKAK
Kalite Yönetim Sistemi
TS EN ISO/IEC 17021
AB-0093-YB

TÜV Teknik Kontrol ve Belgelendirme A. Ş.
Ayazmadere Cad., Pazar Sok., Bareli Plaza
No 2-4, Kat 4, Gayrettepe, Beşiktaş,
TR-34349 İstanbul
www.tuv-turkey.com tuv-nord@tuv-turkey.com

0011763

TÜRK STANDARDLARI ENSTİTÜSÜ
TÜRK STANDARDLARINA UYGUNLUK BELGESİ
TURKISH STANDARDS INSTITUTION
CERTIFICATE OF CONFORMITY TO TURKISH STANDARDS

Markanın Tanımı Description of the Mark
TSE veya/or TSE veya/or TSE

BELGE NUMARASI *REFERENCE NUMBER OF LICENCE*	031643-TSE-01/01
BELGENİN İLK VERİLİŞ TARİHİ *DATE OF FIRST ISSUE OF LICENCE*	02.12.2002
BELGENİN SON GEÇERLİLİK TARİHİ *LICENCE VALID UNTIL*	11.12.2016
BELGE SAHİBİ KURULUŞUN ADI *NAME OF THE LICENCE HOLDER*	KAYALAR BAKIR ALAŞIMLARI SANAYİ VE TİCARET ANONİM ŞİRKETİ
BELGE SAHİBİ KURULUŞUN ADRESİ *ADRESS OF THE LICENCE HOLDER*	ÇERKEZKÖY YOLU ÜZERİ 8.KM. ÇORLU TEKİRDAĞ/TÜRKİYE
ÜRETİM YERİ ADI *NAME OF THE MANUFACTURING PLACE*	KAYALAR BAKIR ALAŞIMLARI SANAYİ VE TİCARET ANONİM ŞİRKETİ
ÜRETİM YERİ ADRESİ *ADRESS OF THE MANUFACTURING PLACE*	ÇERKEZKÖY YOLU ÜZERİ 8.KM. ÇORLU İSTANBUL / TÜRKİYE
İPTAL EDİLEN BELGE NUMARASI (Varsa) *INDICATION OF SUPERSEDED LICENCE (if any)*	14.11.34/TSE-6479
TESCİLLİ TİCARİ MARKASI *REGISTERED TRADE MARK*	KAYALAR
İLGİLİ TÜRK STANDARDI *RELATED TURKISH STANDARD*	TS EN 1652 / Bakır ve Bakır Alaşımları- Yassı Mamul, Levha, Lama, Şerit ve Diskler- Genel Amaçlar İçin / 12.02.2002
BELGE KAPSAMI *SCOPE OF LICENCE*	Genel Amaçlar İçin Bakır ve Bakır Alaşımlarından İmal Edilen; *Malzeme Gösterilişi: Cu-ETP Malzeme durumu: R200, H040, R220, R240, H065, R290, H090, R360, H110 Biçim: Yassı mamul, lama, şerit Anma genişliği: 4mm (dahil)'den 670mm (dahil)'e kadar Anma kalınlığı: 0.04mm (dahil)'den 200mm (dahil)'e kadar İmalat uzunluğu: 100mm (dahil)'den 6000mm (dahil)'e kadar (yassı mamul ve lama) Çap: 15mm (dahil)'den 440 (dahil)'e kadar, Kalınlık: 0.2mm (dahil)'den 20mm (dahil)'e kadar (disk için)*

07/04.2016

AHMET NURŞİ KARTAL
TSE İSTANBUL BELGELENDİRME MÜDÜRÜ

1 / 2

SINCE

1958

PRODUCTION CAPACITY

24.000 TONS/ ANNUALLY

EXPORTED COUNTRIES

50

Kayalar Bakır Alaşımları is a member of KOÇKAYA HOLDİNG

Çorlu Plant

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KAYALAR BAKIR ALAŞIMLARI