



**BAKARNI RAVNO
VALJANI PROIZVODI**

75 YEARS
SOLID AS COPPER

RAVNO VALJANI PROIZVODI

FLAT ROLLED PRODUCTS

ZBOG ODLIČNIH MEHANIČKIH I FIZIČKIH KARAKTERISTIKA BAKRA I MESINGA OBIM I NAČIN PRIMENE RAVNO VALJANIH POLUPROIZVODA JE VEOMA RAZLIČIT:

- U ELEKTROTEHNICI, U PROIZVODNJI OPREME ZA ELEKTROINDUSTRIJU, U PROIZVODNJI SOLARNIH PANELA, IZMENJIVAČA TOPLOTE, ELEKTRIČNIH TRANSFORMATORA, KONEKTORA, OMOTAČA ELEKTRIČNIH KABLOVA;
- U GRAĐEVINARSTVU I ARHITEKTURI;
- U PROIZVODNJI DELOVA I KOMPONENTI ZA AUTOMOBILSKU INDUSTRIJU;
- NA ŽELEZNICI I U BRODOGRADNJI;
- U PROIZVODNJI OPREME ZA RADIO TELEKOMUNIKACIONE UREĐAJE;
- U PROIZVODNJI VOJNE OPREME I MUNICIJE;
- ZA UREĐAJE I OPREMU U DOMAĆINSTVU.

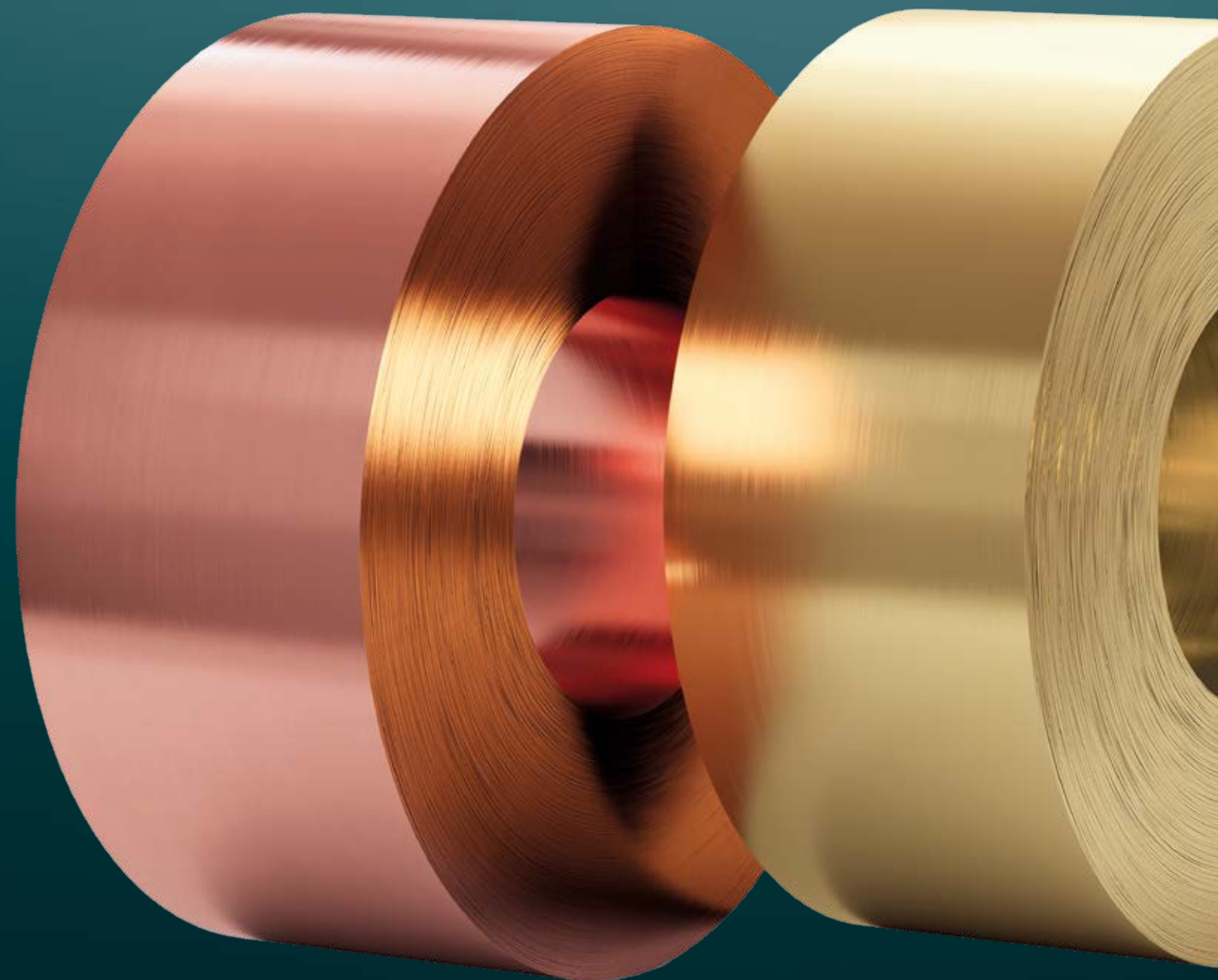
SAV ASORTIMAN RAVNO VALJANIH POLUPROIZVODA PROIZVODI SE PREMA STANDARDIMA: EN, DIN, GOST, BS I DRUGIM SVETSKIM STANDARDIMA, ALI I PREMA SPECIJALNIM ZAHTEVIMA KUPAČA. SPECIJALNI ZAHTEVI MOGU SE ODNOSITI NA: UŽE TOLERANCIJE, ZADOVOLJENJE SPECIJALNIH TEHNOLOŠKIH OSOBINA, UŽE PODRUČJE MEHANIČKIH OSOBINA, POSEBNE ZAHTEVE ZA KVALITET POVRŠINE I DRUGE OSOBINE KOJE TREBA DA ZADOVOLJE ODGOVARAJUĆU NAMENU.

DUE TO EXCELLENT MECHANICAL AND PHYSICAL PROPERTIES OF COPPER AND BRASS, THE RANGE AND WAYS OF USE OF FLAT ROLLED SEMI-FINISHED PRODUCTS ARE QUITE VARIOUS:

- *IN ELECTRICAL ENGINEERING, IN THE PRODUCTION OF EQUIPMENT FOR THE ELECTRICAL INDUSTRY, IN THE PRODUCTION OF SOLAR PANELS, HEAT EXCHANGERS, ELECTRICAL TRANSFORMERS, CONNECTORS, COVERS OF ELECTRICAL CABLES;*
- *IN CIVIL ENGINEERING AND ARCHITECTURE;*
- *IN THE PRODUCTION OF PARTS AND COMPONENTS FOR THE AUTOMOBILE INDUSTRY;*
- *IN THE RAILWAY SECTOR AND SHIPBUILDING;*
- *IN THE PRODUCTION OF EQUIPMENT FOR RADIO AND TELECOMMUNICATION DEVICES;*
- *IN THE PRODUCTION OF MILITARY EQUIPMENT AND AMMUNITION;*
- *FOR DEVICES AND EQUIPMENT IN THE HOUSEHOLD.*

THE WHOLE PORFOLIO OF SEMI-FINISHED FLAT ROLLED PRODUCTS IS MANUFACTURED ACCORDING TO THE FOLLOWING STANDARDS: EN, DIN, GOST, BS AND OTHER INTERNATIONAL STANDARDS, BUT ALSO ACCORDING TO SPECIAL REQUIREMENTS OF THE CUSTOMERS.

THESE SPECIAL REQUIREMENTS MAY REFER TO: REDUCED TOLERANCES, SPECIAL TECHNOLOGICAL REQUESTS, SMALLER RANGE OF MECHANICAL PROPERTIES, SPECIAL REQUESTS REGARDING SURFACE QUALITY AND OTHER PROPERTIES THAT SHOULD MEET THE INTENDED PURPOSE.





1.1

Ravno valjani proizvodi od bakra

Široko se primenjuju u proizvodnji opreme za elektroindustriju. U građevinarstvu i arhitekturi koriste se za krovne pokrivke i dekorativne elemente u eksterijeru ili enterijeru. Primenu nalaze i u proizvodnji elemenata za automobilsku industriju, u brodogradnji, u vojnoj industriji, ali i za umetničke predmete i dekoraciju enterijera.

Flat rolled copper products

They are widely used in the production of equipment intended for electrical industry. In addition, they are used in civil engineering and architecture for roofing and decorative elements in the exterior or interior. They are also used for production of elements intended for the automotive industry, in shipbuilding, military industry, but also for art objects and interior decoration.

VRSTE BAKRA OD KOJIH IZRAĐUJEMO RAVNO VALJANE PROIZVODE
TYPE OF COPPER USED FOR THE PRODUCTION OF FLAT ROLLED PRODUCTS

EN		DIN	ASTM
SLOVIMA SYMBOL	BROJEVIMA NUMBERS		
Cu-HCP	CW021A	SE-Cu57	C10300
Cu-ETP	CW004A	E-Cu58	C11000
Cu-DLP	CW023A	SW-Cu	C12000
Cu-DHP	CW024A	SW-Cu	C12200
Cu-ZN0.5	CW119C	CuZn0.5	

ASORTIMAN BAKARNIH RAVNO VALJANIH PROIZVODA
PORTFOLIO OF FLAT ROLLED COPPER PRODUCTS

ASORTIMAN
PRODUCT PORTFOLIO

1.1.1

Bakarne trake i folije

Široko se primenjuju u proizvodnji telekomunikacionih i visokofrekventnih kablova, električnih transformatora, konektora, omotača električnih kablova, u elektrotehnici, za kontaktne elemente prekidača široke primene, u proizvodnji solarnih panela. Bakarne trake su zbog svoje postojanosti najekonomičniji materijal za izradu krovnih oluka u građevinarstvu. Koriste se u proizvodnji elemenata u automobilskoj industriji, ali i u popularnoj umetnosti, dekoraciji enterijera, i mnogim drugim sektorima. Bakarne trake i folije za primenu u elektrotehnici izrađuju se prema standardu EN 13599, za opštu namenu prema standardu EN 1652, dok se za primenu u građevinarstvu izrađuju u skladu sa standardom EN 1172. Bakarne trake i folije izrađujemo prema standardima EN, DIN, GOST, BS i drugim svetskim standardima, ali i prema specijalnim zahtevima kupaca.

Specijalni zahtevi mogu se odnositi na uže tolerancije, uže područje mehaničkih osobina, zadovoljenje specijalnih tehnoloških osobina i druge specijalne zahteve za osobinama koje treba da zadovolje odgovarajuću namenu.

Copper strips and foils

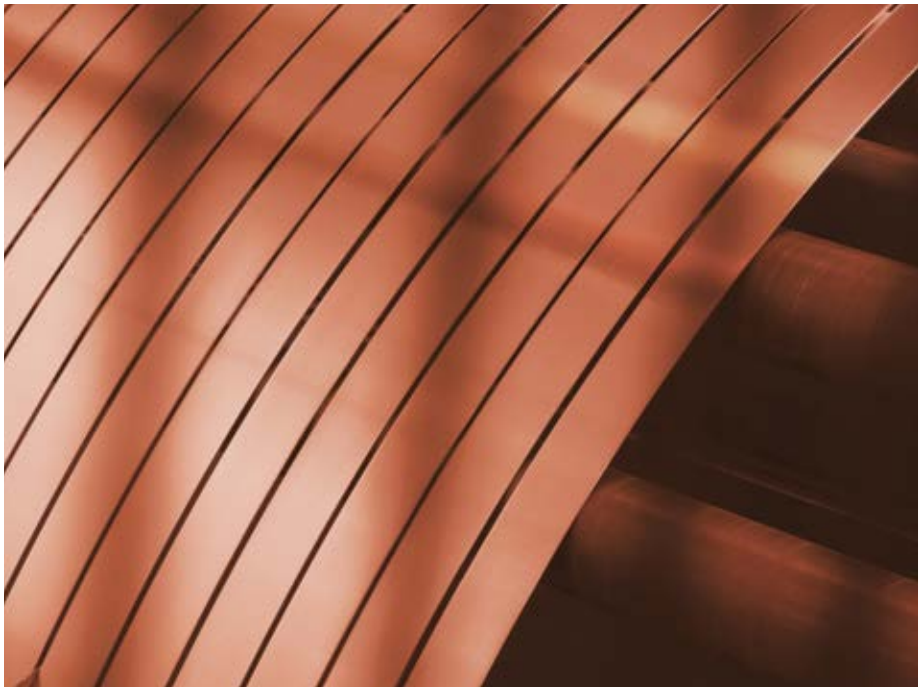
They are widely used in the production of telecommunication and high-frequency cables, electrical transformers, connectors, covers of electrical cables, in electrical engineering, for contact elements of the wide application switches, in the production of solar panels. Due to their durability, copper strips are the most economical material for making roof coverings in the construction industry. They are also used for the production of elements in the automotive industry, but also in popular art, interior decoration, and many other sectors. Copper strips and foils for use in electrical engineering are produced according to EN 13599, for general use according to EN 1652, and for use in civil engineering these products are made in accordance with EN 1172. We make copper strips and foils according to EN, DIN, GOST, BS and other international standards, as well as according to special requirements of our customers.

Special requirements may refer to reduced tolerances, smaller range of mechanical properties, special technological requests and other specific requirements related to the properties that should meet the intended purpose.

PROIZVODI PRODUCTS	DIMENZIJE, mm DIMENSIONS, mm	
TRAKA STRIP	Debljina ²⁾ Thickness ²⁾	0.15 - 4.0
	Širina ²⁾ Width ²⁾	8.0 - 1000.0
	Masa kotura u kg po mm širine ³⁾ Coil weight in kg per mm of width ³⁾	do 5.0 up to 5.0
	Unutrašnji prečnik kotura ⁴⁾ Inside coil diameter ⁴⁾	75, 100, 150, 200, 300, 400, 500 ili po zahtevu 75, 100, 150, 200, 300, 400, 500 or as requested
FOLIJA FOIL	Debljina ³⁾ Thickness ³⁾	0.07 - 0.15 za bakar 0.07 - 0.15 for copper
	Širina ³⁾ Width ³⁾	10.0 - 600.0
	Unutrašnji prečnik kotura Inside coil diameter	75, 100 ili po zahtevu 75, 100 or as requested

²⁾ Širina odgovara porudžbini debljine.
³⁾ Zavisno od vrste legure, debljine i širine trake.
⁴⁾ Na zahtev kupca isporuka na metalnom jezgru ili kartonskoj hilzni.

²⁾ The width corresponds to the ordered thickness.
³⁾ Depending on the type of alloy, thickness and width of strip.
⁴⁾ As requested by the buyer, delivery can be done on metal spools or cardboard reels.



1.1.2

Bakarni limovi i ploče

Koriste se najčešće u građevinarstvu i arhitekturi jer su savršen materijal za pokrivanje krovnih konstrukcija zahvaljujući svojim odličnim fizičkim osobinama. Koriste se i za oblaganje spoljnih, fasadnih površina, dajući impresivan estetski efekat brojnim crkvama, spomenicima, muzejima i drugim objektima. Koriste se i u elektrotehnici i mašinogradnji. Bakarni limovi i ploče za primenu u elektrotehnici izrađuju se prema standardu EN 13599, za primenu u građevini izrađuju se prema standardu EN 1172, a za opštu namenu prema standardu EN 1652. Bakarne limove i ploče izrađujemo prema standardima EN, DIN, GOST, BS i drugim svetskim standardima, ali i prema specijalnim zahtevima kupaca.

Specijalni zahtevi mogu se odnositi na uže tolerancije, uže područje mehaničkih osobina, zadovoljenje specijalnih tehnoloških osobina i druge specijalne zahteve za osobinama koje treba da zadovolje odgovarajuću namenu.

Copper sheets and plates

These products are mainly used in the construction industry and architecture, because they are the perfect material for covering the complex roof structures due to their excellent physical properties. They are also used for coating the external facade surfaces, giving an impressive aesthetic effect to numerous churches, monuments, museums and other buildings. In addition, they are used in electrical engineering and machine building. Copper sheets and plates for electrical purposes are manufactured according to standard EN 13599, for building purposes according to standard EN 1172 and for general purposes according to EN 1652. We make copper sheets and plates according to EN, DIN, GOST, BS and other international standards, as well as according to special requirements of our customers.

Special requirements may refer to reduced tolerances, smaller range of mechanical properties, special technological requests and other specific requirements related to the properties that should meet the intended purpose.



ASORTIMAN
PRODUCT PORTFOLIO

PROIZVODI PRODUCTS	DIMENZIJE, mm DIMENSIONS, mm	
LIM SHEET	Debljina Thickness	0.3 - 10.0
	Širina Width	500.0 - 1000.0
	Dužina Length	500.0 - 4000.0
PLOČA PLATE	Debljina Thickness	>10.0 (max 150.0)
	Širina Width	500.0 - 1100.0
	Dužina Length	po zahtevu as requested
PASS, LAMELA SECTION, LAMELLA	Debljina Thickness	0.3 - 10.0
	Širina Width	50.0 - 500.0
	Dužina Length	500.0 - 3000.0

1.1.3

Bakarni diskovi, rondela
i višeuugaonici

Bakarni diskovi, rondela i višeuugaonici koriste se za izradu kotlova, posuda i pribora u domaćinstvu, za dekorativne i umetničke predmete. Proizvode se u skladu sa standardom EN 1652 za opštu namenu, ali mogu se izrađivati i prema specijalnim zahtevima kupaca.

Specijalni zahtevi mogu se odnositi na uže tolerancije, uže područje mehaničkih osobina, zadovoljenje specijalnih tehnoloških osobina i druge specijalne zahteve za osobinama koje treba da zadovolje odgovarajuću namenu.

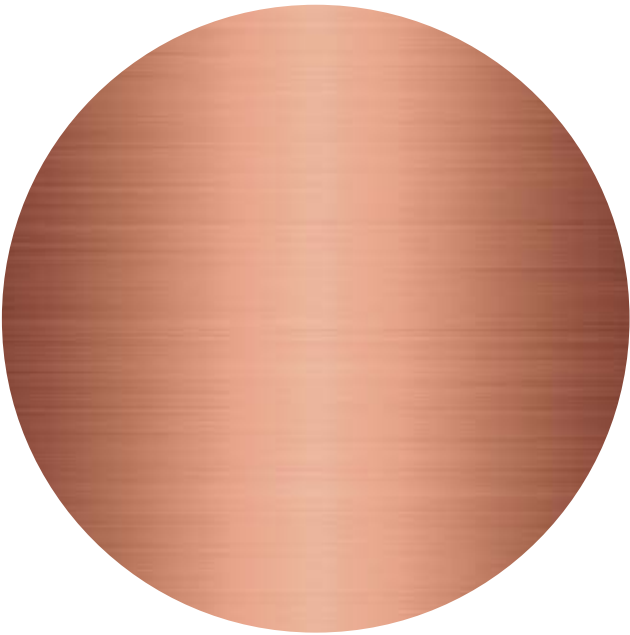
Copper discs, circles
and polygons

Copper discs, circles and polygons are used for making boilers, pots and household utensils, as well as for making decorative arts and objects. They are manufactured in accordance with standard EN 1652 for general purposes, but they can also be made according to special requirements of our customers.

Special requirements may refer to reduced tolerances, smaller range of mechanical properties, special technological requests and other specific requirements related to the properties that should meet the intended purpose.

ASORTIMAN
PRODUCT PORTFOLIO

PROIZVODI PRODUCTS	DIMENZIJE, mm DIMENSIONS, mm	
DISK (štancovan/sečen) DISC (punched/cut)	Debljina Thickness	0.25 - 3.0
	Prečnik Diameter	40.0 - 1000.0
RONDELA CIRCLE	Debljina Thickness	2.5 - 25.0
	Prečnik Diameter	12.0 - 300.0
VIŠEUGAONIK POLYGON	Debljina Thickness	>3.0 (max 30.0)
	Prečnik kruga / broj uglova Circle diameter / No. of angles	po zahtevu as requested





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