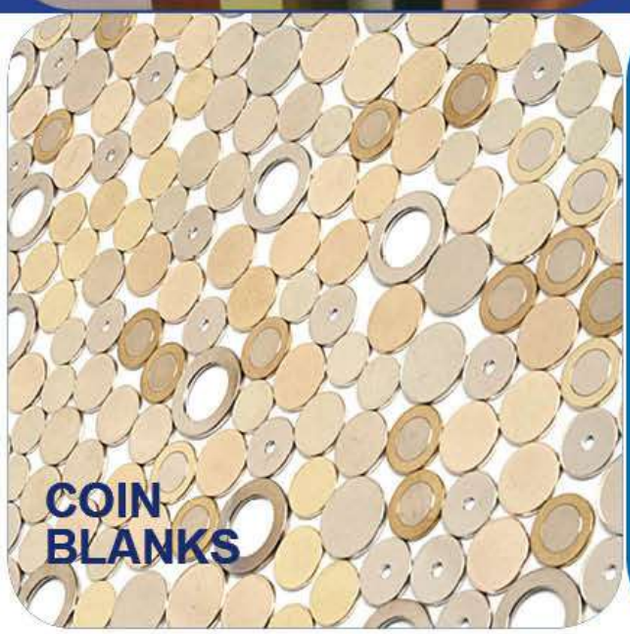

CONSOLIDATED COIN COMPANY (P) LTD. • 3C

SIDM
SOCIETY OF INDIAN DEFENCE MANUFACTURERS

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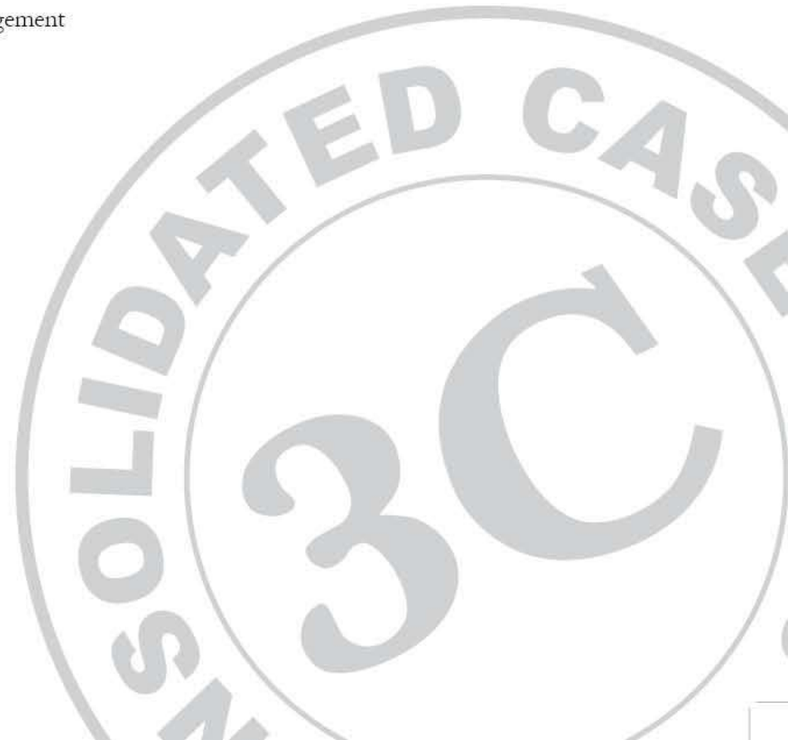


About 3C.

Consolidated Coin Company P. Limited, is a leading integrated manufacturer and supplier of Copper alloy Strips in various alloys. That are widely used in the manufacturing of case cups for small arms, brass discs and Coin Blanks. It all started in the year 2002, with acquiring the complete foundry and Copper Alloy strip making division from British Aerospace System (BAE) system / U.K. The manufacturing plant from UK, who were the largest supplier of ammunitions to the Ministry of Defence U.K. and exporting to several Countries around the world, was set up near a satellite town of New Delhi in India, to produce in access of 10,000 MT's of wide range of Copper Alloy Strips and other products. Today, our Strips are used in a wide range of industries, especially for meeting the global demand for case cups, coinage, automobile industry etc. The variety of strips, the high quality and the degree of technological and metallurgical sophistication has positioned 3C as a leading supplier in India and abroad.

Copper Alloy Strips

3C produces strips in various alloys such as Brass, Nickel Silver, Cupro Nickel, Aluminium Bronze etc. Our Strips are produced on modern production equipments and an effective and efficient quality assurance system alongwith a highly qualified work force ensure that the strips meet extremely high quality standards.

The quality of 3C products starts in the melting works followed by casting, double sided milling, intermediate rolling, annealing, pickling and superior final rolling. In Copper Alloy Strips : Only with the advancement of metallurgical technology, melting & casting alongwith integrated & sophisticated cold rolling & finishing technology. 3C is able to meet the customer demand with stringent product tolerances and services.

Coin Blanks

As an extension to the foundry division, it was decided to set up a modern and integrated coin blank manufacturing facility. Krupp VDM Gmbh a global leader in the coinage business, whose origins go back to 1874, was identified as a partner. Krupp supplied its equipments and technology to 3C and with this a modern world class coin blanks manufacturing facility was commissioned in India.

3C is one of the world's leading and integrated manufacturer and supplier of Circulation Coin Blanks, regularly meeting the annual coinage requirement of Central Banks and mints around the world. We produce ready to strike coin blanks, in all possible shapes sizes and alloys, with high quality and degree of technological and metallurgical sophistication, which has positioned us as the preferred source of supply among Central Bank of India, South East Asia, Africa, Europe, Eastern Europe and South America etc.

Case Cups & Bullet Jacket Cups

As an extension to our rolled products and Coin Blank business, it was decided to start manufacturing Case Cups of various calibres, to meet the demand of Small Arm Ammunition manufacturers.

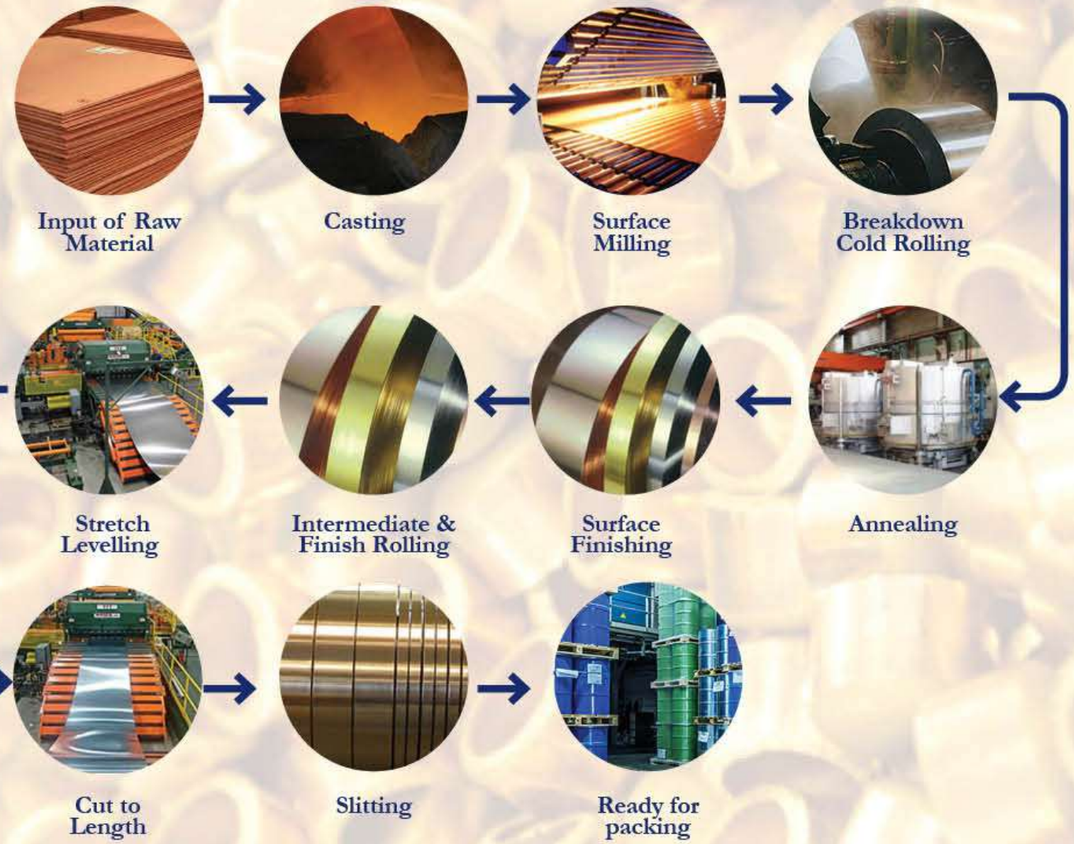
Our annual capacity for the production of Copper Alloy Strips is in excess of 10,000 MT and a large portion of our capacity is for supply of Strips and Coils for manufacturing Coin Blanks, catering to the Coinage Strip requirements of several Mints around the world. The remaining capacity will now be dedicated for Cups and Discs for the local and the International markets.

Various cartridge case cups and bullet jacket cups can be manufactured in our facility on State-of-the art Cupping presses. The process starts with manufacturing of Strips in our foundry and the desired thickness, width and alloys are produced on our effective and efficient downstream equipment's and thereafter, sent to the Cupping presses. Heat treatment, washing, drying and rigorous quality inspection system ensures accuracy in size and quality, alongwith mechanical and surface properties for further processing.

Quality Management Systems

3C implements world class know how and technology and has partnership with leading equipment suppliers in the world. We operate a quality management system, which complies with the requirement of ISO 9001:2015 and invaluable combination of high standards of quality, reliable deliveries, competitive prices and efficient services are the hallmark of 3C.

Manufacturing Process - Strips, Sheets & Coils



Brass.
Strips, Sheets & Coils.

The brass strips form a wide product range of 3C. They are produced in high quality for universal application to satisfy the strictest requirements of customers. The raw material for the manufacturing is a cast strip, made by modern continuous casting process. These strips have good cold-workability that makes possible intensive and easy blanking. Annealed materials can be easily deep-drawn. Fields of application are Cartridge Case Cups, Bullet Jacket Cups, Coin Blanks, electronics, lighting technics, metal decoration material industry, vehicle industry, production of household items. Special hard grades are used as spring switch parts. The grades with homogenous structure are used for manufacturing components for refrigerating industry. The strips can be easily polished. After special heat treatment to control the grain size, the materials are suitable for multi-grade cold drawing of high level. Soft qualities can be delivered with pickled surface too. The excellent surface quality is guaranteed by the special technology (multi-step surface processing, bright annealing) developed by 3C. Good flatness and trueness to shape is characteristic for the material. for special request tensile levelling is increasing the trueness to shape under 1 mm thickness.

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

Physical Properties

Alloy	EN No	Density g/cm³	Electrical Conductivity MS/m	Electrical Conductivity %IACS	Thermal Conductivity W/mK	Modulus of Elasticity kN/m²
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 Min.	Hardness Tensile Strength N/mm² Max.	Yield Strength N/mm²	Elongation % Below 2.5mm Min.	Elongation % Over 2.5mm Min.	Hardness HV Min.	Hardness HV 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	–

General Properties of Brass Strip	Applications of Brass Strip
Good Electrical Conductivity, Good Thermal Conductivity, Perfect Strength, Good Corrosion Resistance, Good for Soldering, Good for Brazing, Suitable for Plating Other Metals, Perfect Machinability, Wear Resistance, Good Ductility and Cold Forming Good Extrudability	Cartridge Case cups, Bullet jacket cups, Coin Blanks, Electrical Components, Springs, Switches, Contacts, Relays, Connector Jewellery Production, Textile, Automotive Industry, Radiator & Heat Exchanger Decoration, Architectural, Sanitary Ware, Connecting Parts, Key Production

Copper
Strips, Sheets & Coils

Our Company uses LME Grade A Copper Cathodes for existing ETP, DHP, TBC and OFXLP. Strips produced in our premises have a smooth and polished surface with clean edges. Our equipments are all imported and state of the art in high quality. Only with the advancement of metallurgical technology, melting and casting alongwith integrated and sophisticated cold rolling and furnishing technology. 3C is able to meet the customer demand with stringent product tolerances and services.

CHEMICAL COMPOSITION

Alloy Name	Cu-ETP	Cu-DHP	Cu-TBC
Trade Name Standard Conformance	Electrolytic Tough Pitch Copper	Deoxidized, High Residual Phosporus Copper	Tin Bearing Copper
IS	IS 191/ 14811/ 1897	IS 191/ 14811/ 1897	IS 3331
ASTM	C11000	C12200	C14410
BS 2870	C101	C106	-
EN 1652	CW004A	CW024A	-
JIS	C1100	C1220	-
CHEMICAL COMPOSITION			
Copper (Cu%)	99.90 Min	99.90 Min	99.50 Min
Tin (Sn%)	-	-	0.07 - 0.20
Phosphourous (P%)	-	0.015 - 0.040	0.015 - 0.045
Other impurities (%)	-	-	-

MECHANICAL COMPOSITION

Alloy Name	Trade Name	Temper	Hardness HV	Tensile Strength N/mm2 (Min)	Elongation% min
Cu-ETP Copper/ Tape	Electrolytic Tough Pitch Copper	Annealed (O)	55 Max	195 Min	35
		Quarter Hard(HA)	55-75	215 Min	25
		Half Hard (HB)	75-90	250 Min	15
		Hard (H)	90 Min	274 Min	-
		Extra Hard (HE)	110 Min	340 Min	-
Cu-DHP	Deoxidized, High Residual Phos-phorus Copper	Annealed (O)	55 Max	195 Min	35
		Quarter Hard(HA)	55-75	215 Min	25
		Half Hard (HB)	75-90	250 Min	15
		Hard (H)	90 Min	274 Min	-
		Extra Hard (HE)	110 Min	340 Min	-
Cu-TBC	Tin Bearing Copper	Annealed (O)	60 Max	-	-
		Quarter Hard(HA)	60-80	-	-
		Half Hard (HB)	80-100	-	-
		Hard (H)	105-125	-	-
		Extra Hard (HE)	125 - 145	-	-

THICKNESS TOLERANCE

Alloy	For Strips and Foils			For Sheets	
	Thickness Range (Min - Max) mm	Coil ID (Min - Max) mm	Coil Density (Max coil weight)	Thickness Range (Min - Max) mm	Length (Max) mm
Copper (XLPE, ETP, DHP, TBC)	0.030 - 0.3	100 - 300	02-Mar	-	-
	0.031 - 0.80	100 - 300	02-Mar	0.30 - 1	1500
	0.81 - 3.00	300 - 500	02-Mar	1- 3.00	4000

WIDTH TOLERANCE

Alloy	For Strips and Foils			For Sheets	
	Thickness Range (Min - Max) mm	Coil ID (Min - Max) mm	Coil Density (Max coil weight)	Width Range (Min - Max) mm	Length (Max) mm
Copper (XLPE, ETP, DHP, TBC)	10 - 350	100 - 300	02-Mar	-	-
	10 - 450	100 - 300	02-Mar	450 Max	1500
	20-400	300 - 500	02-Mar	450 Max	4000

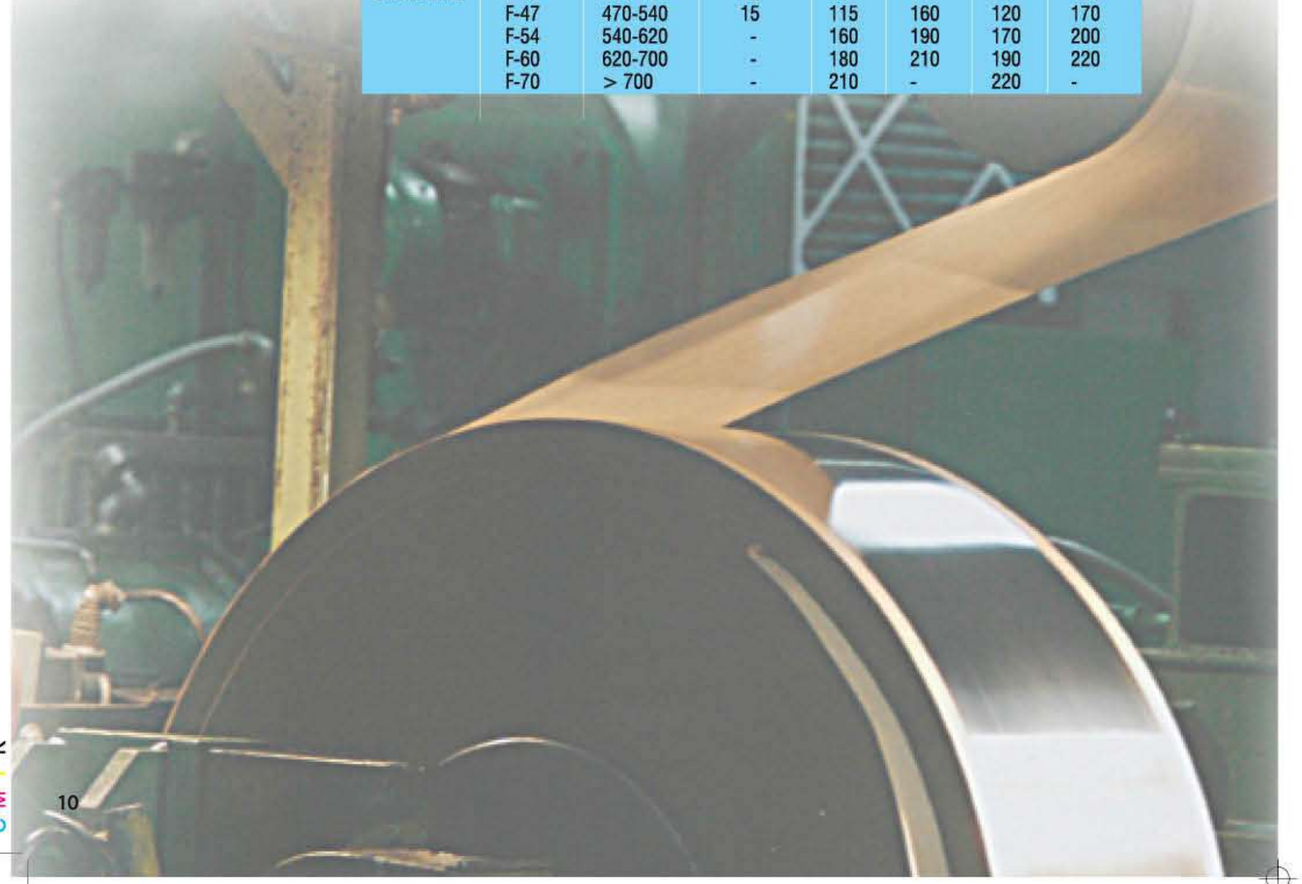
CONSOLIDATED COIN COMPANY PVT. LTD. 3C

Nickel Silver.
Strips, Sheets & Coils.

Because of their high strength, corrosion resistance and other excellent mechanical properties the nickel silver strips are suitable for wide range of applications. They are mainly used in electrotechniques, electronics, telecommunication and light techniques, food industry and instrument production. Each hard grade of them are excellently suitable to produce springs. They are used for Coin production and as household items. The Nickel-Silver Strips can be easily and intensively cold-worked, blanked and deep-drawn. These strips are produced on up-to-date continuous casting equipment and high precision rolling mills

MECHANICAL PROPERTIES

ALLOY	Nominal Strength	Tensile Strength N/mm²	Elongation A10 min%	Brinell		Vickers	
				min	max	min	max
CuNi12Zn24	F-36	360-430	40	75	105	80	110
	F-43	430-510	13	105	140	110	150
	F-51	510-590	5	140	170	150	180
	F-56	590-650	-	160	190	170	200
	F-65	>650	-	190	-	200	-
CuNi18Zn20	F-38	380-450	32	80	110	85	115
	F-45	450-520	15	110	150	115	160
	F-52	520-610	-	150	180	160	190
	F-58	610-680	-	170	200	180	210
	F-68	> 680	-	200	-	210	-
CuNi18Zn27	F-39	390-470	35	85	115	90	120
	F-47	470-540	15	115	160	120	170
	F-54	540-620	-	160	190	170	200
	F-60	620-700	-	180	210	190	220
	F-70	> 700	-	210	-	220	-



CHEMICAL COMPOSITIONS

Alloy	Cu %	Ni %	Zn %	These are the maximum % in the chemical composition				
				Mn%	Fe%	Sn%	Pb%	Sum. % #
CuNi12Zn24	63.0 - 66.0	11-13	REST	0.50	0.30	0.03	0.03	0.10
CuNi18Zn20	60.0 - 63.0	17-19	REST	0.50	0.30	0.03	0.03	0.10
CuNi18Zn27	53.5 - 56.5	17-19	REST	0.50	0.30	0.03	0.03	0.10

THICKNESS TOLERANCE DIN 1791

THICKNESS		TOLERANCE	
mm	inch	mm	inch
0.10 - 0.20	0.003935 - 0.007870	+/- 0.010	+/- 0.000393
0.21 - 0.30	0.008263 - 0.011805	+/- 0.015	+/- 0.000590
0.31 - 0.50	0.012198 - 0.019675	+/- 0.020	+/- 0.000787
0.51 - 0.80	0.020068 - 0.031480	+/- 0.025	+/- 0.000983
0.81 - 1.40	0.031873 - 0.055090	+/- 0.030	+/- 0.001180
1.41 - 2.00	0.055483 - 0.078700	+/- 0.040	+/- 0.001574
2.01 - 2.80	0.079093 - 0.110180	+/- 0.050	+/- 0.001967
2.81 - 3.00	0.110573 - 0.118050	+/- 0.060	+/- 0.002361

WIDTH TOLERANCE DIN 1791

WIDTH TOLERANCE (mm)				
Thickness (mm)	0 - 100	100 - 200	200 - 350	350 - 500
0.10 - 1.00	+/- 0.2	+/- 0.4	+/- 0.6	+/- 1.0
1.01 - 2.00	+/- 0.3	+/- 0.5	+/- 1.0	+/- 1.2
2.01 - 2.50	+/- 0.5	+/- 0.7	+/- 1.2	+/- 1.5
2.51 - 3.00	+/- 1.0	+/- 1.2	+/- 1.5	+/- 2.0

General Properties of Nickel Silver Strip	Applications of Nickel Silver Strip
Good Electrical Conductivity	Electrical Components
Good Thermal Conductivity	Jewellery Production
Good Cold Forming	Textile
Perfect Strength	Decoration
Perfect for Soldering	Coin Production
Perfect for Brazing	Connecting Parts
Perfect Machinability	Key Production

Phosphorus Bronze.
Strips, Sheets & Coils.

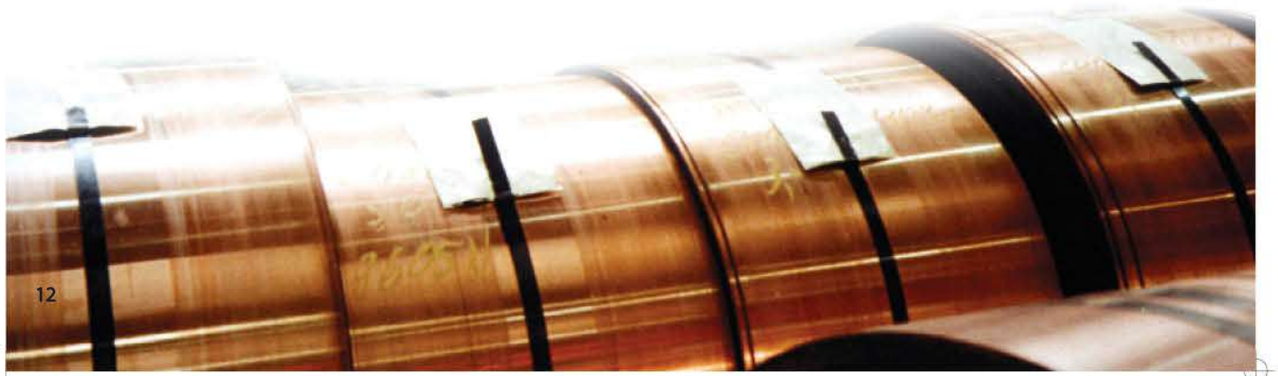
Phosphor Bronzes find wide applications in the electrical and electronic industry. They have excellent cold workability and relatively high strength and adequate electrical conductivity. Their fatigue strengths are high enough to make them suitable for application where repetitive actions stress the components, as in fasteners, electrical connectors, springs, electrical switches and similar products. Phosphor Bronzes are known to have the highest electrical conductivity, highest strength and best retention of strength at the component operating temperature, and ease and consistency of formability to components.

CHEMICAL COMPOSITIONS

Alloy	UNS No.	Copper Cu%	Tin Sn%	Phosphorous P%	Iron Fe% (max)	Lead Pb% (max)	Zinc Zn% (max)
CuSn4	C-51100	Remainder	3.5-4.9	0.03-0.35	0.10	0.05	0.30
CuSn5	C-51000	Remainder	4.2-5.8	0.03-0.35	0.10	0.05	0.30
CuSn6	C-51900	Remainder	5.0-7.0	0.03-0.35	0.10	0.05	0.30
CuSn8	C-52100	Remainder	7.0-9.0	0.03-0.35	0.10	0.05	0.20

MECHANICAL PROPERTIES

ALLOY	Temper	Tensile Strength N/mm²	Elongation A10 min%	Vickers Hardness
CuSn4	Soft. ½Hard Hard. Spring Hard	300-410 410-520 490-600 600-685	38 12 7 -	80-100 150-180 180-200 200-220
CuSn5	Soft ½Hard Hard. Spring Hard	304-373 471-569 569-618 618 Min.	40 15 7 -	80-100 160-190 190-210 210-225
CuSn6	Soft. ½Hard Hard. Spring Hard	314-392 410-500 588-650 650 Min.	42 20 8 -	85-110 170-200 200-225 225 Min
CuSn8	Soft. ½Hard Hard Spring Hard	365-460 540-630 590-690 660 Min.	55 20 15 -	90-120 170-190 190-220 230 Min.



THICKNESS TOLERANCE DIN 1791

THICKNESS		TOLERANCE	
mm	inch	mm	inch
0.10 - 0.20	0.003935 - 0.007870	+/- 0.010	+/- 0.000393
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0.31 - 0.50	0.012198 - 0.019675	+/- 0.020	+/- 0.000787
0.51 - 0.80	0.020068 - 0.031480	+/- 0.025	+/- 0.000983
0.81 - 1.40	0.031873 - 0.055090	+/- 0.030	+/- 0.001180
1.41 - 2.00	0.055483 - 0.078700	+/- 0.040	+/- 0.001574
2.01 - 2.80	0.079093 - 0.110180	+/- 0.050	+/- 0.001967
2.81 - 3.00	0.110573 - 0.118050	+/- 0.060	+/- 0.002361

WIDTH TOLERANCE DIN 1791

	WIDTH TOLERANCE (mm)			
Thickness (mm)	0 - 100	100 - 200	200 - 350	350 - 500
0.10 - 1.00	+/- 0.2	+/- 0.4	+/- 0.6	+/- 1.0
1.01 - 2.00	+/- 0.3	+/- 0.5	+/- 1.0	+/- 1.2
2.01 - 2.50	+/- 0.5	+/- 0.7	+/- 1.2	+/- 1.5
2.51 - 3.00	+/- 1.0	+/- 1.2	+/- 1.5	+/- 2.0

General Properties of Phosphorus Bronze Strip	Applications of Phosphorus Bronze Strip
Good Electrical Conductivity Good Thermal Conductivity Good Cold Forming Perfect Strength Perfect for Soldering Perfect for Brazing Perfect Machinability	Telecommunication industry Clutch Discs, Terminals, Valve Diaphragm and parts requiring springing characteristics Connectors, Electronic industry Fuse Clips, Lock Washers Switch Parts Perforated Sheets, Springs, Surgical & Dental Equipment

CONSOLIDATED COIN COMPANY PVT. LTD. 3C

Aluminium Bronze.
Strips, Sheets & Coils.

The Aluminium Bronze strips are a speciality product of 3C. We are the only copper alloy strip manufacturer in India that has the technical capability to produce and supply different grades of Aluminium Bronze strips for various applications. 3C is produces these strips as per the electrical conductivity require by the end product. We manufactures these strips on its modern & state-of-the-art equipment and the strips are supplied in ready to use form.

CHEMICAL COMPOSITIONS

Alloy Al%	Copper Cu %	Nickel Ni %	Aluminium Al%	Iron Fe % Max	Manganese Mn% Max	Lead Pb% Max	Others	Hardness VPN
CuAl8	91-93	-	7.5-8.5	0.03	0.05	0.003	0.1	As per requirement
CuAl6Ni2	91-93	1.5-2.5	5-7	0.03	0.05	0.003	0.1	As per requirement
CuAl5Ni2	91-93	1.5-2.5	4.5-5.5	0.03	0.05	0.003	0.1	As per requirement
CuNi6Al2	91-93	5.5-6.5	1.5-2.5	0.03	0.05	0.003	0.1	As per requirement
CuNi5Al5Fe	88-90	4.5-5.5	4.5-5.5	1.00	0.05	0.003	0.1	As per requirement

MECHANICAL PROPERTIES

ALLOY	Temper	Tensile Strength N/mm²	Elongation A10 min%	Vickers Hardness
CuSn4	Soft.	300-410	38	80-100
	½Hard	410-520	12	150-180
	Hard.	490-600	7	180-200
	Spring Hard	600-685	-	200-220
CuSn5	Soft	304-373	40	80-100
	½Hard	471-569	15	160-190
	Hard.	569-618	7	190-210
	Spring Hard	618 Min.	-	210-225
CuSn6	Soft.	314-392	42	85-110
	½Hard	410-500	20	170-200
	Hard.	588-650	8	200-225
	Spring Hard	650 Min.	-	225 Min
CuSn8	Soft.	365-460	55	90-120
	½Hard	540-630	20	170-190
	Hard	590-690	15	190-220
	Spring Hard	660 Min.	-	230 Min.

THICKNESS TOLERANCE DIN 1791

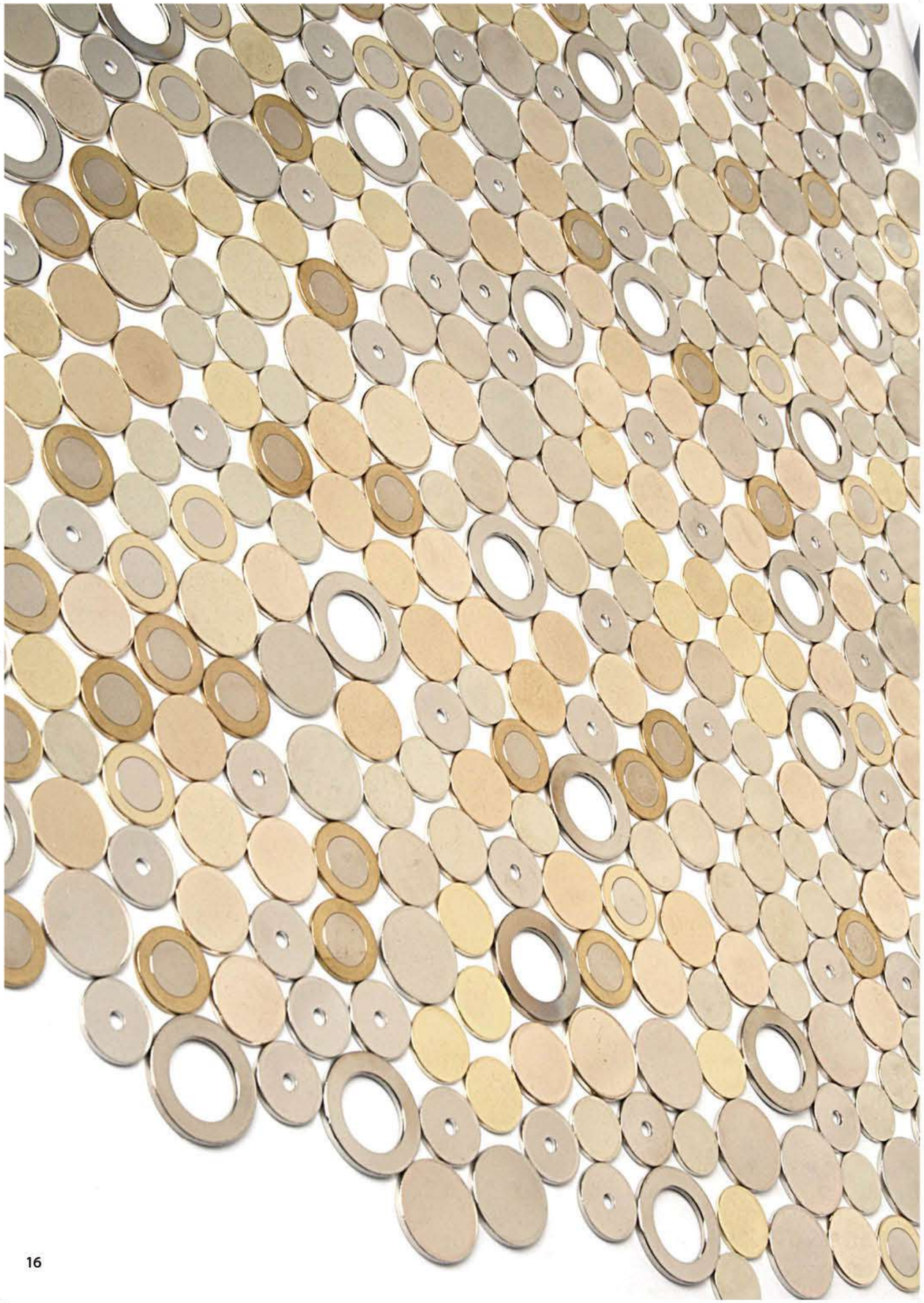
THICKNESS		TOLERANCE	
mm	inch	mm	inch
0.10 - 0.20	0.003935 - 0.007870	+/- 0.010	+/- 0.000393
0.21 - 0.30	0.008263 - 0.011805	+/- 0.015	+/- 0.000590
0.31 - 0.50	0.012198 - 0.019675	+/- 0.020	+/- 0.000787
0.51 - 0.80	0.020068 - 0.031480	+/- 0.025	+/- 0.000983
0.81 - 1.40	0.031873 - 0.055090	+/- 0.030	+/- 0.001180
1.41 - 2.00	0.055483 - 0.078700	+/- 0.040	+/- 0.001574
2.01 - 2.80	0.079093 - 0.110180	+/- 0.050	+/- 0.001967
2.81 - 3.00	0.110573 - 0.118050	+/- 0.060	+/- 0.002361

WIDTH TOLERANCE DIN 1791

WIDTH TOLERANCE (mm)				
Thickness (mm)	0 - 100	100 - 200	200 - 350	350 - 500
0.10 - 1.00	+/- 0.2	+/- 0.4	+/- 0.6	+/- 1.0
1.01 - 2.00	+/- 0.3	+/- 0.5	+/- 1.0	+/- 1.2
2.01 - 2.50	+/- 0.5	+/- 0.7	+/- 1.2	+/- 1.5
2.51 - 3.00	+/- 1.0	+/- 1.2	+/- 1.5	+/- 2.0

General Properties of Aluminium Bronze Strip	Applications of Aluminium Bronze Strip
Corrosion Resistance	Coin Production
Temperature Resistance	Weapon handling system
Perfect Strength	Fasteners
Good Machinability	Pumps Gears & Shafts

CONSOLIDATED COIN COMPANY PVT. LTD. 3C



Manufacturing Process - Coin Blanks

Input of Raw Material

Casting

Surface Milling

Breakdown Cold Rolling

Annealing

Pickling

Slitting

Final Finishing

STRIPS ARE NOW READY FOR FURTHER PUNCHING

High Speed Punching

Upsetting

Annealing

Pickling & Polishing

Inspection

Packing

Coin Blanks
The most popular alloys.

For every day use, modern coinage is based on metals such as Copper, Nickel, Zinc and Aluminium, with the preference given to a higher percentage of Copper. Despite enthusiasm for progress, Central Banks are often reluctant to make changes in the coins that are in circulation and changes if any, take place very slowly.

Central Banks consider various factors while choosing their coins and generally the seneorage and colour play an important role in the decision making process. There are three colours of coins that are widely used and these are Yellow, Reddish and White. The colours depend on the percentage of Copper, Zinc and Nickel in the coins.

Coinage materials around the world are generally categorized under four combinations and these are Cupro-Nickel, Nickel Silver, Brass, Bronze and Aluminium Bronze.

You would be pleased to know that 3C is regularly advising Central Banks on the alteration and renewals of existing series and has been instrumental in helping several Central Banks around the world in advising – designing - sampling and production of new issue of coins. 3C offers to Central Banks its technical assistance and advise to achieve an excellent end product and closely works with each one of them to overcome the difficulties encountered at any point of time. We are in a position to offer a comprehensive service to the issuing banks beginning with creative ideas for new coin values up to the delivery of coins free vault.

The following services are available ::

- Advice on design to complement existing series, alterations and renewals together with the introduction of new coins and coin series.
- Development of ideas on the form of new coin denominations including artistic and graphic design.
- Sampling of, and advice on, the suitability of coinage alloys.
- Integration of security features in coinage material and coin design.
- Supply of coins in collector quality in "proof like" or "proof" condition, in standard packing or luxury cases.

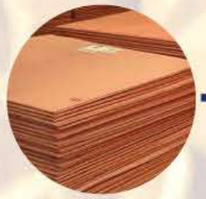
3C Coinage material	DIN Designation	Main elements	Density Kg / dm^3	Vickers Hardness	Properties
Cupronickel 25	CuNi 25	Cu 75%, Ni 25%	8.9	80	White standard material
Cupronickel 16	CuNi 16	Cu 84%, Ni 16%	8.9	75	Yellowish-white
Cupronickel 10	CuNi 10	Cu 90%, Ni 10%	8.9	75	Reddish-white
Cupronickel 8	CuNi 8	Cu 92%, Ni 8%	8.9	70	Reddish

3C Coinage material	DIN Designation	Main elements	Density Kg / dm^3	Vickers Hardness	Properties
Brass 95/5	CuZn5	Cu 95%, Zn 5%	8.9	65	Red
Brass 90/10	CuZn10	Cu 90%, Zn 10%	8.8	70	Red
Brass 85/15	CuZn15	Cu 85%, Zn 15%	8.8	70	Red-golden
Brass 72/28	CuZn28	Cu 72%, Zn 28%	8.6	75	Yellow
Brass 70/30	CuZn30	Cu 70%, Zn 30%	8.5	75	Yellow
Brass 64/36	CuZn36	Cu 64%, Zn 36%	8.4	85	Yellow
Brass 60/40	CuZn40	Cu 60%, Zn 40%	8.4	85	Yellow

3C Coinage material	DIN Designation	Main elements	Density Kg / dm^3	Vickers Hardness	Properties
Nickel silver 25	CuNi25Zn15	Cu 60%, Ni 25%, Zn 15%	8.8	85	White
Nickel silver 18	CuNi18Zn20	Cu 62%, Ni 18%, Zn 20%	8.7	85	White
Nickel silver 15	CuNi15Zn25	Cu 60%, Ni 15%, Zn 25%	8.7	85	Still white
Nickel silver 12	CuNi12Zn24	Cu 64%, Ni 12%, Zn 24%	8.7	85	Yellowish-white
Nickel silver 9	CuNi9Zn10	Cu 81%, Ni 9%, Zn 10%	8.75	70	Golden-yellow
Nickel silver 6	CuNi5.5Zn24.5	Cu 70%, Ni 5.5%, Zn 24.5	8.7	85	Light yellow
Nickel-brass	CuNi5Zn20	Cu 75%, Zn 20%, Ni 5%		80	Golden-yellow
Nickel-brass	CuZn20Ni	Cu 79%, Zn 20%, Ni 1%	8.7	70	Golden-yellow

3C Coinage material	DIN Designation	Main elements	Density Kg / dm^3	Vickers Hardness	Properties
Aluminium-bronze 8	CuAl8	Cu 92%, Al 8%	7.7	90	Yellow
Aluminium-Nickel-Bronze 6	CuAlNi2	Cu 92%, Al 6%, Ni 2%	8.1	85	Yellow
Aluminium-Nickel-Bronze 5	CuAl5Ni2	Cu 93%, Al 5%, Ni 2%	8.1	85	Yellow
Aluminium-Nickel-Bronze 2	CuAl2Ni6	Cu 92%, Ni 6%, Al 2%	8.6	85	Reddish-brown

Manufacturing Process - Case Cups & Bullet Jacket Cups



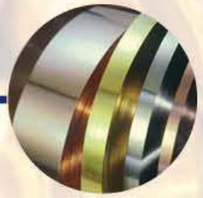
Input of Raw Material

Casting

Surface Milling

Breakdown Cold Rolling

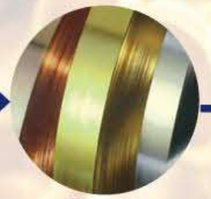
Annealing



Pickling

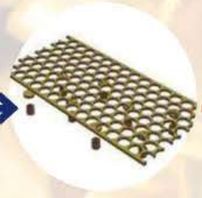
Slitting

Tension Levelling



Finish Rolling

STRIPS ARE NOW READY FOR FURTHER CUPPING



Cupping

Annealing

Washing

Inspection

Ready for packing

Case Cups and Bullet Jacket Cups

As an extension to our rolled products and Coin Blank business, it was decided to start manufacturing Case Cups of various calibres, to meet the demand of Small Arm Ammunition manufacturers.

Our annual capacity for the production of Copper Alloy Strips is in excess of 10,000 MT and a large portion of our capacity is for supply of Strips and Coils for manufacturing Coin Blanks, catering to the Coinage Strip requirements of several Mints around the world and also for automobile applications. The remaining capacity will now be dedicated for Cups and Discs for the local and the International market.

Various cartridge case cups and bullet jacket cups can be manufactured in our facility on State-of-the art Cupping presses. The process starts with manufacturing of Strips in our foundry and the desired thickness, width and alloys are produced on our effective and efficient downstream equipment's and thereafter, sent to the Cupping presses. Heat treatment, washing, drying and rigorous quality inspection system ensures accuracy in size and quality, alongwith mechanical and surface properties.

CUPS FOR CASES

SMALL ARMS AMMO CALIBERS
7.62* 54MM
7.62* 51MM
7.62* 39MM
5.56* 45MM
9.00* 19MM
12.70* 45MM
COMPLYING TO NATO STANDARDS

CUPS FOR BULLETS

SMALL ARMS AMMO CALIBERS
7.62* 54MM
7.62* 51MM
7.62* 39MM
5.56* 45MM
9.00* 19MM
12.70* 45MM
COMPLYING TO NATO STANDARDS

Brass discs for Artillery Ammunition

Brass Disc 25 mm PDR
Size : 6.31 Inches +/- 0.0025 Inch DIA × 0.56 Inch +/- 0.005 Inch Thickness

Brass Disc 30 mm
Size : 70 mm +/- 0.4 DIA × 15.24 – 0.25 mm Thickness for Case Cartridge

Brass Disc 37 mm
Size : 79.76 mm – 0.38 mm DIA × 15.24 - 0.25 mm Thickness for Case Cartridge

Brass Disc 57 mm
Size : 140 mm +/- 0.2 mm DIA × 22 mm +/- 0.1 mm Thickness for Case Cartridge

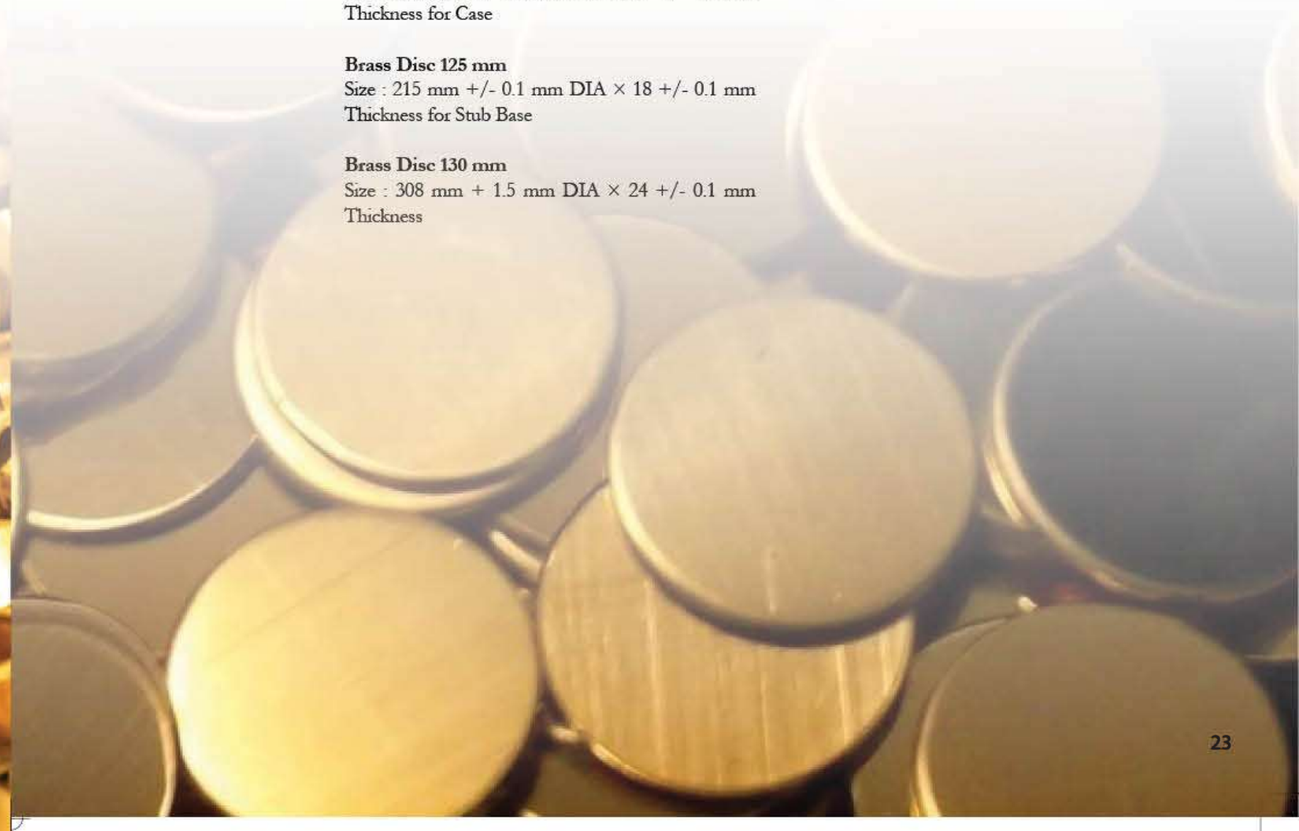
Brass Disc 105 mm
Size : 180.975 mm + 0.254 mm DIA × 13.2 mm +/- 0.254 mm Thick

Brass Disc 105 mm
Size : 240.66 mm - 0.4 mm × 20.3 - 0.25 mm

Brass Disc 122 mm
Size : 200 mm +/- 0.1 mm DIA × 17 +/- 0.1 mm Thickness for Case

Brass Disc 125 mm
Size : 215 mm +/- 0.1 mm DIA × 18 +/- 0.1 mm Thickness for Stub Base

Brass Disc 130 mm
Size : 308 mm + 1.5 mm DIA × 24 +/- 0.1 mm Thickness



3C.
Quality Management System.

At the heart of the Company's performance, is its Quality Management System. 3C has accreditation through BSI Management System and operates a Quality Management System, which complies with the requirements of BS EN ISO 9001 : 2015.

Being an integrated supplier, we are able to control and improve our quality through the process chain from Casting onwards to manufacturing of Copper alloy Strips, Coin Blanks, Cups and Discs. Our professional and dedicated team have extensive and in-depth knowledge of each process, which generates a good product quality in every production stage.

3C implements world class know how and technology and has partnership with leading equipment suppliers in the world. A modern and well equipped laboratory with latest test measuring equipments are available in house, which assist our team to produce secure, reliable & easy to mint and durable products.

It is 3C's aim to achieve complete and long-term customer satisfaction. All the product divisions are engaged in the permanent task of making their production processes and business procedures more efficient and reliable in organizational and technical terms. The TQM systems are harmonized & co-ordinated on a product-wise basis, focusing on achieving long-term customer satisfaction.

Our Quality team implements and controls quality processes and procedures from the Raw Material stage to the delivery of the product to the customer. High levels of Quality procedures implemented on each manufacturing stage is carefully planned, designed and built to guarantee, world standards in ever higher purities, tighter tolerances & analysis and improved properties.

The effectiveness of the Quality System implemented are regularly verified and updated by internal auditing. 3C possesses world class quality equipments, including spectrometers, X-Ray machines, emission and atomic absorption instruments, Surface measuring instruments, defect eliminating systems, electronic microscope, hardness tester, CIMM Laser Inspection System etc.

Our consistent quality and high standard have won us discerning customers worldwide and has established 3C as a growing force in the Copper alloy strips and coinage business and with the same dedications, we are here to establish ourselves in the business of Brass Cups and Discs.

The chemical, physical weight & measures laboratories have been carefully planned, designed and built to be integrated with the quality system adopted and implemented in every stage of the production process. These laboratories guarantee the highest level of quality standards.

bsi.

Certificate of Registration

QUALITY MANAGEMENT SYSTEM - ISO 9001:2015

This is to certify that: Consolidated Coin Company Pvt. Ltd.
13/2,Main Mathura Road
Faridabad 121 003
Haryana
India

Holds Certificate No: **FM 89791**

and operates a Quality Management System which complies with the requirements of ISO 9001:2015 for the following scope:

The manufacture and supply of
i) Monometallic and Bi-metallic ready to strike coin blanks, in various copper alloys, Stainless steel and Steel;
ii) Copper and copper alloy strips and coils; and
iii) Ingots of various alloys, after melting and recycling of ferrous and non ferrous old coins withdrawn from circulation.

For and on behalf of BSI:

Theuns Kotze, Managing Director Assurance - IMETA

Original Registration Date: 2004-10-20
Latest Revision Date: 2023-01-09

Effective Date: 2022-10-16
Expiry Date: 2025-10-15

Page: 1 of 1

...making excellence a habit.™

This certificate was issued electronically and remains the property of BSI and is bound by the conditions of contract.
An electronic certificate can be authenticated online.
Printed copies can be validated at www.bsi-global.com/ClientDirectory or telephone +91 11 2692 9000.
Further clarifications regarding the scope of this certificate and the applicability of ISO 9001:2015 requirements may be obtained by consulting the organization.
This certificate is valid only if provided original copies are in complete set.

Information and Contact: BSI, Kitemark Court, Davy Avenue, Knowlhill, Milton Keynes MK5 8PP. Tel: + 44 345 080 9000
BSI Assurance UK Limited, registered in England under number 7805321 at 389 Chiswick High Road, London W4 4AL, UK.
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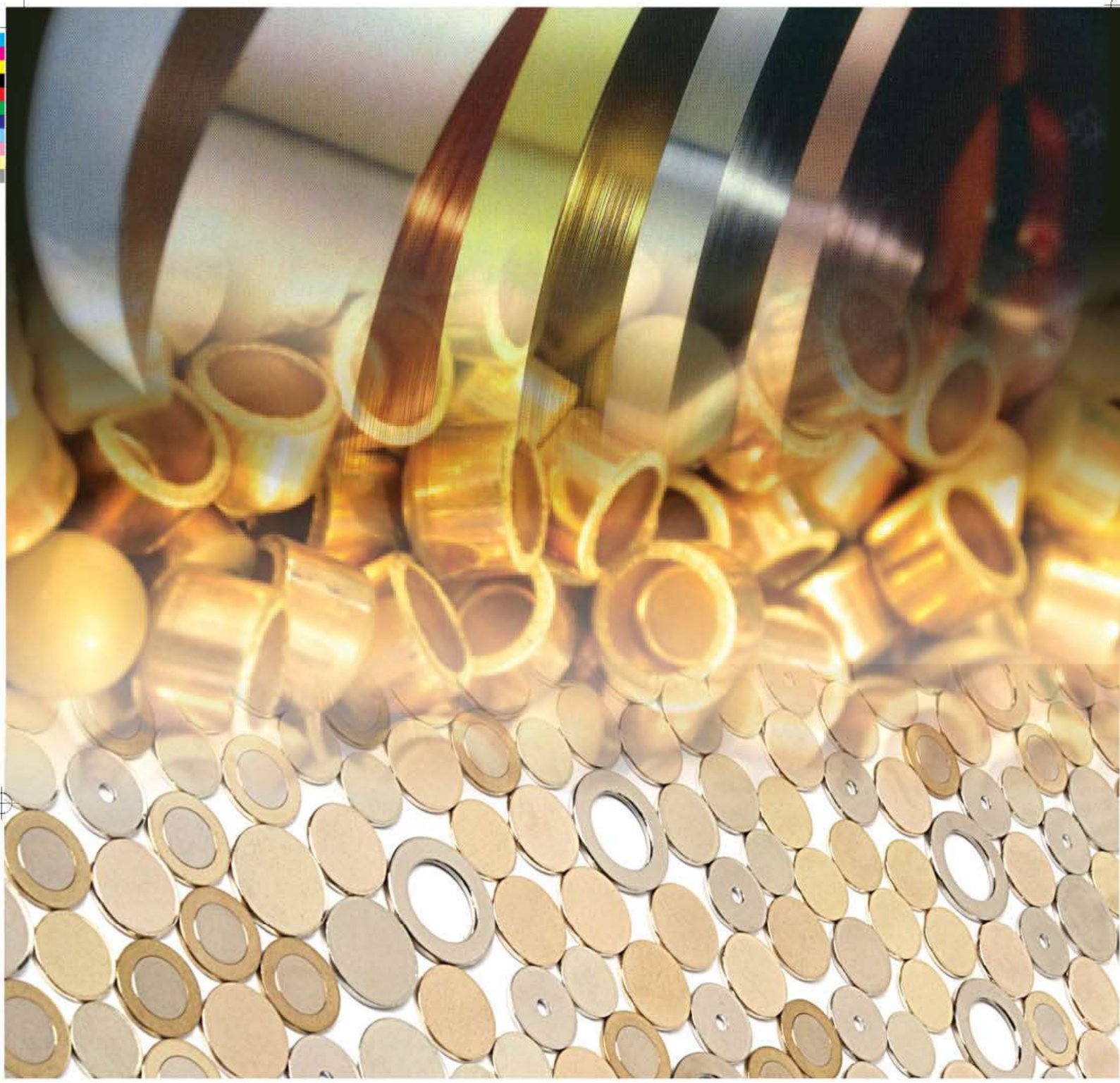

SIDM

SOCIETY OF INDIAN DEFENCE MANUFACTURERS

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Haryana (India)
Tel. : 91 129 4282222
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ISO 9001:2015