ALLIED
COPPER ALLOYS LTD

Chemical Compositions

MATERIAL DESIGNATION EN1652 or Alloy		NEAREST FIT		TYPICAL CHEMICAL COMPOSITION %											
Symbol/ Name	Number	UNS	BS 2870	Cu	Be	Co	Fe	Mn	Ni	P	Pb	Sn	Zn	Others	Impurities
NICKEL SILVERS, CUPRONICKELS & HIGH COPPER CONTENT ALLOYS															
CuNi10Zn27	CW401J	C74500	NS103	61.0 - 64.0	-	-	0.3	0.5	9.0 - 11.0	-	0.05	-	Balance	-	0.2
CuNi12Zn24	CW403J	C75700	NS104	63.0 - 66.0	-	-	0.3	0.5	11.0 - 13.0	-	0.03	0.03	Balance	-	0.2
CuNi18Zn20	CW409J	C75200	NS106	60.0 - 63.0	-	-	0.3	0.5	17.0 - 19.0	-	0.03	0.03	Balance	-	0.2
CuNi18Zn27	CW410J	C77000	NS107	53.0 - 56.0	-	-	0.3	0.5	17.0 - 19.0	-	0.03	0.03	Balance	-	0.2
CuNi9Sn2 (Alloy 725)	CW351H	C72500	-	Balance	-	-	0.3	0.3	8.5 - 10.5	-	0.03	1.8 - 2.8	0.1	-	0.1

Mechanical Properties

MATERIAL DESIGNATION EN1652 or Alloy		NEAREST FIT		Material Condition (R Value)	Proof Strength 0.2% Min (N/mm2)	Tensile Strength (N/mm2)	Elong. % Min. (50mm Gauge Length)	Hardness Max (VPN)
Symbol/ Name	Number	UNS	BS 2870					
NICKEL SILVERS, CUPRONICKELS & HIGH COPPER CONTENT ALLOYS								
CuNi10Zn27	CW401J	C74500	NS103	R360	230 Max	360-430	35	80-110
				R430	230 Min	430-510	8	110-150
				R490	400 Min	490-580	8	150-180
				R550	480 Min	550-640	-	170-200
				R620	580 Min	620 Min	2	190 Min
CuNi12Zn24	CW403J	C75700	NS104	R360	230 Max	360-430	35	80-110
				R430	230 Min	430-510	8	110-150
				R490	400 Min	490-580	8	150-180
				R550	480 Min	550-640	-	170-200
				R620	580 Min	620 Min	2	190 Min
CuNi18Zn20	CW409J	C76400	NS106	R380	250 Max	380-450	27	85-115
				R450	250 Min	450-520	9	115-160
				R500	410 Min	500-590	3	160-190
				R580	510 Min	580-670	-	180-210
				R640	600 Min	640-730	-	200-230
CuNi18Zn27	CW410J	C77000	NS107	R390	280 Max	390-470	30	90-120
				R470	280 Min	470-540	11	120-170
				R540	450 Min	540-630	3	170-200
				R600	550 Min	600-700	-	190-220
				R700	660 Min	700-800	2	220-250
CuNi9Sn2 (Alloy 725)	CW351H	C72500	-	R340	250 Max	340-410	30	70-100
				R380	200 Min	380-470	8	110-150
				R450	370 Min	450-530	4	140-170
				R500	450 Min	500-580	2	160-190
				R560	520 Min	560-650	-	180-210

Features and Applications

MATERIAL DESIGNATION BSEN1652 (Strip) BSEN12166 (Wire)		NEAREST FIT		Key Features	Key Markets
Symbol/ Name	Number	UNS	BS 2870 (Strip) BS 2873 (Wire)		
NICKEL SILVERS, CUPRONICKELS & HIGH COPPER CONTENT ALLOYS					
CuNi10Zn27	CW401J	C74500	NS103	CuNi10Zn27 is a Copper Alloy with good corrosion resistance in rural and marine atmospheres. It has excellent cold working properties and is suitable for various forming processes. It offers many benefits including good formability, readily soldered or brazed and attractive colour. However, it has poor hot working characteristics.	Decorative, Industrial, Marine
CuNi12Zn24	CW403J	C75700	NS104	Similarly to CuNi10Zn27, CuNi12Zn24 has good resistance to atmospheric corrosion, offering resistance to both neutral and alkaline solutions, however resistance to oxidising acids is poor. The alloy has good cold forming properties but poor machinability.	Industrial, Telecommunications, Decorative, Marine
CuNi18Zn20	CW409J	C76400	NS106	CuNi18Zn20 has good resistance to atmospheric corrosion with good cold formability and spring properties. It is suitable for many decorative applications and becomes progressively whiter with increased nickel content. It has a much lower sensitivity to SCC than Brasses.	Electronics, Telecommunications, Decorative
CuNi18Zn27	CW410J	C77000	NS107	CuNi18Zn27 provides good corrosion resistance, good formability, and good tarnish resistance. Its colour makes it ideal for decorative purposes.	Electronics, Telecommunications, Decorative
CuNi9Sn2 (Alloy 725)	CW351H	C72500	-	With a good combination of fatigue strength, formability and resistance to corrosion, CuNi9Sn2 (Alloy 725) offering manufacturers many benefits, particularly for electrical components.	Telecommunications, Electronics