AM 388™ ALLOY STRIP (C72650)

TECHNICAL DATA SHEET

PROPERTIES & BENEFITS

- Combination of high strength and formability
- High conductivity
- Available in mill hardened or age-hardenable tempers
- Low distortion during aging, no fixturing required
- Excellent solderability and resistance to stress relaxation during high temperature (over 400° F, 200° C) soldering
- Fine grain size
- Excellent corrosion resistance bare and easy to plate when required
- Low initial cost and additional savings during processing

DESCRIPTION

Copper based Spinodal alloy with high conductivity and high strength. Outstanding performance for contacts in connectors, sockets and switches. (C72650 is CDA designation for AM 388™ Alloy)

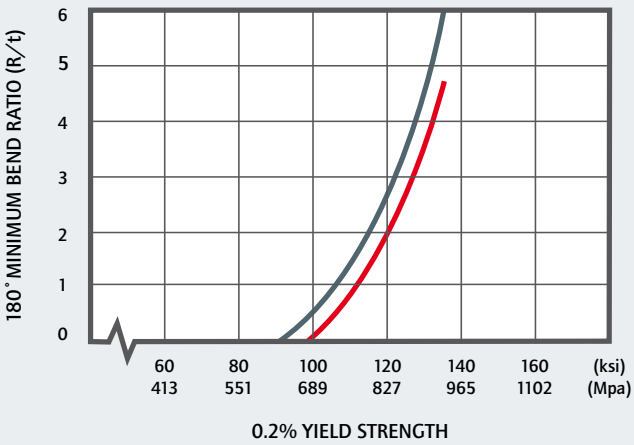
SPECIFICATIONS

CHEMICAL COMPOSITION (WEIGHT %)	
Nickel	7.0 - 8.0%
Tin	4.5 - 5.5%
Other elements	0.5% maximum
Copper	Balance

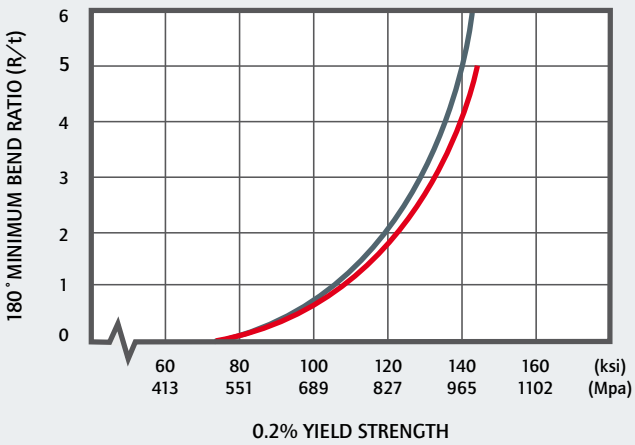
PHYSICAL PROPERTIES	
Electrical Conductivity at 68°F (20°C)	14 to 15% IACS
Modulus of Elasticity	18 x 10^6 psi (12 x 10^3 MPa)
Density	0.32 lb/in^3 (8.87 gm/cc)

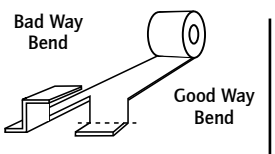
FORMABILITY

90˚C MINIMUM BEND RATIO vs. 0.2% YIELD STRENGTH FOR MILL HARDENED AM 388



180˚C MINIMUM BEND RATIO vs. 0.2% YIELD STRENGTH FOR MILL HARDENED AM 388





GOOD WAY
BAD WAY

TEST THICKNESSES:
0.008 to 0.005 in.
(0.203 to 0.127 mm)

AMETEK®
SPECIALTY METAL PRODUCTS

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PROPERTIES OF AM 388™ AGE HARDENABLE TEMPERS BEFORE AGE HARDENING

STANDARD TEMPER DESIGNATION	TEMPER NAME	0.2% YS ksi (MPa)	UTS ksi (MPa)	ELONGATION (%)	HARDNESS (VHN)	MINIMUM BEND RATIO	
						90° BAD WAY	180° BAD WAY
TB00	Solution HT	25 - 35 (172 - 241)	55 - 70 (379 - 482)	32 - 40	100 - 130	0	0
TD01	1/4 Hard	55 - 65 (379 - 448)	60 - 75 (413 - 517)	18 - 25	150 - 200	0	0
TD02	1/2 Hard	70 - 80 (482 - 551)	75 - 85 (517 - 586)	5 - 11	175 - 225	0	0
TD03	3/4 Hard	75 - 85 (517 - 586)	80 - 90 (551 - 620)	4 - 7	190 - 230	0	0
TD04	Hard	80 - 90 (551 - 620)	85 - 95 (586 - 655)	2 - 5	200 - 240	0	0 - 1T

HEAT TREATING PARAMETERS TO AGE SPINODALLY HARDENED AM 388™ PARTS

TEMPER	AGING TEMPERATURE/TIME
TB00	725 - 750° F (385 - 400° C) / 1.5 - 3 HRS
TD01, TD02, TD03, TD04	700 - 725° F (370 - 385° C) / 1.5 - 3 HRS

Any inert or reducing atmosphere will keep AM 388™ clean and free of oxide during aging.

AFTER AGE HARDENING

STANDARD TEMPER DESIGNATION	SPINODAL AGE HARDENING TREATMENT	0.2% YS ksi (MPa)	UTS ksi (MPa)	ELONGATION (%)	HARDNESS (VHN)
TX00	750° F (400° C) / 2 HR	110 - 120 (758 - 827)	120 - 140 (827 - 965)	6 - 8	275 - 325
TS01	725° F (385° C) / 2 HR	115 - 125 (792 - 861)	130 - 140 (896 - 965)	8 - 10	290 - 340
TS02	725° F (385° C) / 2 HR	120 - 135 (827 - 930)	135 - 145 (930 - 999)	6 - 9	300 - 360
TS03	725° F (385° C) / 2 HR	130 - 140 (896 - 965)	140 - 150 (965 - 1034)	6 - 8	310 - 360
TS04	725° F (385° C) / 2 HR	130 - 145 (896 - 999)	140 - 155 (965 - 1068)	4 - 6	320 - 380

MILL HARDENED PROPERTIES

MILL HARD	0.1% YS ksi (MPa)	0.2% YS ksi (MPa)	UTS ksi (MPa)	ELONGATION (%)	HARDNESS (VHN)	MINIMUM BEND RATIO	
						90° BAD WAY	180° BAD WAY
TM00	65 - 86 (448 - 586)	70 - 90 (482 - 620)	100 - 120 (689 - 827)	18 - 25	210 - 300	0 - 1T	0 - 1.3T
TM02	85 - 105 (586 - 723)	90 - 110 (620 - 758)	115 - 135 (792 - 930)	10 - 18	270 - 340	0 - 2.5T	0 - 2.8T
TM04	90 - 110 (620 - 758)	100 - 120 (689 - 827)	115 - 135 (792 - 930)	10 - 16	300 - 350	0 - 3.7T	0 - 4T
TM06	95 - 115 (655 - 792)	105 - 125 (723 - 861)	120 - 140 (827 - 965)	10 - 14	300 - 360	1 - 5T	1.5 - 5.5T
TM08	100 - 120 (689 - 827)	115 - 135 (792 - 930)	130 - 145 (896 - 999)	6 - 10	310 - 370	2 - 5.5T	2.5 - 6T

** Minimum Bend radius measured in 3 point bending in an unsupported die.*

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